Swiss Re

# Predict. Prepare. Protect.

2018 Financial Report

# Financial highlights

## FINANCIAL HIGHLIGHTS

### For the years ended 31 December

| USD millions, unless otherwise stated | 2017 | 2018 | Change in % |
|---|---|---|---|
| **Group** | | | |
| Net income attributable to common shareholders | 331 | 421 | 27 |
| Gross premiums written | 34 775 | 36 406 | 5 |
| Premiums earned and fee income | 33 705 | 34 461 | 2 |
| Earnings per share in CHF | 1.02 | 1.34 | 32 |
| Common shareholders' equity | 33 374 | 27 930 | –16 |
| Return on equity in %[1] | 1.0 | 1.4 | |
| Return on investments in % | 3.9 | 2.8 | |
| Net operating margin in % | 2.8 | 2.9 | |
| Number of employees[2] | 14 485 | 14 943 | 3 |
| **Property & Casualty Reinsurance** | | | |
| Net income/loss attributable to common shareholders | –413 | 370 | — |
| Gross premiums written | 16 544 | 16 545 | 0 |
| Premiums earned | 16 667 | 16 095 | –3 |
| Combined ratio in % | 111.5 | 104.0 | |
| Net operating margin in % | –1.3 | 4.3 | |
| Return on equity in %[1] | –3.5 | 3.7 | |
| **Life & Health Reinsurance** | | | |
| Net income attributable to common shareholders | 1 092 | 761 | –30 |
| Gross premiums written | 13 313 | 14 527 | 9 |
| Premiums earned and fee income | 11 980 | 12 835 | 7 |
| Net operating margin in % | 13.1 | 9.4 | |
| Return on equity in %[1] | 15.3 | 11.1 | |
| **Corporate Solutions** | | | |
| Net loss attributable to common shareholders | –741 | –405 | –45 |
| Gross premiums written | 4 193 | 4 694 | 12 |
| Premiums earned | 3 651 | 3 925 | 8 |
| Combined ratio in % | 133.4 | 117.5 | |
| Net operating margin in % | –23.5 | –11.1 | |
| Return on equity in %[1] | –32.2 | –19.4 | |
| **Life Capital** | | | |
| Net income attributable to common shareholders | 161 | 23 | –86 |
| Gross premiums written | 1 761 | 2 739 | 56 |
| Premiums earned and fee income | 1 407 | 1 606 | 14 |
| Gross cash generation[3] | 998 | 818 | –18 |
| Net operating margin in % | 10.9 | 3.9 | |
| Return on equity in %[1] | 2.2 | 0.4 | |

[1] Return on equity is calculated by dividing net income/loss attributable to common shareholders by average common shareholders' equity.
[2] Regular staff.
[3] Gross cash generation is the change in excess capital available over and above the target capital position, with the target capital being the minimum statutory capital plus the additional capital required by Life Capital's capital management policy.

# In this report
We provide a detailed record of our financial and operational performance for 2018.

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# Business Units at a glance

Working across diversified insurance risks and businesses to maximise shareholder value.

| BUSINESS UNIT | | NET PREMIUMS EARNED AND FEE INCOME (USD BILLIONS) 2018 | NET PREMIUMS EARNED AND FEE INCOME (USD BILLIONS) 2017 | NET INCOME (USD MILLIONS) 2018 | NET INCOME (USD MILLIONS) 2018* | NET INCOME (USD MILLIONS) 2017 |
|---|---|---|---|---|---|---|
| Reinsurance | Property & Casualty | 16.1 | 16.7 | 370 | 547* | –413 |
| | Life & Health | 12.8 | 12.0 | 761 | 829* | 1 092 |
| Corporate Solutions | | 3.9 | 3.7 | –405 | –387* | –741 |
| Life Capital | | 1.6 | 1.4 | 23 | 17* | 161 |
| Group (After consolidation) | | 34.5 | 33.7 | 421 | 894* | 331 |

## Reinsurance

Reinsurance provides clients and brokers with reinsurance products, insurance-based capital market instruments and risk management services. Reinsurance operates globally through two segments – Property & Casualty and Life & Health.

## Corporate Solutions

Corporate Solutions provides risk transfer solutions to large and mid-sized corporations around the world. Its innovative, highly customised products and standard insurance covers help to make businesses more resilient, while its industry-leading claims service provides additional peace of mind.

## Life Capital

Life Capital manages closed and open life and health insurance books. It provides alternative access to the life and health risk pool, helping to generate stable returns and seize attractive new opportunities.

## Group

(After consolidation)

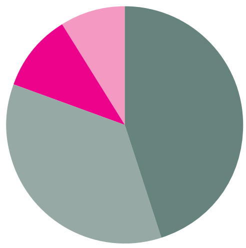
* For reference only, excludes the impact of the new US Generally Accepted Accounting Principles (GAAP) guidance on recognition and measurement of financial instruments, which was effective for the Group as of 1 January 2018 and was not retroactively applied.

| RETURN ON EQUITY | RETURN ON EQUITY* | OPERATING PERFORMANCE |
|---|---|---|
| 3.7% (2017 –3.5%) | 5.4% | 104.0% Combined ratio (2017 111.5%) |
| 11.1% (2017 15.3%) | 12.1% | 9.4% Net operating margin (2017 13.1%) |
| –19.4% (2017 –32.2%) | –18.5% | 117.5% Combined ratio (2017 133.4%) |
| 0.4% (2017 2.2%) | 0.3% | 818m Gross cash generation (2017 USD 998m) |
| 1.4% (2017 1.0%) | 2.9% | 2.9% Net operating margin (2017 2.8%) |

## DIVERSIFIED AND GLOBAL

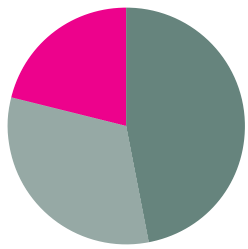
**Net premiums earned and fee income by business segments**
(Total USD 34.5 billion)

- 47% P&C Reinsurance
- 37% L&H Reinsurance
- 11% Corporate Solutions
- 5% Life Capital



**Net premiums earned and fee income by region**
(Total USD 34.5 billion)

- 47% Americas
- 32% EMEA
- 21% Asia-Pacific



# Strategic capital allocation is at the heart of what we do at Swiss Re

**Walter B. Kielholz**
Chairman of the Board of Directors

Dear shareholders,
We are living in uncertain times and events on the world stage are increasingly providing cause for concern – at many levels.

From an economic perspective, conditions may change to the extent that we could be confronted with an end to the remarkably long cycle of global growth we are currently experiencing. Moreover, we are likely nearing a time when the phase of extremely cheap money cannot continue without the risk of unintended consequences and politically unacceptable redistributive effects.

On a geopolitical level, we have seen an increase in the intensity of conflict. Many observers are predicting the end of the post-war order and a fundamental shift in global power structures.

We are facing the question of whether Europe's geopolitical position of power, which it has held for centuries, is now reaching an end, with the possibility of liberal globalisation – which has benefited us greatly – increasingly giving way to trade and regulatory protectionism.

This dubious political development is playing out against a backdrop of remarkable technological and scientific progress, which is occurring at an unprecedented pace. Such progress undoubtedly simplifies a wide range of tasks, particularly in business, but it also polarises society and is clearly a source of "angst" for many people. The way in which people communicate is becoming more aggressive, as is the tone of political discourse.

You may well ask what this assessment of the current global situation – brief but rather more pessimistic than my usual offerings – has to do with the business developments at Swiss Re in 2018. Firstly, I wanted to illustrate the environment in which we are currently operating, and secondly, these points are relevant to my further remarks below. Let me briefly describe our role as a reinsurer and explain the major moves of Swiss Re in recent years, with a focus on how we allocated shareholders' capital, as well as what we intend to implement in the near future.

**A business model focused on capital allocation**

We employ capital. This is at the heart of what we do at Swiss Re. We employ the capital made available to us by allocating it across a broad range of different risk pools. These pools are primarily insurance risks such as hurricanes in the North Atlantic, car insurance in Europe and mortality risks in the United States, and many more. In total, we manage around 50 of these risk pools, which we can consciously grow – either organically or through acquisitions – or, relatively quickly, reduce in size. We are able to reallocate capital extremely quickly as – unlike primary insurers – we do not have to maintain large sales organisations in individual markets.

Our insurance activities generate high volumes of cash flow, which we invest in financial assets. This results in substantial investment risk on our balance sheet, to which we must also allocate capital.

Depending on the assessment of overall risk, we hold a higher or lower level of overall capital, we use more or less debt to finance our activities, and the share of highly liquid – and therefore low-yield – financial assets in our balance sheet is greater or smaller. We base our decisions on the Swiss Solvency Test (SST) solvency capital requirements stipulated by the regulator; we also adhere to rating requirements issued by the rating agencies.

If we cannot find good investment opportunities that meet our criteria and there is no urgent need to further strengthen our balance sheet, we give the capital back to our shareholders.

**Informed assessments, consistent decisions**

We assess the performance of various risk portfolios using our proprietary Economic Value Management (EVM) method, which allows us to identify the risk portfolios in which we have historically earned our cost of capital on the allocated risk capital – and those in which we have not. EVM also enables us to compare very different risk classes with each other.

Our in-depth research carried out centrally at the Swiss Re Institute helps us assess the future profit potential of individual risk portfolios. Our executive managers and the Board of Directors also benefit from the professional advice of recognised senior advisers at the Institute, who come from a wide range of scientific and political fields. In this way, we make every possible effort to ensure that the decisions we take regarding capital allocation are the very best they can be.

"The imminent changes on the world stage will require close analysis and rapid adaptation. I believe we are very well prepared for these changes and we are, therefore, looking to the future with confidence."

## The road to global economic resilience

Ten years ago, the global financial crisis forced entire industries to the brink of collapse, and pushed countries around the world into recession. Yet despite the hard lessons of 2008 and 2009, the resilience of the global economy is as weak today as it was then.

Slowing global economic growth, higher debt burdens both in the public and private sectors, weaker financial market structures overly dependent on Central bank interventions and a trend towards isolationism are current conditions that leave us at significant risk[1]. It's time for the public and private sectors to take steps to build economic resilience and strengthen the capacity of a system to regenerate after a shock.

The public and private sectors have a shared interest in establishing a solid macroeconomic environment. And the good news is that there are numerous steps governments and corporations can take to strengthen the global economy. These include, among others:

**Encourage private capital market solutions**
The private sector should step up to offer a stronger contribution to societal problems like the global retirement savings gap and healthcare costs, reducing government liability. The global retirement savings gap is estimated to be an unimaginable USD 400 trillion by 2050[2].

**Support sustainable investing**
Adopting a common language around sustainable finance, establishing a market consistent regulatory framework for Environmental, Social and Governance (ESG) investments, and increasing the importance of ESGs in financial analysis is key.

**Expand Public Private Partnership (PPP) to close the infrastructure gap**
Address the huge global infrastructure financing needs of USD 3.3 trillion a year[3] and help relieve the burden on government budgets by tapping long-term investors' assets. PPPs boost efficiency, distribute risk and reduce pressure on government budgets. Standard dispute resolution practices are needed on this front.

The re/insurance industry has a role to play in all of the above. On the one hand, insurance is an automatic stabiliser for households and businesses, facilitating a speedy recovery in the event of a loss. On the other, re/insurers are long-term investors that can act as shock absorbers in financial markets and deploy capital to productive areas of an economy. By being active on both sides, and by continuing to extensively research these topics, Swiss Re contributes to closing the global protection gap and strengthening the shock absorption capacity of societies.

[1] See sigma 5/2018, "Global economic and insurance perspectives"
[2] See WEF (2018), "We'll Live to 100 – How Can We Afford It?"
[3] McKinsey estimates global infrastructure financing needs of USD 3.3trn annually through 2030 just to support expected economic growth rates. See McKinsey Global Institute (2016), "Bridging Global Infrastructure Gaps"

We have also established a business model for the management of our financial assets, which is not only of great help in risk assessment but also yields interesting insights. As we have largely outsourced portfolio management of individual risk investments to around 20 of the best asset managers in the world, we also have a first-class information network that provides the perfect complement to our core competence in the field of strategic asset allocation.

### A look back at capital allocation

It may sometimes appear that capital allocation at leading reinsurers is very stable and that large-scale changes occur once in a blue moon. Many investors regard insurers as "boring" investments. In the case of reinsurers at least, nothing could be further from the truth. Let's take a look back at developments over the last ten years at Swiss Re:

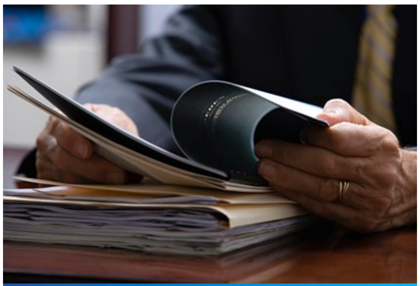
In the aftermath of the global financial crisis, which – as you may know – impacted Swiss Re as it did so many other companies, our initial focus was on restoring a "cast-iron" balance sheet. In other words, on bringing our equity back up to a conservative level. Our clients expect nothing less. We also massively reduced the use of financial and operational debt on and off balance sheet and – in the context of an economy still experiencing the fallout of the crisis – built up an extremely high level of liquidity.

We achieved all this quicker than many expected. We then started to implement our plan for paying back capital – surplus to our conservative criteria – to our shareholders. The first step here was to pay back the convertible bond that was issued during the crisis, which, back then, was expensive and potentially diluted our common shareholders at conversion; we then continually increased the dividend, implemented the tax-free (in Switzerland) repayment of capital and established several share buyback programmes.

Moreover, in light of the cyclical risk assessment, we invested heavily in the organic growth of our Property & Casualty (P&C) businesses. In 2012, we cancelled a quota share reinsurance agreement worth 20% of our P&C business. We also pushed ahead with the organic growth of Corporate Solutions, invested in the infrastructure of this division and expanded our presence in this sector through a number of small-scale acquisitions. From 2016, which represented a turning point for the market as the achievable premiums became qualitatively weaker, we gradually reduced the amount of capital invested in P&C again, a decision that resulted in some of our competitors recording a higher rate of growth than we did.

The life insurance sector became extremely unpopular among investors after the financial crisis, and we faced increasingly loud calls to divest this segment as quickly as possible and release the capital allocated to it. Although we have had to overcome various problems in our in-force book, our confidence in the potential of this segment has never wavered. Swiss Re disregarded the market sentiment by investing heavily in organic growth. This allocation of capital has truly paid off and the Life & Health Reinsurance business at Swiss Re is once again a strong, stable revenue pillar portfolio.

We have long held the belief that the emerging markets – headed by China, South-East Asia, parts of Latin America and Africa – will account for more than 50% of growth in insurance markets in the long term, primarily due to demographic and economic criteria. Historically, we have had only limited access to this growth through our reinsurance business as the majority of new business – being large bulk retail insurance – is only reinsured minimally. Therefore, we invested a significant amount of capital in primary insurance



**FOCUS ON GOVERNANCE**

Focusing on governance trends in Switzerland, the United States and the European Union, Swiss Re's Board of Directors continues to demonstrate strong leadership in matters related to Corporate Governance and to steer the Group's governance standards towards increased transparency, accountability and a long-term sustainability strategy.

Governed by a robust set of principles and procedures, the company's governance framework secures an effective, dynamic and open dialogue between the Board of Directors and the Group Executive Committee, the top corporate bodies responsible for the strategic oversight and the management of operations, respectively.

**Proposed regular dividend per share for 2018**
(CHF)

5.60

(CHF 5.00 for 2017)

investments in China, South-East Asia, Africa and Brazil. These are very long-term investments but I am optimistic that they will deliver results.

In another development, we have allocated new capital to Life Capital. We have partly withdrawn from the US closed book business but at the same time have invested in several large-scale transactions in the United Kingdom. We have also expanded our group life insurance and individual life business through new sales channels.

In comparison with the above-mentioned developments, our asset management activities were less prominent. Although we increased the share of alternative assets as well as that of corporate bonds in lieu of government bonds and cash, in view of our market assessments we considered it unwise to allocate significantly more capital to investment risk. We will see what 2019 has in store. We follow trends with active interest and are in a position to react swiftly.

## An outlook

Let's now turn our attention to the current situation: As mentioned, we have implemented significant changes to Swiss Re's risk portfolio over recent years and have continually adapted the portfolio in line with current market developments based on our continuous and consistent monitoring of capital allocation.

So what is the next step? The renewal of our reinsurance business in P&C Re on 1 January 2019 has strengthened our conviction that things are starting to pick up again in the P&C business – not quite as strongly and decisively as we would like, but picking up all the same. Of course, it remains to be seen whether the market will attract an influx of new capital. We have, in any case, invested in organic growth again. It also remains to be seen whether certain market players will surrender and the sector will once again find itself in a consolidation phase. Should we identify attractive opportunities in this context, any decisions we make will be based on strategic considerations and ease to realise cost and, above all, capital synergies. However, huge acquisition premiums are definitely off the table.

As already announced, we are planning to withdraw at least partially from the closed book business in the United Kingdom and are preparing for a potential IPO for ReAssure, our UK subsidiary active in this business. The first steps in the latter process have already been taken. This is a capital allocation decision and has less to do with insurance risk than with investment risk, which is dominated by UK credit in this portfolio. If the closed-book business continues to grow – which we assume will happen – we would be pushing the boundaries of our risk appetite for UK credit. A partial withdrawal therefore represents the sensible option.

## Where we will stand our ground

Returning to my rather pessimistic introductory words, it becomes clear that we currently see little leeway in terms of the 'cast-iron' balance sheet I referred to earlier. The question of the right equity base and how much is too much comes up again and again. Reducing our equity ratio by a significant amount, in accordance with the SST, is not something that we are currently planning. This is an area in which we will stand our ground. However, any further expansion would take us from "a lot" to "too much".

In other areas, we are adopting a markedly more flexible approach. The imminent changes on the world stage will require close analysis and rapid adaptation. I believe we are very well prepared for these changes and we are therefore looking to the future with confidence.

**Capital returned to shareholders**
in USD billions

2.9

in the form of dividends
and 2017–2018 share buybacks

## Changes in the Group Executive Committee

As I draw to a close, I would like to inform you of a couple of important changes in our Group Executive Committee.

In September 2018, Russell Higginbotham took over as the new CEO of Reinsurance for the EMEA region and at the same time became a member of the Group Executive Committee. Russell Higginbotham succeeded Jean-Jacques Henchoz, who decided to leave Swiss Re last year.

Russell Higginbotham has been at Swiss Re for 24 years, in roles across multiple business areas and geographies. Most recently, he led Swiss Re's Global Life & Health (L&H) Products Division, where he played a pivotal role in strengthening the company's L&H solutions offering, boosting product innovation and maintaining the growth of large L&H reinsurance transactions. Previously, he served as CEO of Swiss Re UK & Ireland, as CEO of Swiss Re Australia and New Zealand and led the company's L&H businesses in Japan and Korea.

The second change in the Group Executive Committee concerns our Corporate Solutions Business Unit. As announced in September 2018, Andreas Berger will be taking over the role of CEO of Corporate Solutions from 1 March 2019, at the same time becoming a member of the Group Executive Committee. He was most recently Chief Regions & Markets Officer and a member of the Board of Management at Allianz Global Corporate & Specialty SE and will be succeeding Agostino Galvagni, who left Swiss Re at the end of 2018.

I would like to take this opportunity to thank Jean-Jacques Henchoz and Agostino Galvagni on behalf of the Board of Directors for their commitment and valuable contribution to the success of Swiss Re over several decades.

In November 2018, we announced that Thomas Wellauer will be retiring at the end of June 2019 after 9 years with our company. I would like to thank Thomas on behalf of the Swiss Re Board of Directors for his substantial contribution to Swiss Re throughout the years. Under his leadership, Group Operations developed into a highly effective and efficient backbone for the company.

Today, we are pleased to appoint Anette Bronder as his successor taking over as Group Chief Operating Officer and member of the Group Executive Committee, effective 1 July 2019. Anette Bronder has more than 20 years of experience in operations, consulting and delivery services, most recently as a Member of the Management Board at T-Systems International. Her strategic technology knowledge and strong track record in operations delivery make her the ideal candidate to not only lead our Group Operations function but to also support Swiss Re in being at the forefront of technological changes that are taking place in our industry. I am convinced Anette Bronder will help us accelerate the digitisation of our whole value chain.

I would also like to thank – and I am sure you will join me in this – all of our 14 943 employees across the globe for their tireless work over the last year. And warm thanks to you, our highly valued shareholders, for your trust, support and loyalty.

Wishing you all the very best for a happy and successful 2019.

Zurich, 21 February 2019

**Walter B. Kielholz**
Chairman of the Board of Directors

# Swiss Re retains its strength in a challenging year and commits to a more sustainable future

**Christian Mumenthaler**
Group Chief Executive Officer

Dear shareholders,
What a year 2018 was. The world faced major challenges from political and economic uncertainty, and the concerning shift towards anti-globalisation continued. Also very troubling were the natural catastrophes that struck in all parts of the world, causing widespread destruction and claiming thousands of lives – it was the fourth costliest year in history in terms of global catastrophe losses for the insurance industry.

With climate change very likely linked to rising sea levels and increased rainfall, the impact from flooding associated with tropical cyclones and other extreme weather events could be even more severe in the future. In 2018, the western Pacific typhoon season produced 29 named storms, higher than the average of 26.6, prompting floods and leaving thousands of people stranded. The possibility of even more, or worse, storms in the future is frightening.

**SWISS RE GROUP PRIORITY**

| | | |
|---|---|---|
| Build the **risk knowledge company …** | Risk Knowledge | Research and development<br>Technology<br>People and culture: agility |
| … that **invests into risk pools** | Growth | Large and tailored transactions<br>Corporate Solutions<br>Life Capital<br>High growth markets |

Other changes to our climate, including warmer temperatures and prolonged heatwaves, will likely also continue to increase the frequency and severity of large wildfires and droughts. It was devastating to see footage of the damage caused by the Californian wildfires late last year. Due to very dry weather conditions, the fires spread quickly and raged for over a week – in their paths, they sadly claimed lives and destroyed homes, even whole communities.

What we've experienced over the past year must serve as a wake-up call to stand together in unity and step up our efforts against climate change. What's at stake is not only visible in the footage, but also in the figures: the Swiss Re Institute estimates that total economic losses from natural and man-made disasters in 2018 amounted to a shocking USD 155 billion. Unfortunately, only USD 81 billion of this economic loss is insured, even though the majority of these losses occurred in developed countries. All in all, I feel that the re/insurance industry has done a good job over the last two years of paying claims promptly, allowing people to recover and rebuild following these events. We also supported people and businesses following devastating man-made disasters in 2018, like the collapse of the Ituango dam in Colombia.

**We have the financial strength to support our clients, and society, in tough times**

Swiss Re's extraordinary financial strength enables us to support our clients in these tough times, and in 2018 we absorbed USD 3.0 billion of large claims to lessen the hardship for those affected by the disasters. We are proud of that, as this is the purpose of our business.

Following these claims, we reported a Group net income of USD 421 million for 2018. Due to a US GAAP accounting change which took effect on 1 January 2018, our result also contains a negative pre-tax impact of USD 599 million because of challenging equity markets. On a like-for-like basis with the year before, our net income would have been USD 894 million for 2018.

Our net income in our Property & Casualty Reinsurance segment was USD 370 million, mostly impacted by the natural catastrophes and the US GAAP accounting change. Amid the still challenging market, it was crucial that we maintained our disciplined underwriting approach, ensuring adequate prices for the protection we provide. In our Life & Health Reinsurance segment, I'm pleased that we were able to deliver strong growth driven especially by large transactions. In this segment, we reported net income of USD 761 million in 2018 – evidence

"What we've experienced over the past year must serve as a wake-up call to stand together in unity and step up our efforts against climate change."

"We've invested significantly in technology at Swiss Re over the past years and I believe it will have a very positive impact on our business in the future."

**Full year net income**
in USD millions, 2018

421

(2017: USD 331 million)

of the value of diversification in our business – and we continue to meet our return on equity (ROE) target range.

The 2018 result for our Corporate Solutions Business Unit was, however, disappointing: we reported a net loss of USD 405 million. This result was impacted by low rates from previous years and also significantly affected by the man-made and natural catastrophe losses I mentioned earlier – an issue which the whole commercial insurance industry experienced. We took some tough underwriting actions last year and at the same time saw an upwards movement in rates throughout 2018, but more must and will be done this year. We also look forward to Andreas Berger joining us as our new CEO Corporate Solutions on 1 March 2019. Andreas brings more than 20 years of experience in the insurance industry, and his first priority will be developing actions to improve Corporate Solutions' performance – we will share more on those actions along with our half-year 2019 results.

In our third Business Unit, Life Capital, we once again delivered exceptional gross cash generation of USD 818 million in 2018 and exceeded our target range. Our preparations for a potential IPO of ReAssure continue. And we agreed with MS&AD on a further investment of GBP 315 million in ReAssure, resulting in a total shareholding by MS&AD in ReAssure of 25%. Meanwhile, our open book businesses in Life Capital continued to grow. I'm personally very optimistic about this segment of the Business Unit. This year may mark a turning point for Life Capital, which will look quite different if market conditions allow us to do a successful ReAssure IPO. The shift from being primarily a closed book business to a dynamic primary B2B2C business will be both demanding and exciting. By utilising technology and working with partners, we can help make insurance simpler and more accessible than ever.

### Technology is our enabler and diversifier in these transformative times

Speaking of technology, in my shareholder letter last year I wrote about how important it is for our business, so let me give you an update on that – and share one point of contention. While I personally continue to be very excited about what we can achieve with technology, I think the topic of artificial intelligence (AI) is overhyped. It's often weakly defined – anything that is digital is put into the "AI box" – and there's a particularly concerning narrative going around, which is that AI will cause many of today's jobs to disappear in the near future. When talking to business partners, the consensus view is quite different and significantly less alarming: yes, jobs will change as they have always done, but the pace will be slower than some people seem to anticipate, and new jobs will emerge around these new technologies.

We've invested significantly in technology at Swiss Re over the past years and I believe it will have a very positive impact on our business in the future. It will allow us to deliver better products to clients and help us build greater societal and financial resilience around the world. As I mentioned last year, it's my priority to strongly position Swiss Re as a risk knowledge company, applying our immense knowledge and partnering with clients to protect more people – technology is our enabler and diversifier in these transformative times.

# The future is our collective choice

When Swiss Re first published a study identifying climate change as an emerging risk thirty years ago, the topic was lauded for its environmental importance, but was not yet perceived as a material business issue.

Today, with a wealth of scientific evidence at our disposal, that initial perception has considerably changed. There is clearly momentum. There's less scepticism. But then, there's also less time. And the effects of climate change are everywhere. Floods in India contrast with extreme heatwaves, droughts and wildfires in Europe and the US. Ice caps are melting and sea levels are rising; warmer seas will make the most severe types of typhoons and hurricanes even more destructive and likely more frequent.

**Devising solutions for a growing risk**

As a risk knowledge company, Swiss Re devotes a significant amount of brainpower to devising solutions to tackle this growing risk. Our claims and experience data we have collected over several decades and our refined natural catastrophe models facilitate risk assessment. They help raise risk awareness, and ultimately prepare and protect businesses and communities, strengthening their resilience. We have a long tradition of enabling sustainable progress by investing into the development of renewable energy sources like solar and wind, in addition to supporting sustainable investing by adopting ESG investment principles.

**Work on what we can influence**

By looking at its own value chain and identifying what it can influence, the private sector has many opportunities to take more courageous actions against climate risk. But to fully address today's challenge we need a global effort. It will take collaboration across industries and between the public and private sectors. Public-private partnerships (PPPs) are particularly crucial, given the need to develop a conducive regulatory and policy environment to address climate risk. Investments in critical infrastructure projects by the private sector can relieve government budgets while supporting the development of resilient infrastructure, a crucial requirement for accelerating the transition to a low-carbon economy.

Nurturing solid economies and building societal resilience is a matter of global interest. The future is our collective choice. Let's seize this opportunity.

**Estimated large claims**
in USD billions, 2018

# 3.0

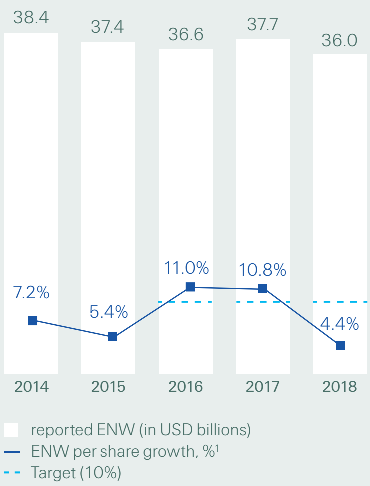
For example, we're rapidly growing iptiQ, our customisable B2B2C digital insurance solution. iptiQ brings together Swiss Re, primary insurers and other partners to sell life, health and property and casualty insurance. It has almost doubled its average weekly policy sale count over the past year and established itself as a leading platform in the digital insurance space. In this business, we have also developed an online virtual assistant called Eva, which will become the digital face of our partners' brands. I'm really excited about this business and I believe that this partnership model could become a big part of who we are at Swiss Re. As many households still lack insurance cover in many areas, I see significant growth potential.

We've also invested in building technology-driven solutions for our reinsurance clients. One example is our flood risk model, which we rolled out in the US last year as part of our efforts to manage uncovered risks caused by climate change and natural disasters. Only one in six homes in the US has flood insurance, even though the personal and economic cost of flooding is increasing every year. Flood insurance policies based on our model are priced according to the individual risk exposure, which is made up of thousands of data points, such as the location of a building, type of construction and insured value. Providing accurate pricing enables our clients – insurers in the US – to provide a more affordable product to homeowners and can potentially help make a significant difference in the coverage of this risk.

## OUR GROUP FINANCIAL TARGETS

**Return on equity**
(in %)


**Economic net worth per share growth**
(in %)




[1] The 10% ENW per share growth target is calculated as follows: (current-year closing ENW per share + current-year dividends per share) / (prior-year closing ENW per share + current-year opening balance sheet adjustments per share). This target applies since 1 January 2016. The reported figures for 2014 and 2015 have been adjusted for consistency with the target definition and are provided for reference purposes only.

**RISK POOLS**

For Swiss Re, risk pools represent the landscape of insurable risks worldwide. They evolve constantly, requiring close monitoring of their scope, frequency and magnitude. The cyclicality of natural catastrophes, new and emerging risks, such as cybersecurity, changes in the regulatory environment and insurance buying behaviour are all factors that affect the size and nature of risk pools worldwide. As a risk knowledge company, we actively seek access to those risk pools, directly or through our clients, to further diversify our risk portfolio.

### An optimistic outlook, even in challenging conditions

The prospect of what we can achieve with technology is not the only reason I'm optimistic about Swiss Re's future. In the January 2019 renewals of our Property & Casualty Reinsurance business, we were able to grow while keeping our running costs flat – in our industry, size and diversification matter. We renewed USD 10 billion in premium volume, an increase of 19% compared to the year before. Price quality increased by 1% and we expect further price improvements in the renewals later this year as a result of the 2018 natural catastrophes. In the commercial insurance space, prices also increased by 3% and positive momentum continues. Furthermore, our Life & Health Reinsurance franchise continues to grow, with new business profits contributing to our capital generation. And we expect emerging markets, including China, to contribute to stronger growth for insurance markets in the long term. I'm confident in Swiss Re's future sustainable economic earnings, which are the basis of the attractive capital management actions the Board will recommend at our upcoming Annual General Meeting.

Coming back to my concern on climate change, though. I do feel that there is more momentum globally about this issue at the moment – but that's not enough. At the current rate of action, climate change will likely lead to more natural disasters, with implications for every aspect of society and everyone – not to mention the consequences that could spill over to future generations. It will take a "whole of society" approach to limit global warming before time runs out. I'm optimistic that we can build on the current momentum and do that.

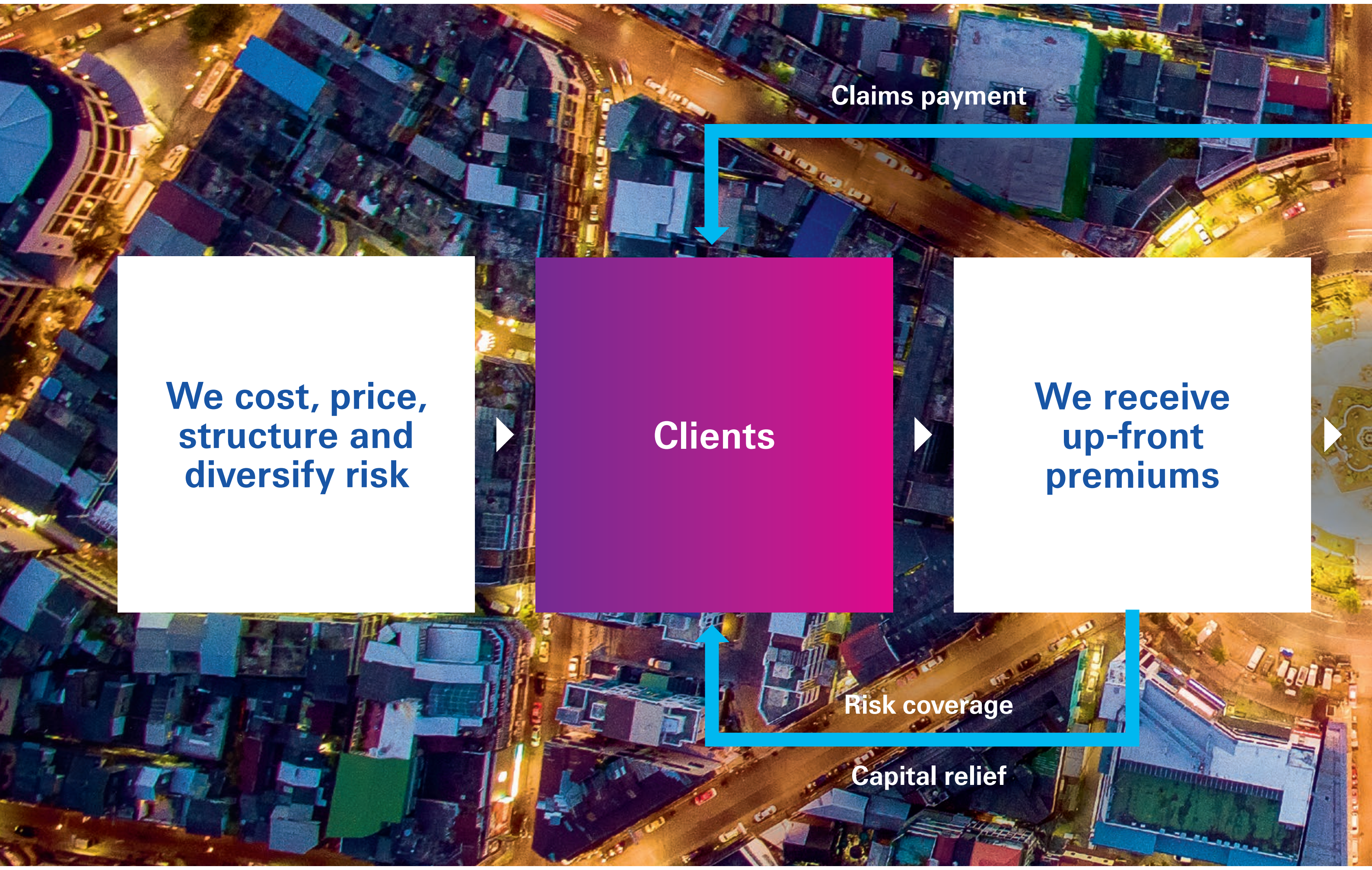
At Swiss Re, it's our priority to continue leading action on climate change and sustainability efforts, both on the asset and liability side of our business, and within and beyond our industry. All of our employees are behind that – for that, and for their commitment every day, I would like to thank them. I'd also like to thank you, our shareholders, for continuing to place your confidence in us.

Zurich, 21 February 2019

**Christian Mumenthaler**
Group Chief Executive Officer

# How re/insurance works

The re/insurance industry plays a pivotal social and economic role by protecting people and businesses against risk.




**OUR DIFFERENTIATING FEATURES**

### Well positioned
Our capital strength, deep client relationships and knowledge-led approach position Swiss Re well to face industry challenges and seize opportunities.

### A risk knowledge company
We invest in research and development and technology to support our clients and differentiate ourselves from the competition.

**Our role and our mission**
We help insurance companies and individuals to manage their risks by absorbing some of their biggest losses, especially losses stemming from natural catastrophes that are among the largest and most complex risks that exist. Therefore, we play a major role in preparing people, businesses and governments to face new and old threats. We constantly make capital allocation decisions, exercising disciplined underwriting and focusing on the most attractive risk pools. The premiums we receive in exchange for protection need to be invested smartly in various financial assets, which means our investments contribute to the real economy and to strengthening infrastructure. The capital remains invested until we need it to pay claims following a loss. As a knowledge company, we generate and share risk knowledge, helping society thrive and progress.


**A successful capital allocator**
We use a knowledge-based approach to allocate capital to the most attractive risk pools and target an optimal portfolio of assets and liabilities.

**Focused on performance**
We aim to achieve our Group financial targets and deliver sustainable shareholder value.

# Swiss Re delivered a Group net income of USD 421 million, in a year marked by large claims, volatile equity markets and significant impact from a US GAAP accounting change.

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# The global economy and financial markets

## Divergent growth trends caused financial market performance to vary by region.

Growth accelerated in the US, but slowed in other major economies. Long-term bond yields increased modestly in the US along with central bank interest rates, while yields were unchanged or slightly lower elsewhere. Global equity markets ended the year in negative territory.

### Global economy

Tax cuts and increased public spending provided a boost to the US economy, lifting real GDP growth from already robust levels in 2017 to close to 3% in 2018. Growth in the Euro area remained strong in the first half of the year, but slowed in the second half, averaging 1.8% in 2018 after 2.4% the year before. Meanwhile, economic growth in the UK continued to soften in 2018, from 1.8% to 1.4%, as uncertainty around Brexit weighed on investment and elevated inflation continued to erode real wages, which in turn dampened consumer spending. Japan's GDP growth also slowed from 1.9% to 0.7% as both domestic and external demand weakened (see economic indicators table).

Inflation continued to climb in most markets, driven by rising oil prices. Underlying inflation (excluding energy prices) remained more moderate. We saw signs of increasing price pressure, particularly in the US, where tight labour markets led to wage increases. US average hourly earnings growth, for example, reached 3.3% in October, a level last seen almost a decade ago, and stayed elevated through year-end.

Economic growth in emerging markets varied by country. The emerging Asia region continued to outperform as growth in India accelerated to 7.3% and the Chinese economy slowed only moderately to 6.6%. Growth in China was supported by accommodative monetary policy and fiscal measures intended to offset slowing external demand and adverse trade policies. Growth in EU member countries in Central and Eastern Europe slowed along with western European markets, while the Russian economy accelerated modestly. Political and economic crises triggered either a sharp growth slowdown or recession in some emerging economies, such as Turkey, Argentina and Venezuela. Only modest growth in Brazil also contributed to sub-par performance in Latin America.

### Interest rates

The major central banks normalised monetary policy to varying degrees during the course of 2018. The US Federal Reserve (Fed) proceeded on its gradual rate hiking path with four steps of 25 basis points each. The Bank of England raised interest rates once, while European Central Bank (ECB) interest rates remained in negative territory. The ECB tapered its asset purchases in 2018, and suspended them by the end of the year. The Bank of Japan continued its expansionary monetary policy, targeting long-term yields at a level close to zero.

After easing monetary policy in 2017 and into 2018, some emerging market central banks, including Russia, India and South Africa, started to tighten monetary policy in the second half of 2018. This was done to stem capital outflows and currency depreciation as well as contain inflation. The Chinese central bank cut the reserve requirement ratio twice in 2018 to support bank lending and growth.

US long-term government bond yields continued to rise along with central bank interest rates for most of the year, but reversed part of the increase in the final two months. The US 10-year yield ended the year at 2.7%, up some 30 basis points over the past 12 months. Long-term yields in other major markets were stable or slightly lower in 2018 (see interest rates chart). The German 10-year government bond ended the year at 0.2%, the UK yield at 1.3% and the Japanese yield at 0%.

US 10-year Treasury bond yield
Year-end 2018

2.7%

German 10-year Bund yield
Year-end 2018

0.2%

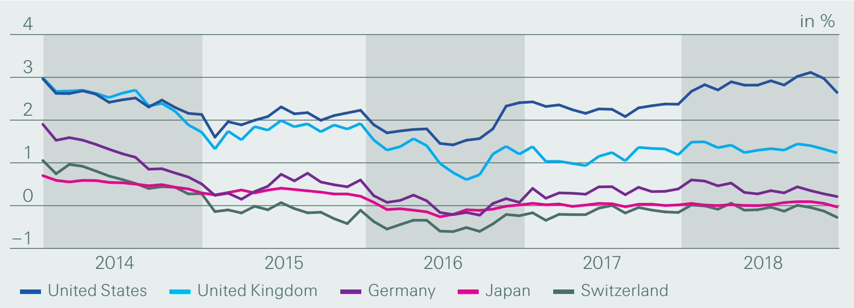
### Stock market performance

The economic environment proved to be challenging for global stock markets, particularly in the final quarter of the year. Slowing growth, increasing (albeit still moderate) inflationary pressures, and the gradual end of expansionary monetary policy weighed on markets. Political and policy uncertainties added to the negative sentiment. Specifically, trade tensions between the US and China heated up over the summer, raising fears of a global trade war that could negatively affect global growth and trigger inflation. Meanwhile, a government coalition in Italy initially pursued a fiscal agenda after the Italian elections in May that was in breach of EU budget rules. Financial market contagion from the budget crisis in Italy was limited, though, and agreement with the EU was reached in December. Meanwhile, uncertainty around the UK's exit from the European Union remained elevated throughout the year. Finally, political turmoil in some emerging markets, including Turkey and Argentina, triggered fears of a broader emerging market crisis. US stock markets benefited from strong domestic growth and corporate earnings boosted by tax cuts. US stocks were up almost 10% at the end of September before falling sharply in the final quarter, ending the year down 6%. Other major indices declined even more sharply. The Swiss Market Index lost 10% over the year, the MSCI UK 13%, the Eurostoxx50 was down 14% while the Japanese TOPIX fell 18% (see stock markets chart).

### Currency movements

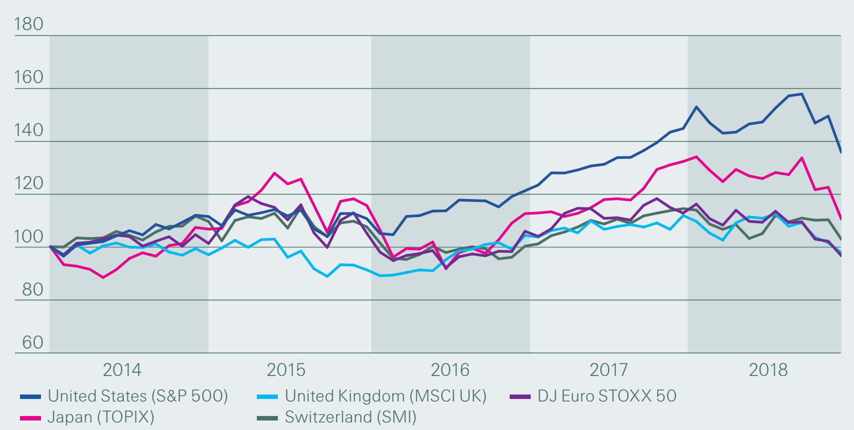
The US dollar strengthened during most of 2018 on the back of rising interest rates and stronger growth in the US, before losing some ground in December. The US dollar ended the year up 6% versus the British pound, 5% versus the euro and 1% versus the Swiss franc, whereas it lost 3% versus the Japanese yen.

**INTEREST RATES FOR 10-YEAR GOVERNMENT BONDS 2014–2018**




Source: Datastream

**STOCK MARKETS 2014–2018**




Source: Datastream

### Economic risks affecting re/insurers

Downside risks increased during the course of 2018 and remain elevated looking ahead. We see some upside potential from supportive fiscal policies and a de-escalation of trade conflicts. Overall, however, risks seem skewed to the downside.

The biggest longer-term risk is an escalation of current trade tensions to a global trade war. This would have a significant effect on growth. The US decision to impose higher trade tariffs on Chinese imports has increased the risk, once again, of a sharp slowdown in China. Before trade tensions escalated, sustained economic growth, progress in reducing corporate debt and de-risking of wealth-management products had lowered the risk. A "hard landing" in China could send shock waves across the global economy and financial markets.

In the US, inflation could increase more sharply than expected if the record-low level of unemployment leads to significantly higher wages. This could force the Fed to tighten monetary policy more aggressively and lead to a (temporary) spike in long-term bond yields as investors realise that the Fed is behind the curve. We could see a boom-and-bust cycle with a period of stronger growth and high inflation, followed by a sharp slowdown or even a recession. US overheating risks could spread across the globe, with a spike in bond yields and a stronger US dollar as the catalysts for contagion. Monetary policy errors elsewhere could also have severe consequences for economic growth and financial markets.

Finally, there are numerous political risks that could affect the economic outlook. Brexit-related uncertainty continues to weigh on economic activity in the UK and negative effects could spread across Europe if the UK were to exit the European Union in a disorderly fashion. Also, upcoming EU parliament election could embolden eurosceptic parties across Europe. Coupled with a flaring up of the budget conflict in Italy, this could re-ignite Euro area break-up fears and destabilise financial markets.

Re/insurers could be affected by volatility in asset prices and slower growth in the affected markets. A "flight to quality" could lead to a sustained drop in interest rates and exacerbate the challenges from the persistent low yield environment. A scenario of unexpectedly high inflation, however, could have a sizeable impact on re/insurance claims, especially in casualty lines. A more positive scenario of stronger growth and contained inflation would be beneficial for the re/insurance industry. Investment yields would improve, albeit only slowly, and premium volumes would rise along with economic activity. China could maintain growth of near 7% rather than slow gradually, benefiting Asia overall and global commodity exporters in particular.

### ECONOMIC INDICATORS 2017–2018

| | USA | | Eurozone | | UK | | Japan | | China | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2017 | **2018** | 2017 | **2018** | 2017 | **2018** | 2017 | **2018** | 2017 | **2018** |
| Real GDP growth[1] | 2.2 | **2.9** | 2.4 | **1.8** | 1.8 | **1.4** | 1.9 | **0.7** | 6.9 | **6.6** |
| Inflation[1] | 2.1 | **2.4** | 1.5 | **1.7** | 2.7 | **2.5** | 0.5 | **1.0** | 1.5 | **2.1** |
| Long-term interest rate[2] | 2.4 | **2.7** | 0.4 | **0.2** | 1.2 | **1.3** | 0.0 | **0.0** | 3.9 | **3.3** |
| USD exchange rate[2,3] | – | **–** | 120 | **114** | 135 | **127** | 0.89 | **0.91** | 15.4 | **14.5** |

[1] Yearly average
[2] Year-end
[3] USD per 100 units of foreign currency

Source: Swiss Re Institute, Datastream, CEIC

## INSURANCE: A CENTRAL COMPONENT OF SYSTEM RESILIENCE

We define economic resilience as the capacity of a system to regenerate after a significant shock event. Shock buffer capacity is a blend of quantitative and qualitative factors, including trend growth, public and private debt stocks, and institutional stability.

The capacity of several key global resilience factors, or shock buffers, has weakened over the last 10 years:

- Lower growth paths: Global economic trend growth has declined significantly. According to some estimates, the growth trend has decreased from around 5% in 2006 to just over 3% in 2018.[1]
- Higher debt: total debt ratios are much higher than 10 years ago, standing at 318% of GDP in the first quarter of 2018, compared with 282% in the first quarter of 2008, according to the Global Debt Monitor database of the Institute of International Finance.
- Financial market structure: central banks have become major actors in financial markets. We estimate that the Fed, ECB, Bank of England and Bank of Japan all own 20–45% of their domestic government bond markets. Bond prices have thus lost their price/risk signalling function.
- Less open economies: Some advanced economies have exhibited a tendency towards less open systems in the past years, for example by restricting trade and migration. Openness increases exposure to crisis via contagion but arguably, openness also allows stricken nations to bounce back more quickly.

Insurance is another central component of system resilience. It plays a vital role in stabilising financial volatility for households and businesses. Nevertheless, there are still large "insurance protection gaps" across all levels of society. We define this gap as the uninsured portion of losses from an adverse event. For example, we estimate that the gap for global mortality and property risk currently stands close to USD 500 billion, or 70% of the size of the current respective insurance markets (or 0.6% of global GDP).[2]

We expect insurance protection gaps to grow further in absolute terms, as the economies expand. In relative terms, the insurance industry has made inroads to reduce protection gaps in certain regions and lines of business, but more is needed. Building risk awareness and encouraging consumers to take up insurance coverage is a key area of action in both the advanced and emerging markets. Insurers can gain insights from behavioural economics to better understand consumer buying behaviour. Digital technology can help streamline the sales process, and reduce distribution and administrative costs. This makes insurance more affordable and also accessible to lower income groups. Given its importance, resilience will be among the key research areas of the Swiss Re Institute in 2019.

1 See P. Alexander, *Assessing Global Potential Output Growth,* Bank of Canada Staff Analytical, 2017
2 Source: Swiss Re *sigma* 5/2018, Global economic and insurance outlook 2020.

# Primary non-life

**Market size in USD billions**
Estimated global premium income in 2018

2 400

**Market performance**
Estimated global premium growth in 2018

3%

**Market overview**
The global non-life industry generated around USD 2 400 billion of premium income in 2018, of which around 22% came from emerging markets. Non-life insurance ranges from standardised motor and household insurance to sophisticated tailor-made liability and property covers, including specialty commercial and industrial risk insurance.

**Market performance**
Premiums have risen moderately in almost all countries/regions in 2018 due to stronger economic growth. Global non-life premiums were up an estimated 3% in real terms, after a 3% gain in 2017.

The global aggregate is being driven by the emerging markets, where we estimate 8% premium growth in 2018. Non-life business in China and India has been particularly strong, with combined premiums up 12% in real terms this year. Agriculture insurance has been a main growth driver in both countries. Alongside economic recovery, non-life sector growth dynamics in Latin America and Africa were improving, but with 3% still significantly below long-term trend.

Advanced market premiums have grown by about 2% this year on the back of strong economic momentum, in particular in North America, and also others. In regions hit by the record natural catastrophe losses in 2017, harder rates in property lines have supported the premiums increase. Notable negatives for the advanced market aggregate this year has been declining premium income in motor in Japan and the UK, due to rate cuts in those markets. In Japan, the cuts resulted from benign claims trends and in the UK, as some insurers start to pass on expected cost benefits from the government's planned reforms to personal injury compensation.

Underwriting conditions have remained soft, particularly in commercial insurance, despite a moderate improvement in pricing in 2018. Marsh's global insurance market index ticked up moderately throughout the year. Even so, stabilisation of the soft market trend of the last years has not been sufficient to significantly narrow the profitability gap that still besets the non-life insurance sector.

We expect a slightly positive underwriting result for the global non-life sector. Overall profitability of the global property/casualty insurance remains at moderate levels, also driven continuing low investment returns.

**Outlook**
The global economic outlook for 2019 and 2020 is positive and demand for non-life insurance is expected to increase. We expect real growth of 3% for the global aggregate, composed of 2% for advanced markets and up to 8% for emerging markets.

In terms of profitability outlook we expect, in the absence of clear direction on rates, underwriting results to remain stable at current levels, or to slightly improving. Positive rate dynamics and demand for new types of cover is expected to support premium growth in the coming years.

# Reinsurance non-life

**Market size in USD billions**
Estimated global premium income in 2018

180

**Market performance**
Estimated global premium growth in 2018

5%

### Market overview
Global non-life reinsurance premiums in 2018 totalled about USD 180 billion, around 28% of which was attributable to ceding companies in emerging markets. In general, reinsurance demand is a function of the size and capital resources of primary insurance companies, as well as of the risk profile of the insurance products provided.

### Market performance
Global premiums in non-life reinsurance are estimated to have grown by around 5% in 2018 in real terms, mainly based on rapidly increasing cessions from emerging markets.

The impact from natural catastrophe losses is less severe after last year's record global insured of USD 144 billion disaster-related losses. However, claims were mounting up and are estimated at more than USD 70 billion for the re/insurance industry. The largest natural catastrophe losses were from wildfires in California, hurricanes making landfall in the US (Michael, Florence), and from typhoons and floods in Japan.

Reinsurance prices stabilised at the 2018 renewals with rate increases in loss affected lines and regions, but with little spill-overs into non-loss affected lines. Preliminary data indicate a combined ratio of around 98%–100% for 2018, a significant improvement compared to last year's 108% which was heavily impacted by the huge natural catastrophe losses. However, this does not reflect underlying underwriting profitability, because natural catastrophe losses have been partly lower than anticipated and the claims ratio has been reduced by positive reserve releases from redundant reserves for prior years' claims. Excluding these factors, the underlying combined ratio was unchanged at around be around 100% for 2018.

Despite a trend towards higher interest rates in the US in 2018, the investment environment remained challenging with persistently low-investment yields and increased volatility of capital markets. Before this difficult background, the industry achieved only a 2.5%–3% investment result. As a result, the overall profitability was also at a low 6%–8% compared to historical standards.

The reinsurance industry's capital base remains strong. On the one hand, the capital position of global reinsurers, the traditional source of capital, was stable during 2018 at around USD 340–350 billion as a result of high natural catastrophe losses and continued strict capital management which returned almost all of the industry's net income to shareholders through dividend payments and share buy-backs.

The alternative capital (AC) sector on the other hand expanded again significantly from USD 75 billion by end of 2016 to around USD 90–100 billion at the end of 2018: the high loss burden in 2017 didn't halt the massive capital inflow in the first half of the year, but towards the end of 2018, the were first signs of hesitancy among capital providers regarding further investing into this risk class. Two factors acted as potentially deterrent to investors: a) the mounting losses from wildfires in California for the third year in a row and b) from still gradually escalating losses ("loss creep") from Hurricane Irma in 2017, which created increasing uncertainty regarding final loss numbers and prevented a smooth roll over of investments into new ventures.

### Outlook
In 2019 and 2020, the reinsurance is expected to expand at least with the same growth rate as the primary non-life market. Cessions from emerging markets are forecast to develop stronger than those from the advanced markets, given the stronger dynamics of the macro-economy and the primary insurance markets.

Reinsurance capital will remain abundant and capitalisation of the industry will remain strong going forward. Nonetheless, reinsurance pricing which has stabilised in 2018 is expected to not further soften in 2019.

# Primary life

**Market size in USD billions**
Estimated global premium income in 2018

2900

**Market performance**
Estimated global premium growth in 2018

2%

### Market overview

The global life insurance industry generated about USD 2 900 billion in premium income in 2018, of which about 20% came from emerging markets. Around 85% of premium income in life insurance is derived from savings and retirement products. The protection business, which covers mortality and morbidity risks and represents the balance of the market, has a declining share of premium income.

### Market performance

We estimate that global life insurance premiums grew by 2% in real terms in 2018, slightly slower than the average annual growth rate of the last five years. Premiums in the advanced markets expanded by almost 2%, driven by Japan and the US, while the European markets were mainly sluggish.

The emerging market developed much slower than usual. In recent years, emerging markets have accounted for most of the acceleration in global life premium income, but their contribution will be much lower in 2018. The reason is China, which remains the engine of growth for the life industry. What happens there has large impact on the emerging market aggregate. Part-year data indicates that there will be a substantial contraction (–2%) in life premiums in China this year, due mostly due to tighter regulation of wealth-management-product (WMP) types since beginning of the year. Excluding China, we forecast emerging market life premiums to increase by 5% in 2018.

In the low interest rate environment, overall profitability in the life insurance sector – as measured by ROE – remains low. According to part-year data, the trend in the US is upwards, slowly. With an estimated ROE of 12%, North American life insurers have performed solidly this year and outperformed peers in Europe and Asia, for which 2018 ROE is estimated at 9% and 10%, respectively.

Some central banks have taken their foot off the monetary policy accelerator and interest rates are rising slowly, but are still very low. This means savings-type business will remain stressed given the associated inability of life insurers to provide attractive returns, fund guarantees, future claims and benefits as well as offer attractive prices. Many business lines are of longer duration than available assets, and insurers still need to reinvest in lower-yielding assets and/or take more asset risk, exposing their balance sheets to more financial risk.

### Outlook

For the next two years, the outlook for different regions is mixed. Emerging market premium growth will accelerate again to around 9%. There is expected to be a rebound in China, where the economic backdrop remains strong and as the one-off effect of this year's WMP shock fades. Advanced market premiums are expected to remain stable with limited upside development.

# Life & health reinsurance

**Market size in USD billions**
Estimated global premium income in 2018

75

**Market performance**
Estimated global premium growth in 2018

2%

## Market overview

The size of the global life reinsurance business was around USD 75 billion in 2018. Most (62%) of this is attributable to the US, Canada and the UK. Ceding companies from emerging markets accounted for 20% of global demand. Life reinsurers are increasingly diversifying away from traditional mortality business.

## Market performance

The life reinsurance industry registered a 2% increase in 2018. Underlying reinsurance premium growth in traditional reinsurance areas like mortality and morbidity risk has again remained relatively subdued, but also other kinds of reinsurance transactions were sluggish this year. In mature markets, slow increases in the US were contrasted by healthy growth in Europe and Asia/Pacific. Growth in the emerging markets regions were significantly impacted by the decline in cessions in China of around 10%, offsetting expanding reinsurance demand from other regions.

Against this background, life reinsurers have sought to increase revenues through large, individual risk transfer transactions that help primary insurers stabilise income and/or bolster their balance sheets. The introduction of risk-based capital regimes has prompted much of this activity. In Europe, for example, Solvency II has underpinned interest in reinsurance to reduce required regulatory capital or to economise on reserves.

Another area of growth for reinsurers has been longevity risk transfer. The availability of longevity reinsurance has become key to the pricing of annuity transactions, as insurers offering those transactions to pension funds typically look to simultaneously access reinsurance capacity to hedge at least part of the associated longevity risk inherent in these lines.

The operating margin of the life reinsurance industry improved to 8% of revenues in 2018, slightly up from the 7% achieved between 2015 to 2017. The contribution from investments further declined, due to the ongoing low interest rate environment, while underwriting performance improved.

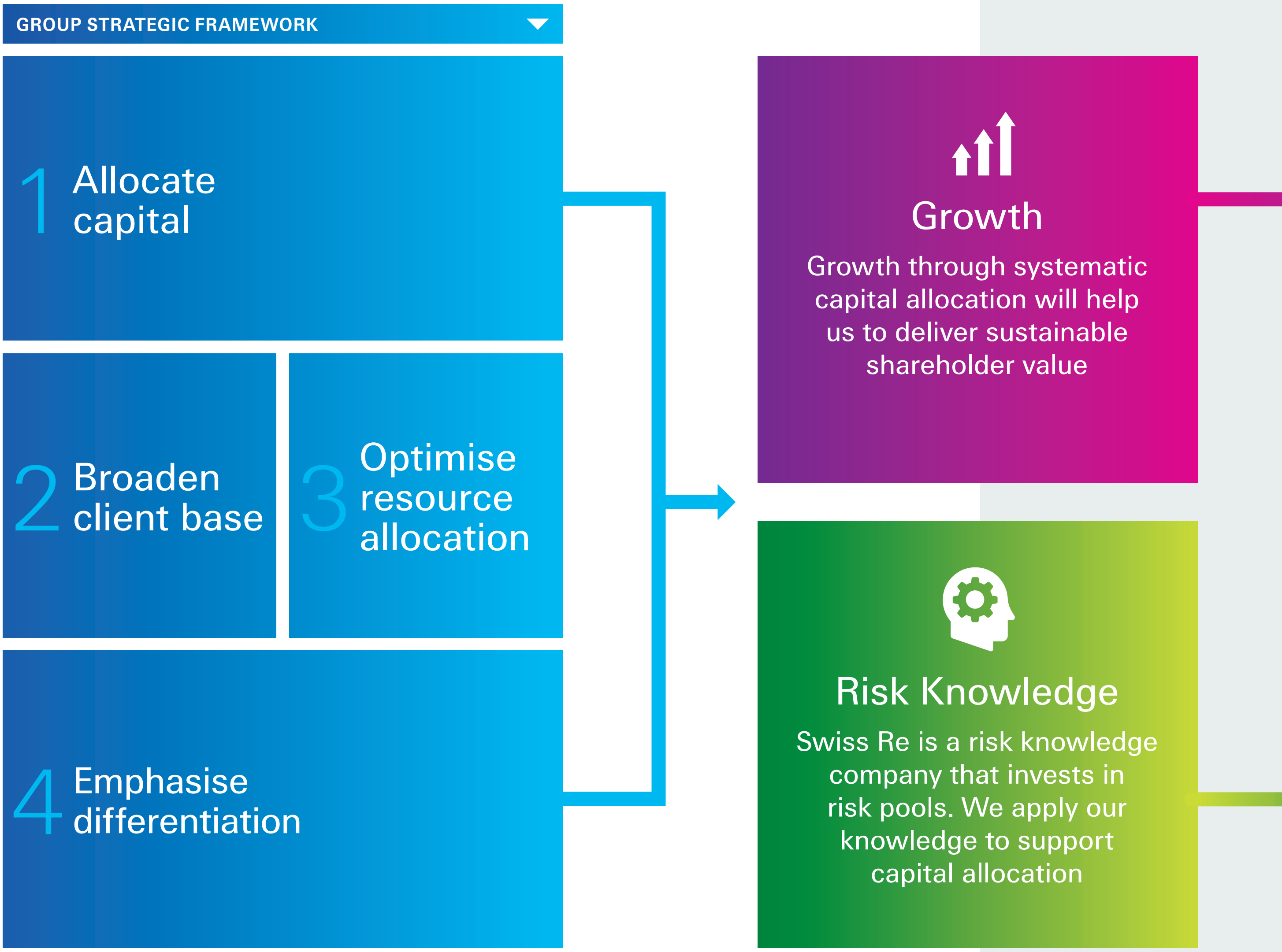
## Outlook

Continued recovery in primary insurance should support growth in life reinsurance revenues, including a recovery in traditional renewable term business. Premium growth will nonetheless likely remain modest, especially in the large advanced markets. In real terms, global life reinsurance premiums are forecast to increase by around 2% in 2019 and 2020.

Premiums in the advanced markets are projected to expand by below 1% annually, driven by developments in the US where cession rates continue their long-term down trend and growth in the primary market remains weak. In Western Europe, where cession rates are usually lower, reinsurance premiums are forecast to grow by about 1%. The strongest contribution to real growth in the advanced markets will likely come from developed Asia.

# Our strategy

Meeting our financial targets and making the world more resilient.



| NEAR TERM PRIORITIES | PROGRESS IN 2018 |
|---|---|
| **Large and tailored transactions**<br>Large and tailored transactions in Reinsurance provide an attractive growth opportunity. They reinforce our differentiation through tailored offerings, leveraging our strong risk knowledge base. | ▪ Demand for large and tailored transactions remains strong with more than 154 transactions closed in 2018.<br>▪ Large and tailored transactions contributed 30% to economic profit in 2018. |
| **Corporate Solutions**<br>Corporate Solutions represents a strategic platform to access the large pool of commercial risks. It remains core to our strategy to diversify into different risk pools. | ▪ Expansion of Primary Lead capabilities: global network coverage for international programmes in over 120 countries.<br>▪ Growth in a gradually improving market environment whilst pruning underperforming segments. |
| **Life Capital**<br>Life Capital increases access to attractive and growing risk pools in open and closed life and health books. It aims to build a balanced portfolio, benefiting from the diversity of the risks and differentiating itself through leading underwriting and servicing capabilities. | ▪ Life Capital continued its strategy to grow its individual and group business in Europe and in the US. iptiQ's B2B2C digital insurance offering is attractive to an increasing number of distribution partners, with 19 having been onboarded to date. In Q4 of 2018, the number of policies sold weekly averaged 2 600. |
| **High growth markets (HGM)**<br>We intend to maintain our leading position in high growth markets, establishing a strong presence. These world regions continue to remain a key element of our strategy, even when they are temporarily challenged. | ▪ 22% of total net premiums earned (NPE) were generated in HGM. Asia contributed more than 50% of NPE in HGM; China remains a key driver of growth. |
| **Research and development**<br>Building knowledge and competence through R&D has historically been our core focus. The creation of the Swiss Re Institute further strengthens our steering of R&D activities. | ▪ Through the Swiss Re Institute, which celebrated *sigma*'s 50-year anniversary in 2018, we continued to deliver thought leadership through a wealth of expertise publications, conferences and articles on the evolving risk landscape and its impact on the industry. |
| **Technology**<br>Our technology strategy is tightly embedded in the business strategy. Technological innovation gives us the opportunity to further differentiate and support our clients. | ▪ In 2018, we continued to leverage technology to develop digital insurance solutions that address nascent risk pools. Pages 24–37 of the Business Report showcase examples of such developments. |
| **People and culture**<br>Our employees provide a wide range of skills and technical expertise. Their diverse backgrounds enable us to develop unique solutions to best support our clients. | ▪ We have grown our workforce and now employ 14 943 employees in 30 countries, of which 17% are located in high growth markets.<br>▪ Changes in geographic footprint continued to shape our workforce profile, with millennials now accounting for 46% of the Group's workforce. |

# Summary of financial statements

## INCOME STATEMENT

| USD millions | 2017 | **2018** | Change in % |
|---|---|---|---|
| **Revenues** | | | |
| Gross premiums written | 34775 | 36406 | 5 |
| Net premiums written | 32316 | 34042 | 5 |
| Change in unearned premiums | 803 | –167 | – |
| **Premiums earned** | 33119 | 33875 | 2 |
| Fee income from policyholders | 586 | 586 | 0 |
| Net investment income – non-participating business | 3708 | 4075 | 10 |
| Net realised investment gains/losses – non-participating business | 1727 | 65 | –96 |
| Net investment result – unit-linked and with-profit business | 3315 | –1593 | – |
| Other revenues | 32 | 39 | 22 |
| **Total revenues** | 42487 | **37047** | –13 |
| | | | |
| **Expenses** | | | |
| Claims and claim adjustment expenses | –16730 | –14855 | –11 |
| Life and health benefits | –11083 | –11769 | 6 |
| Return credited to policyholders | –3298 | 1033 | – |
| Acquisition costs | –6977 | –6919 | –1 |
| Operating expenses | –3308 | –3432 | 4 |
| **Total expenses before interest expenses** | –41396 | **–35942** | –13 |
| | | | |
| **Income before interest and income tax expense** | 1091 | **1105** | 1 |
| Interest expenses | –566 | –555 | –2 |
| **Income before income tax expense** | 525 | 550 | 5 |
| Income tax expense | –132 | –69 | –48 |
| **Net income before attribution of non-controlling interests** | 393 | **481** | 22 |
| | | | |
| Income/loss attributable to non-controlling interests | 5 | –19 | – |
| **Net income after attribution of non-controlling interests** | 398 | **462** | 16 |
| | | | |
| Interest on contingent capital instruments, net of tax | –67 | –41 | –39 |
| **Net income attributable to common shareholders** | 331 | **421** | 27 |

### Changes in equity

| USD millions | 2017 | **2018** | Change in % |
|---|---|---|---|
| Total shareholders' equity as of 1 January | 35634 | 34124 | –4 |
| Net income attributable to common shareholders | 331 | 421 | 27 |
| Dividends | –1559 | –1592 | 2 |
| Change in unrealised gains/losses on securities, net | 287 | –2841 | – |
| Change in other-than-temporary impairment, net of tax | 3 | –1 | – |
| Change in foreign currency translation | 526 | –356 | – |
| Purchase/sale of treasury shares and share based payments | –1100 | –1402 | 27 |
| Other changes in equity | 2 | –423 | – |
| **Total shareholders' equity as of 31 December** | 34124 | **27930** | –18 |
| Non-controlling interests | 170 | 797 | – |
| **Total equity as of 31 December** | 34294 | **28727** | –16 |

## SUMMARY BALANCE SHEET

| USD millions | 2017 | **2018** | Change in % |
|---|---|---|---|
| **Assets** | | | |
| Fixed income securities | 101 786 | 95 952 | –6 |
| Equity securities | 3 865 | 3 036 | –21 |
| Other investments | 16 234 | 13 351 | –18 |
| Short-term investments | 4 846 | 5 417 | 12 |
| Investments for unit-linked and with-profit business | 35 166 | 29 546 | –16 |
| Cash and cash equivalents | 6 806 | 5 985 | –12 |
| Deferred acquisition costs | 6 871 | 8 217 | 20 |
| Acquired present value of future profits | 1 989 | 1 818 | –9 |
| Reinsurance recoverable | 7 942 | 7 058 | –11 |
| Other reinsurance assets | 22 989 | 22 798 | –1 |
| Goodwill | 4 172 | 4 071 | –2 |
| Other | 9 860 | 10 321 | 5 |
| **Total assets** | 222 526 | **207 570** | –7 |
| | | | |
| **Liabilities and equity** | | | |
| Unpaid claims and claim adjustment expenses | 66 795 | 67 446 | 1 |
| Liabilities for life and health policy benefits | 42 561 | 39 593 | –7 |
| Policyholder account balances | 37 537 | 31 938 | –15 |
| Other reinsurance liabilities | 15 914 | 15 865 | 0 |
| Short-term debt | 433 | 1 633 | – |
| Long-term debt | 10 148 | 8 502 | –16 |
| Other | 14 844 | 13 866 | –7 |
| **Total liabilities** | 188 232 | **178 843** | –5 |
| | | | |
| **Shareholders' equity** | 34 124 | **27 930** | –18 |
| | | | |
| Non-controlling interests | 170 | 797 | – |
| **Total equity** | 34 294 | **28 727** | –16 |
| | | | |
| **Total liabilities and equity** | 222 526 | **207 570** | –7 |

# **Group results** – Swiss Re's net income significantly impacted by large losses and recent change in US GAAP accounting guidance on equity securities.

**Christian Mumenthaler**
Group Chief Executive Officer

"Our extraordinary financial strength enabled us to support our clients in these tough times, and in 2018 we absorbed USD 3.0 billion of large claims."

2018 was dominated by large catastrophic events that made it the second consecutive challenging year for Swiss Re, with our property and casualty businesses taking the heaviest toll. Swiss Re's estimated insurance claims from large natural catastrophes, including typhoons Jebi and Trami in Japan, the Camp and Woolsey wildfires in California, as well as hurricanes Florence and Michael in the Americas, amounted to USD 2.2 billion in 2018, net of retrocession and before tax. In addition, multiple large man-made disasters generated USD 0.8 billion in claims. Swiss Re's net income, which amounted to USD 421 million for the year, was above 2017 when natural catastrophe claims and man-made losses totalled USD 4.7 billion.

The 2018 net income was also impacted by a lower investment result, reflecting challenging financial markets, and an estimated negative pre-tax impact of USD 599 million due to the recent change in US GAAP accounting guidance on recognition and measurement of equity investments that took effect on 1 January 2018. Excluding the accounting guidance, net income would have been USD 894 million.

Reinsurance generated a net income of USD 1.1 billion, compared to USD 679 million in 2017.

Property & Casualty Reinsurance reported a net income of USD 370 million in 2018, compared to a net loss of USD 413 million in 2017. Both periods were strongly impacted by natural catastrophes, totalling USD 2.0 billion in 2018 and USD 3.7 billion in 2017, net of retrocession and before tax. The net operating margin was 4.3%, compared to –1.3% in the prior-year period.

Life & Health Reinsurance contributed a net income of USD 761 million in 2018, down from USD 1.1 billion in 2017, driven by a lower underwriting result due to unfavourable mortality experience as well as reduced investment performance. The net operating margin decreased to 9.4% in 2018 from 13.1% in the previous year.

Corporate Solutions incurred a net loss of USD 405 million in 2018, compared to a net loss of USD 741 million in 2017. Both years were significantly impacted by large natural catastrophes and man-made losses, totalling USD 0.7 billion in 2018 and USD 1.2 billion in 2017, net of retrocession and before tax. The net operating margin was –11.1% and –23.5% for 2018 and 2017, respectively.

Life Capital delivered a net income of USD 23 million in 2018, compared to USD 161 million in 2017, impacted by unfavourable UK investment market performance. As a result, Life Capital's net operating margin declined to 3.9% in 2018, compared to 10.9% for 2017.

The Group's net operating margin for 2018 was 2.9%, a slight increase from 2.8% in the prior year.

Common shareholders' equity, excluding non-controlling interests and the impact of contingent capital instruments, decreased to USD 27.9 billion at the end of 2018, down from USD 33.4 billion at the end of 2017. The decline mainly reflected a payment to shareholders of USD 2.9 billion for the 2017 regular dividend and the share buy-back programmes, as well as a decrease in unrealised investment gains of USD 2.8 billion.

Swiss Re achieved a return on equity of 1.4% for 2018, above the 2017 return of 1.0%. Excluding the impact of the recent change in US GAAP accounting guidance, the estimated return on equity would have been 2.9%.

Earnings per share for 2018 were USD 1.37 or CHF 1.34, compared to USD 1.03 or CHF 1.02 for 2017.

Book value per common share stood at USD 93.09 or CHF 91.72 at the end of 2018, compared to USD 106.09 or CHF 103.37 at the end of 2017. Book value per common share is based on common shareholders' equity and excludes non-controlling interests and the impact of contingent capital instruments.

## Business performance

Premiums earned and fee income for the Group amounted to USD 34.5 billion for 2018, an increase of 2.2% year-on-year. Gross premiums written increased in the same period by 4.7% to USD 36.4 billion, primarily driven by premium growth across the Group's life and health businesses.

Property & Casualty Reinsurance contributed USD 16.1 billion of premiums earned in 2018, down from USD 16.7 billion in 2017. The decline is mainly in the Chinese quota share business and in the US casualty business. The Property & Casualty Reinsurance combined ratio was 104.0% in 2018, down from 111.5% as the prior year included larger natural catastrophe impacts.

Life & Health Reinsurance premiums earned and fee income totalled USD 12.8 billion in 2018, an increase of 7.1% year-on-year, mainly reflecting growth across all markets and a positive impact of intra-group retrocession agreements.

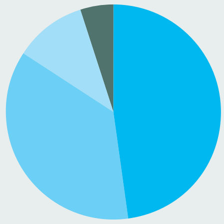
Corporate Solutions premiums earned were USD 3.9 billion for 2018, up by 7.5% compared to the previous year. The Corporate Solutions combined ratio was 117.5% in 2018, compared to 133.4% in the previous year, reflecting less significant large natural catastrophe losses in 2018.

Premiums earned and fee income for Life Capital increased by 14.1% to USD 1.6 billion, mainly driven by growth in the open book life and health insurance business combined with intra-group retrocessions. Life Capital continued to generate exceptional gross cash amounting to USD 818 million in 2018 compared to USD 998 million in 2017.

**NET PREMIUMS AND FEES EARNED BY BUSINESS SEGMENT, 2018**

**Total: USD 34.5 billion**

- 47% P&C Reinsurance
- 37% L&H Reinsurance
- 11% Corporate Solutions
- 5% Life Capital



## Investment result and expenses

Swiss Re's return on investments for 2018 was 2.8%, compared to 3.9% in 2017, reflecting a negative impact from the recent change in US GAAP accounting guidance. Non-participating net investment income increased to USD 4.1 billion in 2018 compared to USD 3.7 billion the prior year. The Group reported non-participating net realised investment gains of USD 0.1 billion in 2018, compared to USD 1.7 billion in 2017, as the prior year benefited from significant realised gains from sales within the equity portfolio versus market value losses in 2018.

Acquisition costs for the Group amounted to USD 6.9 billion in 2018, slightly down from USD 7.0 billion in 2017.

Operating expenses of USD 3.4 billion in 2018 increased by 3.7% year-on-year.

Interest expenses were USD 555 million, down by 1.9% year-on-year.

The Group reported a tax charge of USD 69 million on a pre-tax income of USD 550 million for 2018, compared to a tax charge of USD 132 million on a pre-tax income of USD 525 million for 2017. This translated into an effective tax rate in the current and prior-year reporting periods of 12.5% and 25.1%, respectively. The tax rate in 2018 was largely driven by tax benefits from foreign currency translation differences between statutory and US GAAP accounts, the release of valuation allowances on net operating loss and tax benefits from intra-entity transfers, partially offset by profits earned in higher tax jurisdictions and tax charges from unrecognised tax benefits.

# Group underwriting

**Edouard Schmid**
Group Chief Underwriting Officer

"Our effective investment in R&D is the basis for continued underwriting outperformance."

**Competitive advantage in underwriting**
Swiss Re is fundamentally a knowledge company, especially when it comes to underwriting. We channel over 150 years of experience and cutting-edge research and development (R&D) into two pillars of outperformance: active capital allocation across insurance risk pools and distinctive underwriting of individual risks. We blend experience, proprietary data and forward-looking research, and create unique underwriting opportunities and access to risk pools.

Our proprietary natural catastrophe modelling is one example. The underlying tool was developed based on proprietary Swiss Re R&D. It has been built over the past three decades in collaboration with external partners, and crucially, by leveraging our own experience and proprietary data to create the model. Once an exclusively in-house underwriting tool, this year it has been extended to our insurance clients in response to demand. Our trust in this proven model has enabled us to become leaders in profitably allocating capital to the important natural catastrophe modelling market – and the same confidence allows us to retain most of the risk. This represents a distinctive proposition to our clients and shareholders alike.

Likewise, our in-house biometric risk solution, Magnum, is a market-leading underwriting capability. Used by over 60 insurance clients, this automated underwriting solution processed more than 12 million applications in 26 countries in 2018, covering a full range life, health and medical expense products. It is the outcome of over 20 years' experience and acknowledged industry knowledge leadership, constantly refreshed with new research. Magnum enables us to allocate a growing amount of capital to support our position in life and health insurance.

These are mature solutions, for mature risks. The same capabilities drive our ability to absorb risks that are less understood, such as cyber insurance. In previous years, Swiss Re adopted a cautious approach towards cyber risk, while others were more willing to underwrite this fundamentally new risk pool with questionable profitability. We deliberately shaped our capital allocation to maintain a watching, yet underweight market interest. In 2018, our R&D delivered a capability to track and contain the accumulated cyber risk – and we have deployed an increased appetite for a risk that has become addressable.

We continue to create value by delivering resilience. Resilience – the confidence that we can stand by our underwriting and risk-taking for many years to come – is crucial to our clients and to our shareholders. That resilience is assured through our ongoing disciplined commitment to both active capital allocation, and distinctive underwriting.

### Underwriting performance in 2018

The Group's overall underwriting performance in 2018 was solid, despite high large natural catastrophe and man-made losses in the year. Group results were affected by a number of major insured natural catastrophe losses that made 2018 the fourth-costliest year for the insurance industry according to the Swiss Re Institute. Despite pricing improvements in 2018, the market environment in our Property & Casualty Reinsurance businesses remained challenging. Meanwhile, the performance of Life & Health Reinsurance continued to be solid, and critical underlying markets remained attractive.

In 2018, Reinsurance made payments of ca. USD 10 billion to 3 300 clients in 150 countries, while Corporate Solutions' payments totalled ca. USD 2.5 billion in over 50 000 payments to its insureds and third-party claimants. These payments helped people rebuild homes and supported communities to recover in the aftermath of catastrophes.

The 2018 large loss burden totalled USD 3.0 billion, driven by losses associated with the typhoons Jebi and Trami in Japan, hurricanes Florence and Michael, the Camp and Woolsey wildfires in the US and the Ituango dam collapse in Colombia.

Total Life and Health benefits increased from USD 9.2 billion in 2017 to USD 10.3 billion in 2018. The increase was due to various factors, mainly currency fluctuations against the dollar, unfavourable claims development in US Mortality observed in the first half of 2018, and strong business growth, in particular in US Individual Mortality, Disability in Australia and Continental Europe and Medical in Europe.

### Market environment and outlook

We anticipate continuing, albeit slowing global economic expansion in 2019. Insurance premiums in advanced markets will likely increase, in line with this economic growth, while emerging market premiums will continue to outperform on the back of increasing penetration levels and solid growth, particularly in China. We continue to expand our potential market through ongoing work to reduce the protection gap, and to address the barriers to demand and supply that hinder insurance uptake.

The natural catastrophe events of 2017 led to an improvement in market discipline in 2018. Encouragingly, this discipline has begun to spread to other lines of business, including the underpriced US casualty insurance market. Increased discipline has led to improved pricing and the exit of several re/insurers from otherwise unsustainable markets. In our view, further such exits in the coming year would not come as a surprise. We believe this represents an opportunity for a long-term, stable and resilient re/insurer such as Swiss Re.

We expect broadly stable non-life reinsurance prices, even while underlying primary commercial line prices increase. We anticipate the possibility of moderately increasing interest rates, but continue to focus our underwriting on the key loss drivers. We continue to closely monitor inflationary trends and their effects on claims severity. Our capital allocation process takes this into account, and as a result, we remain comfortable that risk is well within our expectations.

Our core outlook remains the same as last year – we are positive about the opportunities available to us through three distinctive abilities. Our ability to engage in large and tailored transactions has created a market for which we have truly distinctive capabilities. Demand continues to grow for solutions and services that deploy our R&D to clients. Our industry-leading product and geographic franchise enables an unrivalled ability to rapidly and flexibly deploy capital across insurance risk pools.

Our strong underwriting discipline and our strong capitalisation will support us in playing a leading role in making the world more resilient.

# Group investments

**Guido Fürer**
Group Chief Investment Officer

"In a year of considerable market volatility, we have continued to deliver strong value to the Group."

## Strategy

Swiss Re's investment portfolio provided a solid contribution in 2018, despite a negative impact from the recent change in US GAAP accounting guidance. Fundamentally, the portfolio performed well with no material impairments and a running yield that trended upward during the year. Overall, there were no significant changes to Swiss Re's asset allocation during 2018 and the Group remains flexible should there be a change in the investment outlook or if any market opportunities arise.

## Financial markets overview

Financial markets in 2018 were mainly driven by a series of political risks, monetary policy developments and late-cycle concerns in the US. In terms of politics, the US–China trade dispute, Brexit-related uncertainties and the Italian budget standoff weighed on investor sentiment, particularly in the fourth quarter.

In contrast to 2017, most asset classes saw heightened volatility in 2018. Early in the year, equity markets came under sharp pressure before rebounding again in spring. Tailwinds from the US tax stimulus led to outperformance from US equities relative to other major stock markets globally. Equity markets then sold off in Q4 amid concerns over a global growth slowdown as well as seasonally thin liquidity conditions in December, resulting in the S&P 500 index ending the year down 6%. While credit spreads were less affected by the aforementioned market turbulences for most of the year, investment-grade

**Net investment income**
in USD billions, 2018

4.1

(2017: USD 3.7 billion)

**Group return on investments**
2018

2.8%

(2017: 3.9%)

**Fixed income running yield**
2018

2.9%

(2017: 2.9%)

corporate bond spreads widened considerably across all regions over the final two months. Government bond yields increased for the majority of the year, most notably in the US, before partially reversing in November and December.

Overall, global growth started to slow, though continues to remain above-trend. Inflation picked up slowly in many regions and central banks continued to normalise their monetary policies gradually, most notably in the US.

### Investment result

The Group's investment portfolio, excluding unit-linked and with-profit investments, decreased to USD 122.6 billion at the end of 2018, compared to USD 131.7 billion at the end of 2017. The decrease was driven by the strengthening of the US dollar as well as the impact from credit spread widening and a rise in interest rates.

The return on investments for 2018 was 2.8%, reflecting a negative impact from the recent change in US GAAP accounting guidance. The result was primarily driven by net investment income, which contributed more significantly than in prior years, reflecting a higher quality of earnings. This compared to a return of investments of 3.9% in 2017, with the decrease almost entirely attributable to a reduced contribution from equity securities. The Group's non-participating net investment income increased to USD 4.1 billion in 2018 compared to USD 3.7 billion the prior year. The Group's fixed income running yield was steady at 2.9%.

The Group reported non-participating net realised investment gains of USD 0.1 billion in 2018 compared to USD 1.7 billion in 2017, as the prior year benefited from significant realised gains from sales within the equity portfolio versus market value losses in 2018.

### Outlook

Global economic growth is expected to slow in 2019, particularly in advanced markets. Across the US and Europe, tighter financial conditions and lingering political concerns as well as the impact from a waning US fiscal stimulus are likely to weigh on growth. Asia is expected to see economic growth slow moderately, but remains the strongest region globally, while Latin America is expected to see a modest growth recovery, albeit from a low base.

Moderate global monetary policy tightening is set to continue, including by the Federal Reserve, whose hiking cycle and balance sheet reduction are approaching the final stages. Meanwhile, the European Central Bank is likely to keep its refinancing rate unchanged in 2019, having fully unwound its asset purchase programmes in 2018.

In contrast to last year's outlook, which was more balanced, the balance of risks is skewed to the downside, amid increasing protectionism (e.g. US–China trade conflict) and ongoing monetary policy tightening. Late-cycle concerns (especially in the US) and the political climate (including Brexit and the European Parliament election as well as elections in India, South Africa and Argentina) add to the uncertainty. We thus continue to maintain a well-diversified and high-quality investment portfolio, braced for further bouts of market volatility in the coming year.

**ESG MAKES ECONOMIC SENSE**

**In 2018, Asset Management continued on its journey to integrate Environmental, Social and Governance (ESG) criteria into its investment process, now applying them broadly and systematically to nearly 100% of Swiss Re's investment portfolio.**

Find out more about Swiss Re's commitment to sustainable investing in our online report at reports.swissre.com or by scanning the QR code with your smartphone camera.

# **Reinsurance** – While natural catastrophes weighed on our performance in 2018, they also underscore the critical role reinsurance plays in narrowing the protection gap and creating a more resilient world.

**Moses Ojeisekhoba**
CEO, Reinsurance

"As always, we were there for our clients after hurricanes, typhoons, wildfires and hailstorms, fulfilling our promise to pay."

**Strategy and priorities**

By some accounts, 2017 and 2018 have been the costliest back-to-back years for insured catastrophe losses. As devastating as these events are, they also provide an opportunity to demonstrate the value of being reinsured. As always, we were there for our clients after hurricanes, typhoons, wildfires and hailstorms, fulfilling our promise to pay. Our clients recognise the financial strength of Swiss Re's balance sheet and our ability to promptly pay claims.

While natural catastrophes are nothing new, the future holds many unknowns. Technology and globalisation are breaking down barriers in business, politics and society, while creating new structures, new opportunities and new threats. The strategy of Swiss Re's Reinsurance Business Unit is focused on differentiation as well as the identification of risk pools – both existing and new – and the allocation of capital to those pools in a way that results in profitable growth. Reinsurance continues to prove its value by mitigating both established and emerging risks for businesses, governments and society.

The global protection gap is expected to grow due to demographic changes as well as the increasing impact of natural catastrophes. Swiss Re expects longer-term economic and development trends to continue to generate additional business opportunities in both high-growth markets as well as those countries with more mature economies.

### Proactive risk management through reinsurance

We leverage technology to understand risks better, improve our underwriting processes and pricing and to increase efficiency. Proactive risk management in the form of reinsurance offers protection when the unexpected happens and provides the security and predictability to attract investment in innovation and infrastructure. This translates into tangible benefits for individuals across a wide range of sectors, such as housing, food security, financial wellbeing and healthier lives. Swiss Re provides protection for clients from risks in these and other areas.

### Differentiation and client relationships

Understanding the specific needs of our clients and delivering tailored programmes is what differentiates Swiss Re from other players. Our offerings are designed to respond to the realities of risk in today's world. We look at our Reinsurance offerings in both Property & Casualty and Life & Health through the lenses of Core, Transactions and Solutions:

Core is our traditional business and typically involves the transfer of insurance risk from a client's balance sheet to our own. Transactions are usually driven by a client's balance sheet needs, which necessitate the deployment of our knowledge and capital to deliver innovative deals. Our Solutions help clients add value to their underlying business, often by leveraging technology.

## RETHINKING AUTOMOTIVE INSURANCE

**Cars are a lot "smarter" than they used to be. Today, even standard cars can apply the brakes if they sense an obstacle in their path, keep you from drifting into another lane and sound an alarm if you nod off behind the wheel.**

New active safety features like these, combined with changes in how cars are used (such as ride-hailing apps and car-share programs) meant it was time to radically rethink automotive insurance. In 2016, Swiss Re began developing an auto insurance product that uses telematics — data on when, how, and under what conditions a car is used — to more accurately assess evolving risk and price policies accordingly.

The result, an app-based telematics product, went live under the trade name Coloride. Coloride uses Swiss Re's white-labelled phone app to record trips and score customers automatically, as they drive during the week. This data is then combined with the driver's historical claims data to calculate the final score, used then for pricing adjustment at the end of the year.

By taking on the cost of research and development, Swiss Re makes it possible for clients such as Netherlands-based insurer Ansvar to use telematics to gain an edge on competitors without a major investment. Additionally, Coloride provides a means to build a stronger relationship with customers, reduce operational costs and improve the claims experience.

In addition to a customised policy at a fair price, Coloride provides feedback on driving behaviour and phone usage. Good drivers who keep their eyes off their phone and on the road earn points they can spend on iTunes or Amazon purchases, or use points to donate to pre-selected projects. Customers can also use the app to ask for assistance, and compare themselves to other drivers on a leaderboard or in a 1-1 duel.

# Property & Casualty Reinsurance

Property & Casualty Reinsurance reported a net income for 2018 of USD 370 million compared to a net loss of USD 413 million in 2017. Both years were affected by large natural catastrophe losses, while 2018 also saw a significant impact from large man-made losses. Estimated total large natural catastrophe and man-made losses amounted to USD 2.3 billion in 2018, mainly stemming from the Ituango dam collapse in Colombia, the Camp and Woolsey wildfires in California, hurricanes Michael and Florence in the Americas, floods and winter storms in Japan, also hit by typhoons Jebi and Trami, the Sydney hailstorm and a fire at a shipyard in Germany. The net operating margin was 4.3% in 2018, up from –1.3% in 2017.

The overall investment result was USD 1.4 billion in 2018 compared to USD 1.6 billion in 2017. Net investment income was USD 1.4 billion in 2018, reflecting the impact of rising interest rates. Net realised losses amounted to USD 16 million, compared to significant realised gains from equity sales in 2017. The losses were driven by market value losses and lower realised gains from fixed income securities. The return on investments was 2.4%.

### Premiums

Net premiums earned were USD 16.1 billion for 2018, down from USD 16.7 billion in the prior period, reflecting a reduction mainly in the Chinese quota share business and in the US casualty business, partly offset by business volume increase in Asia. Gross premiums written of USD 16.5 billion in 2018 were in line with the prior-year period.

**PROPERTY & CASUALTY RESULTS**

| USD millions | 2017 | **2018** | Change in % |
|---|---|---|---|
| **Revenues** | | | |
| Gross premiums written | 16 544 | 16 545 | 0 |
| Net premiums written | 16 031 | 16 098 | 0 |
| Change in unearned premiums | 636 | –3 | – |
| **Premiums earned** | 16 667 | **16 095** | –3 |
| Net investment income | 1 017 | 1 380 | 36 |
| Net realised investment gains/losses | 613 | –16 | – |
| Other revenues | 48 | 36 | –25 |
| **Total revenues** | 18 345 | **17 495** | –5 |
| | | | |
| **Expenses** | | | |
| Claims and claim adjustment expenses | –13 172 | –11 614 | –12 |
| Acquisition costs | –4 253 | –4 012 | –6 |
| Operating expenses | –1 159 | –1 114 | –4 |
| **Total expenses before interest expenses** | –18 584 | **–16 740** | –10 |
| | | | |
| **Income/loss before interest and income tax expense/benefit** | –239 | 755 | – |
| Interest expenses | –280 | –313 | 12 |
| **Income/loss before income tax expense/benefit** | –519 | **442** | – |
| Income tax expense/benefit | 125 | –72 | – |
| **Net income/loss before attribution of non-controlling interests** | –394 | **370** | – |
| Income/loss attributable to non-controlling interests | | | |
| **Net income/loss after attribution of non-controlling interests** | –394 | **370** | – |
| Interest on contingent capital instruments, net of tax | –19 | | – |
| **Net income/loss attributable to common shareholders** | –413 | **370** | – |
| | | | |
| Claims ratio in % | 79.0 | 72.2 | |
| Expense ratio in % | 32.5 | 31.8 | |
| Combined ratio in % | 111.5 | 104.0 | |

### Combined ratio

Property & Casualty Reinsurance reported a combined ratio of 104.0% for 2018, compared to 111.5% in 2017. The impact from natural catastrophes of USD 2.0 billion in 2018 was 5.0 percentage points above the expected level for the year, which was 7.1 percentage points. The favourable development of prior accident years improved the combined ratio by 0.9 percentage points in 2018, compared to a 3.3 percentage point improvement in 2017.

### Administrative expense ratio

The administrative expense ratio was 6.9% in 2018 compared to 7.0% in 2017, reflecting continuous focus on productivity measures.

### Lines of business

The Property combined ratio decreased to 99.9% in 2018, compared to 119.9% a year earlier. Both periods include a high loss burden, with 2017 impacted by events such as Cyclone Debbie, hurricanes Harvey, Irma and Maria in the Americas, two earthquakes in Mexico and wildfires in California.

The Casualty combined ratio slightly increased to 110.6% in 2018, compared to 108.8% in 2017. The current period includes the impact from non-renewal of business in the US and reduced volumes in EMEA, mainly in the motor line of business.

The Specialty combined ratio improved to 93.4% for 2018, compared to 98.4% in 2017. This is a result of positive prior-year development across all lines of business, predominantly in marine.

### Investment result

The return on investments was 2.4% for 2018, compared to 3.5% in 2017, reflecting a reduction in the investment result of USD 329 million.

Net investment income increased by USD 352 million to USD 1.3 billion for 2018, mainly due to a higher invested asset base alongside the impact of rising interest rates.

Net realised losses were USD 63 million for 2018, compared to net realised gains of USD 590 million for the prior period. The decrease is largely related to the contribution from equity securities, as the 2017 figure reflected significant realised gains from equity sales, while the current period was negatively impacted by the recent change in US GAAP accounting guidance, which entered into effect on 1 January 2018. Losses on interest rate derivatives and a reduction of gains from sales of fixed income securities also contributed to the lower result.

Insurance-related investment result and foreign exchange gains/losses are not included in the figures above.

### Shareholders' equity

Common shareholders' equity decreased to USD 9.5 billion as of 31 December 2018 from USD 10.8 billion as of 31 December 2017, primarily driven by dividends paid to the Group of USD 1.3 billion, unfavourable foreign exchange movement and the net change in unrealised gains/losses, partly offset by net income. The return on equity for 2018 was 3.7% compared to –3.5% in 2017.

### Outlook

Renewals of loss-affected natural catastrophe business experienced rate increases. We had opportunities to grow our natural catastrophe business in North America at attractive terms. In non-loss-affected markets, rates remain stable overall, with some minor volatility.

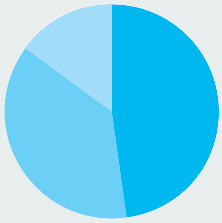
We observed notable differences within Specialty lines with rate increases for loss-affected lines and markets, and otherwise stable terms and conditions. For Casualty, rates increased in segments where improvements were needed due to claims emergence. We continued to seize good opportunities for transactions,

For Property and Casualty we will increase our market share where prices, terms and conditions meet our expectations. Our differentiation model and the solutions we offer will allow us to access further attractive opportunities.

**PREMIUMS EARNED BY LINE OF BUSINESS, 2018**

**Total: USD 16.1 billion**

- 48% Casualty
- 37% Property
- 15% Specialty



# Life & Health Reinsurance

Net income was USD 761 million for 2018, a decrease from the previous year's net income of USD 1.1 billion. The 2018 underwriting result was mainly driven by large transactions in Canada and New Zealand, as well as improved performance in Asia and EMEA, partly offset by unfavourable mortality experience in the US. Investment results were lower than in the prior year, reflecting lower realised gains and mark-to-market losses on equity securities. The return on equity was 11.1%, compared to 15.3% in 2017.

### Premiums

Net premiums earned and fee income in 2018 increased by 7.1% to USD 12.8 billion, compared to USD 12.0 billion for the prior year. Gross premiums written increased by 9.1% to USD 14.5 billion, reflecting growth across all markets, including a large transaction in Asia, a positive impact of intra-group retrocession agreements and favourable currency fluctuations. At constant exchange rates, the increase amounted to 8.1%.

### Net operating margin

The net operating margin for 2018 was 9.4%, a decrease from 13.1% in 2017 due to lower investment and underwriting performance.

### Management expense ratio

The management expense ratio was 5.4%, a decrease from 5.7% in 2017, driven by higher premium volumes.

### Lines of business

Income before interest and income tax expense (EBIT) for the Life segment decreased to USD 720 million for 2018, from USD 935 million in the prior year. The results in 2018 were adversely impacted by unfavourable mortality experience in the US individual life business, partly offset by a transaction in Canada.

EBIT for the Health segment slightly increased to USD 355 million for 2018 from USD 345 million in the prior year. The 2018 result included unfavourable valuation updates in the health portfolio in Australia. The prior year included an increase in incurred but not reported (IBNR) claims in the UK critical illness business.

### Investment result

The return on investments for 2018 was 3.7%, compared to 4.3% in 2017, reflecting a decrease in the investment result of USD 244 million.

Net investment income increased slightly by USD 23 million to USD 1 128 million in 2018. The fixed income running yield for 2018 was 3.4%.

**LIFE & HEALTH RESULTS**

| USD millions | 2017 | **2018** | Change in % |
|---|---|---|---|
| **Revenues** | | | |
| Gross premiums written | 13 313 | 14 527 | 9 |
| Net premiums written | 11 826 | 12 647 | 7 |
| Change in unearned premiums | 25 | 36 | 44 |
| **Premiums earned** | 11 851 | **12 683** | 7 |
| Fee income from policyholders | 129 | 152 | 18 |
| Net investment income – non-participating business | 1 308 | 1 305 | 0 |
| Net realised investment gains/losses – non-participating business | 591 | 347 | –41 |
| Net investment result – unit-linked and with-profit business | 81 | –33 | – |
| Other revenues | 3 | 1 | –67 |
| **Total revenues** | 13 963 | **14 455** | 4 |
| | | | |
| **Expenses** | | | |
| Life and health benefits | –9 211 | –10 280 | 12 |
| Return credited to policyholders | –119 | –5 | –96 |
| Acquisition costs | –2 064 | –2 045 | –1 |
| Operating expenses | –754 | –758 | 1 |
| **Total expenses before interest expenses** | –12 148 | **–13 088** | 8 |
| | | | |
| **Income before interest and income tax expense** | 1 815 | **1 367** | –25 |
| Interest expenses | –315 | –410 | 30 |
| **Income before income tax expense** | 1 500 | **957** | –36 |
| Income tax expense | –360 | –155 | –57 |
| **Net income before attribution of non-controlling interests** | 1 140 | **802** | –30 |
| Income/loss attributable to non-controlling interests | | | |
| **Net income after attribution of non-controlling interests** | 1 140 | **802** | –30 |
| Interest on contingent capital instruments, net of tax | –48 | –41 | –15 |
| **Net income attributable to common shareholders** | 1 092 | **761** | –30 |
| | | | |
| Management expense ratio in % | 5.7 | 5.4 | |
| Net operating margin in % | 13.1 | 9.4 | |

Net realised gains were USD 192 million for 2018, compared to USD 459 million for the prior period, with the prior period positively impacted by significant net realised gains from sales of equity securities.

Insurance-related investment results as well as foreign exchange gains/losses are not included in the figures above.

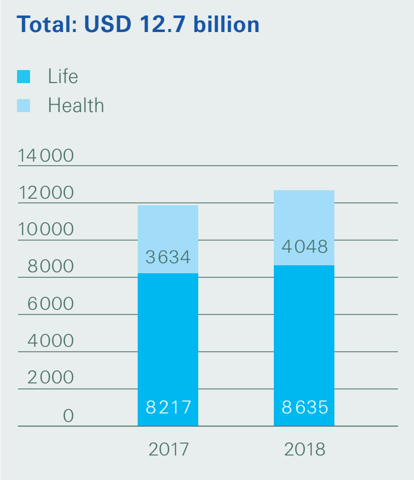
**Shareholders' equity**
Common shareholders' equity decreased to USD 6.3 billion as of 31 December 2018 from USD 7.5 billion as of 31 December 2017. The decrease of USD 1.2 billion reflects a change in net unrealised gains and the dividends paid to the Group, partially offset by net income for the period.

Return on equity was 11.1% in 2018, compared to 15.3% in 2017.

**Outlook**
We expect life and health treaty reinsurance business to grow modestly in mature markets compared to a stronger increase in high growth markets. In mature markets, the prolonged low interest rate environment continues to have an unfavourable impact on long-term life business. Cession rates are expected to be broadly stable in major markets. We see a continued strong focus on capital, risk and balance sheet optimisation in mature markets, leading to ongoing opportunities for large transactions.

We will continue to pursue growth opportunities in high-growth markets and in large transactions, including longevity deals. We are responding to the expanding need for health protection driven by ageing societies and we will apply our risk knowledge experience to help reduce the protection gap in all regions.

**PREMIUMS EARNED BY LINE OF BUSINESS, 2018**



# **Corporate Solutions** – Corporate Solutions' results were impacted by natural catastrophe events and an exceptionally high severity and frequency of large man-made losses.

**Agostino Galvagni**
CEO, Corporate Solutions

"2018 was a difficult year for Corporate Solutions. However, we are taking all necessary actions required to turnaround our performance and correct the current price deficiencies."

### Strategy and priorities

During 2018, Corporate Solutions continued to make progress on its long-term strategy, with continued investments into its Primary Lead capabilities and an extension of its current global network coverage to over 120 countries.

### Performance

The net loss was USD 405 million in 2018, compared to a net loss of USD 741 million in 2017, with a net operating margin of –11.1%, compared to –23.5% for the previous period. The 2018 result was impacted by natural catastrophe events and an exceptionally high severity and frequency of large man-made losses, with a combined claims burden of USD 0.7 billion. The investment result was lower in 2018 compared to 2017, as the previous period benefited from higher gains on sales of equity securities.

### Premiums

Net premiums earned were USD 3.9 billion in 2018, an increase of 7.5% compared to 2017, driven by growth in Primary Lead business, which more than offset the active pruning of the US General Liability portfolio. Gross

**CORPORATE SOLUTIONS RESULTS**

| USD millions | 2017 | 2018 | Change in % |
|---|---|---|---|
| **Revenues** | | | |
| Gross premiums written | 4 193 | 4 694 | 12 |
| Net premiums written | 3 600 | 4 122 | 15 |
| Change in unearned premiums | 51 | –197 | – |
| **Premiums earned** | 3 651 | **3 925** | 8 |
| Net investment income | 161 | 207 | 29 |
| Net realised investment gains/losses | 128 | 16 | –88 |
| Other revenues | 5 | 3 | –40 |
| **Total revenues** | 3 945 | **4 151** | 5 |
| | | | |
| **Expenses** | | | |
| Claims and claim adjustment expenses | –3 558 | –3 241 | –9 |
| Acquisition costs | –554 | –607 | 10 |
| Operating expenses | –759 | –763 | 1 |
| **Total expenses before interest expenses** | –4 871 | **–4 611** | –5 |
| | | | |
| **Income/loss before interest and income tax expense** | –926 | **–460** | –50 |
| Interest expenses | –23 | –24 | 4 |
| **Income/loss before income tax expense** | –949 | **–484** | –49 |
| Income tax expense/benefit | 203 | 75 | –63 |
| **Net income/loss before attribution of non-controlling interests** | –746 | **–409** | –45 |
| Income/loss attributable to non-controlling interests | 5 | 4 | –20 |
| **Net income/loss attributable to common shareholders** | –741 | **–405** | –45 |
| | | | |
| Claims ratio in % | 97.4 | 82.6 | |
| Expense ratio in % | 36 | 34.9 | |
| Combined ratio in % | 133.4 | 117.5 | |

premiums written and premiums for insurance in derivative form, net of internal fronting for the Reinsurance Business Unit, increased by 13.6% to USD 4.6 billion in 2018. Rates, as well as terms and conditions, moderately improved after the previous year's natural catastrophe events. However, the rate environment remained depressed and a substantial acceleration of market hardening is required to re-establish a sustainable market environment.

## Combined ratio

The combined ratio decreased to 117.5% in 2018 compared to 133.4% in 2017, mainly due to lower large natural catastrophe losses, partially offset by higher large man-made losses. The previous year was particularly impacted by hurricanes Harvey, Irma and Maria in the third quarter of 2017.

## Lines of business

The Property combined ratio for 2018 decreased by 56.1 percentage points to 117.9%, driven by lower natural catastrophe losses, partially offset by a high severity and frequency of large man-made losses.

The Casualty combined ratio increased slightly to 125.5% in 2018 compared to 122.0% in 2017. Both periods were impacted by large Liability losses in North America.

The Specialty combined ratio for 2018 increased by 4.9 percentage points to 106.5%, mainly due to higher large loss activity, primarily driven by a major satellite loss and the Ituango dam collapse. The prior-year was impacted by hurricanes Harvey, Irma and Maria.

**Investment result**
The return on investments was 2.1% for 2018, compared to 3.4% in 2017, reflecting a reduction in the investment result of USD 101 million.

Net investment income increased by USD 41 million to USD 224 million in 2018, benefiting from a higher invested asset base and rising yields.

Net realised losses were USD 24 million compared to net realised gains of USD 118 million in 2017, with the prior-year result benefiting from significant realised gains from sales of equity securities.

Insurance-related derivative results and foreign exchange gains/losses are not included in the investment figures.

Corporate Solutions offers insurance protection against weather perils and other risks, which is accounted for as derivatives. Insurance in derivative form reported net realised gains of USD 30 million in 2018, compared to USD 12 million in 2017.

**Shareholders' equity**
Common shareholders' equity decreased by USD 0.6 billion to USD 1.8 billion at the end of 2018, driven by the net loss for the period, a change in unrealised losses of USD 82 million and a dividend of USD 50 million paid to the Group. The return on equity was –19.4% in 2018, compared to –32.2% in 2017.

**Outlook**
In 2018, the commercial insurance market was impacted by large natural catastrophe events and an exceptionally high severity and frequency of large man-made losses in industrial business lines across all geographies. While rates and terms and conditions have improved, commercial risks, particularly in the large corporate segment, remain inadequately priced and the industry continues to be unprofitable overall. Corporate Solutions expects continued market hardening and a reinforced focus on terms and conditions over the next 12 to 18 months.

## PULSE: AN INNOVATIVE PLATFORM PUTS POWERFUL TOOLS AT CLIENTS' FINGERTIPS

**PULSE enables our corporate clients to easily view latest risk data and manage complex insurance programs from a single dashboard, accessible on any device.**

At Swiss Re Corporate Solutions, we're always looking for ways to make our innovative technology available to our clients. We aim to make it easy for them to get the information, services and support they need, when they need it. Our latest innovation is PULSE, an all-in-one platform that gives our international corporate clients a simple, user-friendly way to get their latest risk data and manage complex insurance programs at any time, on any device.

PULSE gives customers a dashboard view of all of their international programs and policies, allowing them to:

- Ensure their policies are issued and paid in full
- Initiate claims, upload supporting documentation and track claims processing and payments
- Download policies, proof-of-insurance certificates and other documents, and export detailed account data as Excel files
- See recommendations resulting from a site visit by Swiss Re experts and upload proof of compliance

We recently added access to CatNet, our industry-leading repository of detailed risk models related to natural disasters, allowing users to see the risk exposure of each of their business unit locations.

PULSE was designed to be a self-serve tool, but when a human touch is required, policy holders can use the platform to collaborate with their Risk Engineer on risk improvement actions.

One of our clients said that PULSE is "a differentiator" which has dramatically reduced the amount of time he spends managing his company's policies.

Another user said: "It's perfect – clean and easy to navigate and it contains all of the information I need."

PULSE's popularity is the result of Swiss Re Corporate Solutions' commitment to close collaboration with our customers. Before building the platform, we conducted extensive interviews with corporate clients, asking them how we could make their jobs easier. Then we worked with interface design experts to turn their wish list into reality. The result is a platform that's as elegant and intuitive as it is powerful.

And it's only getting better: PULSE was designed to allow new features and functionality to be added over time, potentially providing even more value to our clients.

# **Life Capital** – Life Capital's strategy is to create alternative access to insurance risk pools.

**Thierry Léger**
CEO, Life Capital

"In 2018, Life Capital maintained strong growth in line with expectations as the unit continued its transition from a closed book to an open book business."

**Strategy and priorities**
During 2018, the open book businesses continued their trend of significant policy growth, reaching new partners and distributors as well as expanding geographically.

The closed book business, ReAssure, continued to seek growth opportunities. The exploration of a potential initial public offering of the business (as announced in August 2018) continues but does not impede the business from considering additional closed life books to further strengthen its market position.

In December 2018, Swiss Re reached an agreement with MS&AD Insurance Group Holdings Inc (MS&AD) for a further investment of GBP 315 million in ReAssure. This transaction closed on 20 February 2019, resulting in a total shareholding by MS&AD in ReAssure of 25%.

Life Capital seeks to optimise capital and asset management and to maximise cash generation and return on equity. In the closed book business, the focus remains on achieving operational efficiencies by leveraging its operating platform. In the open book business,

## LIFE CAPITAL RESULTS

| USD millions | 2017 | **2018** | Change in % |
|---|---|---|---|
| **Revenues** | | | |
| Gross premiums written | 1 761 | 2 739 | 56 |
| Net premiums written | 859 | 1 175 | 37 |
| Change in unearned premiums | 91 | –3 | – |
| **Premiums earned** | 950 | **1 172** | 23 |
| Fee income from policyholders | 457 | 434 | –5 |
| Net investment income – non-participating business | 1 193 | 1 256 | 5 |
| Net realised investment gains/losses – non-participating business | 133 | 66 | –50 |
| Net investment result – unit-linked and with-profit business | 3 234 | –1 560 | – |
| Other revenues | 2 | | – |
| **Total revenues** | 5 969 | **1 368** | –77 |
| | | | |
| **Expenses** | | | |
| Life and health benefits | –1 872 | –1 489 | –20 |
| Return credited to policyholders | –3 179 | 1 038 | – |
| Acquisition costs | –106 | –255 | 141 |
| Operating expenses | –514 | –549 | 7 |
| **Total expenses before interest expenses** | –5 671 | **–1 255** | –78 |
| | | | |
| **Income before interest and income tax expense** | 298 | **113** | –62 |
| Interest expenses | –35 | –41 | 17 |
| **Income before income tax expense** | 263 | **72** | –73 |
| Income tax expense | –102 | –26 | –75 |
| **Net income before attribution of non-controlling interests** | 161 | **46** | –71 |
| Income attributable to non-controlling interests | | –23 | – |
| **Net income attributable to common shareholders** | 161 | **23** | –86 |

Life Capital continues to prioritise its use of technology to enable both elipsLife and iptiQ to achieve efficiencies and growth opportunities in their respective businesses.

### Performance

In 2018, net income for Life Capital was USD 23 million, a decline from USD 161 million in 2017. The underlying performance in 2018 benefited from realised gains on sales of fixed income securities and favourable underwriting experience which was more than offset by the impact of UK investment market underperformance and increased investment in open book business.

The net operating margin in 2018 was 3.9% compared to 10.9% in the prior year, in line with movements in net income.

Life Capital generated exceptional gross cash of USD 818 million during 2018, compared to USD 998 million in the prior year. The gross cash generated in 2018 was driven by the strong underlying surplus on the ReAssure business, the proceeds from MS&AD's initial 5% stake in ReAssure and the finalisation of the 2017 year-end Solvency II statutory valuation, partially offset by valuation changes.

Life Capital paid a dividend of USD 1.1 billion to the Group in June 2018, driven by the strong capital position of the ReAssure business.

### Premiums

Gross premiums written increased by 55.5% to USD 2.7 billion during 2018, mainly driven by growth in the open book businesses including a large medex transaction for iptiQ EMEA, combined with the impact of intra-group retrocessions and foreign exchange rate movements. Net premiums earned increased from growth in the open book life and health insurance businesses.

**Investment result**
The return on investments was 3.3% for 2018, compared to 3.4% in 2017, reflecting a decrease in the investment result of USD 84 million.

Net investment income decreased by USD 50 million to USD 844 million in 2018, mainly due to run-off within the closed book portfolios.

Net realised gains decreased by USD 34 million to USD 77 million in 2018, reflecting a reduction of gains from sales of fixed income securities.

Insurance-related investment results as well as foreign exchange gains/losses are not included in the figures above.

**Operating expenses**
Operating expenses were USD 549 million in 2018 compared to USD 514 million in 2017, reflecting continued investment in the open book expansion and Legal & General Group (L&G) policy integration as well as the impact of unfavourable foreign exchange movements.

**Shareholders' equity**
Common shareholders' equity decreased by USD 2.0 billion to USD 5.1 billion, compared to 31 December 2017. The decrease was mainly driven by a USD 1.1 billion dividend paid to the Group and a USD 1.1 billion reduction of net unrealised investment gains in 2018. The return on equity was 0.4% for 2018, compared to 2.2% for 2017. The year-on-year decrease was due to lower net income in 2018.

**Outlook**
Life Capital continues to pursue selective acquisition opportunities within the closed book market and is focused on growing its individual and group open book businesses in Europe and the US. The ambition is to build a leading primary life and health business, with attractive returns for shareholders.

## EVA: THE VIRTUAL ASSISTANT THAT WILL REDEFINE CUSTOMER SERVICE

**Eva, currently available to some Swiss Re clients, makes purchasing life insurance online a more personal and conversational experience.**

It's safe to say that shopping for life insurance isn't something that people look forward to. As if confronting one's mortality wasn't hard enough, understanding different products and choosing the one that's best for you can be complicated, particularly for online shoppers who can't turn to a sales agent to ask questions or get advice.

In fact, 98% percent of people who begin the process of shopping for life insurance online quit before making a purchase. So, with more and more people gravitating towards online shopping, a growing number aren't getting the coverage they need through online channels.

To increase conversion rates, iptiQ created Eva, a virtual assistant or "bot" that makes buying insurance online a more conversation-like experience. Eventually, Eva will be able to help walk customers through the process of selecting and purchasing insurance via their browser or mobile app, bringing a human touch to a complex purchase experience.

Eva's timing is impeccable — in the last few years, Amazon's Alexa and similar voice assistants offered by Apple, Google and Microsoft have been widely accepted by consumers. These virtual assistants are not widespread in the insurance industry. However, consumers are now comfortable interacting with bots to do everything from setting reminders, adjusting their air conditioning and purchasing household goods. So, insurance is the next logical step.

Today Eva is still a prototype within IptiQ, but in the future, we envision that Eva will be able to answer questions, inform customers about other types of coverage they may not be aware of, and make changes to policies on the back of important life events. In a next step, Eva will also be available as a chatbot and she will constantly evolve with the help of AI and state-of-the-art technology. If a customer stumps her, she can always refer them to a flesh-and-blood sales agent.

Eva is available to Swiss Re clients as a white-label app that can plug into existing systems, allowing them to dramatically improve customer service without committing to a costly system upgrade. She also helps reduce the cost of acquisition and improve online conversion rates because – unlike agents – Eva can have multiple conversations at once and is available to assist customers day and night. Eva's vocabulary can align with a clients' specific branding and products, and she can adapt to a client's local culture.

Eva officially went live in Germany and she only speaks German for now, but soon she will be launched in the UK. Currently Eva is equipped to sell life and health insurance, but eventually will be able to help clients' customers choose other types of insurance coverage, including property and casualty.

Eva may not have a pulse, but she is patient, empathetic and will act as the important digital "face" of iptiQ's partner brands, answering questions in different languages and making the insurance customer journey a whole lot easier.

# Share performance

### Swiss Re shares
Swiss Re had a market capitalisation of CHF 30.5 billion on 31 December 2018, with 338.6 million shares outstanding, of which 300.0 million were entitled to dividends. Swiss Re shares are listed in accordance with the International Reporting Standard on the SIX Swiss Exchange (SIX) and are traded under the ticker symbol SREN.

### American Depositary Receipts (ADR)
In the US, Swiss Re maintains an ADR level I programme (OTC symbol SSREY).

### Share price performance
Swiss Re shares opened the year at CHF 92.24. An intra-day high of CHF 98.80 was achieved on 27 February 2018. On 27 June 2018, the shares experienced an intra-day low of CHF 84.20. The year-end share price was CHF 90.12.

During 2018, the STOXX Europe 600 Insurance index (SXIP) decreased by 10.3% and the broader index of Swiss blue chips (SMI) decreased by 10.2%. The Swiss Re share decreased by 1.2%.

### Share trading
The average on-exchange daily trading volume for 2018 was 1.2 million shares. Trading volume peaked at 5.3 million shares on 8 February 2018.

### Swiss Re's dividend policy
Swiss Re's dividend policy is a central element of Swiss Re's capital management priorities.

The Group aims to ensure superior capitalisation at all times and to maximise financial flexibility, growing the regular dividend with long-term earnings and, at a minimum, maintaining it. Swiss Re will then deploy capital for business growth where it meets its strategy and profitability requirements and finally repatriate further excess capital to shareholders, with the preferred form of future capital repatriation being share buy-back programmes.

Dividends are typically paid out of current earnings and Swiss Re pays its dividend annually. Shares are ex-dividend two working days after the Annual General Meeting (AGM). Dividend payment is typically two working days after the ex-dividend date. The corresponding dates in 2019 are 23 and 25 April.

### Dividends
The Board of Directors proposes a regular dividend of CHF 5.60 per share for 2018. The dividend paid for 2018 will be subject to 35% Swiss withholding tax.

### Public share buy-back programme
On 7 May 2018, the Board of Directors launched the public share buy-back programme authorised by the 2018 AGM. This programme was completed on 15 February 2019.

For further information please visit www.swissre.com/investors/shares/share_buyback/

The Board of Directors proposes to the 2019 AGM to authorise the company to repurchase own shares for the purpose of cancellation by way of a public share buy-back programme to be executed in two tranches before the 2020 AGM. The first tranche of up to CHF 1.0 billion would commence at the discretion of the Board shortly after the 2019 AGM pre-approval. The second tranche of up to CHF 1.0 billion will be conditional on the 2019 development of the Group's excess capital position, for example a significant increase upon successful reduction of Swiss Re's holding in ReAssure to below 50%.

Swiss Re will ask the AGM in April 2020 permission to cancel the repurchased shares by way of share capital reduction.

### Index representation
In addition to its relevant industry indices, Swiss Re is also represented in various Swiss, European and global indices, including the SMI and the SXIP. Swiss Re

## GENERAL INFORMATION ON SWISS RE SHARES

| Identification numbers | Share | ADR |
|---|---|---|
| Swiss Security Number (Valorennummer) | 12688156 | – |
| ISIN (International Securities Identification Number) | CH0126881561 | US8708861088 |

| Ticker symbols | Bloomberg | Telekurs | Reuters |
|---|---|---|---|
| Share | SREN:SW | SREN | SREN.SW |
| ADR[1] | SSREY:US | SSREY | SSREY.PK |

[1] Swiss Re's ADR are not listed but traded over the counter; four ADRs correspond to one Swiss Re share.

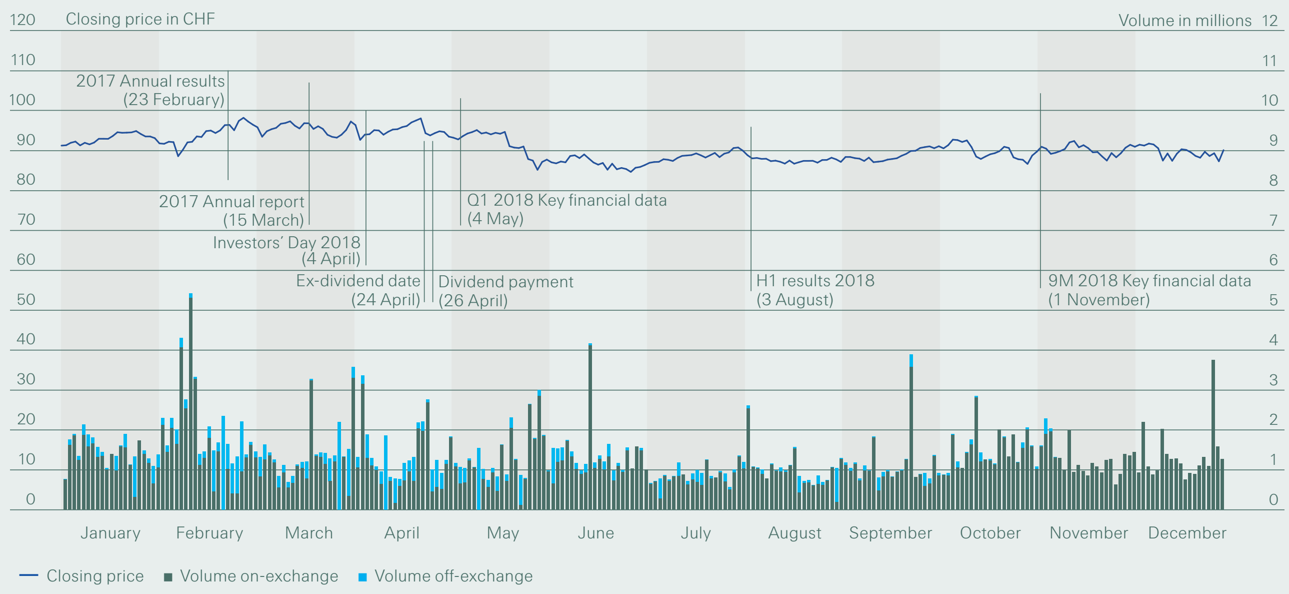
**Weighting in indices**

| As of 31 December 2018 | Index weight (in %) |
|---|---|
| **Swiss/blue chip indices** | |
| SMI | 3.53 |
| SPI | 2.29 |
| **Insurance indices** | |
| STOXX Europe 600 Insurance | 5.43 |
| Bloomberg Europe 500 Insurance | 5.57 |
| FTSEurofirst 300 Insurance | 0.39 |
| Dow Jones Insurance Titans 30 | 2.45 |
| **Sustainability indices** | |
| Dow Jones Sustainability Europe | 0.78 |
| Dow Jones Sustainability World | 0.31 |
| FTSE4Good Global | 0.12 |

is also a member of various sustainability indices, including the Dow Jones Sustainability World and Europe, FTSE4Good, Euronext Vigeo World 120, Bloomberg Gender Equality Index, MSCI ESG Leaders and MSCI Global Socially Responsible (2019) index families. In May 2019, Swiss Re received a AAA rating on the MSCI ESG assessment.

**Information for investors**
More information is available on Swiss Re's website: www.swissre.com/investors

## SWISS RE SHARE PRICE AND TRADING VOLUME IN 2018




## KEY SHARE STATISTICS 2014–2018

| As of 31 December | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| Shares outstanding[1] | 370 706 931 | 370 706 931 | 360 072 561 | 349 452 281 | 338 619 465 |
| of which Treasury shares and shares reserved for corporate purposes | 28 507 491 | 32 967 226[2] | 34 093 834[3] | 34 866 516[4] | 38 575 324[5] |
| Shares entitled to dividend | 342 199 440 | 337 739 705 | 325 978 727 | 314 585 765 | 300 044 141 |
| CHF unless otherwise stated | | | | | |
| Dividend paid per share | 3.85[6] | 4.25[7] | 4.60 | 4.85 | 5.00 |
| Dividend yield[8] (in %) | 4.60 | 4.33 | 4.77 | 5.32 | 5.55 |
| Earnings per share[9] | 9.33 | 12.93 | 10.55 | 1.02 | 1.34 |
| Book value per share[10] | 101.12 | 96.04 | 107.64 | 103.37 | 91.72 |
| Price per share year-end | 83.65 | 98.15 | 96.50 | 91.25 | 90.12 |
| Price per share year high (intra-day) | 86.55 | 99.75 | 97.85 | 98.50 | 98.80 |
| Price per share year low (intra-day) | 69.25 | 74.95 | 79.00 | 81.65 | 84.20 |
| Daily trading volume (in CHF millions) | 95 | 134 | 120 | 129 | 126 |
| Market capitalisation[11] (in CHF millions) | 31 010 | 36 385 | 34 747 | 31 888 | 30 516 |
| ADR price at year-end (in USD) | 84.57 | 24.53[12] | 23.76 | 23.38 | 22.84 |

1 Nominal value of CHF 0.10 per share.
2 Includes 4.4m shares repurchased under the share buy-back programme launched on 12 November 2015, which concluded on 2 March 2016.
3 Includes 5.5m shares repurchased under the share buy-back programme launched on 4 November 2016, which concluded on 9 February 2017.
4 Includes 6.3m shares repurchased under the share buy-back programme launched on 3 November 2017, which concluded on 16 February 2018.
5 Includes 10.1m shares repurchased under the share buy-back programme launched on 7 May 2018, which concluded on 15 February 2019.
6 In addition to the regular dividend of CHF 3.85 per share a special dividend of CHF 4.15 per share was paid in 2014.
7 In addition to the regular dividend of CHF 4.25 per share a special dividend of CHF 3.00 per share was paid in 2015.
8 Dividend divided by year-end share price of corresponding year.
9 Calculated by dividing net income by the weighted average number of common shares outstanding.
10 Based on shareholders' equity (excluding convertible perpetual capital instruments) divided by the number of external common shares entitled to dividend.
11 Based on shares outstanding.
12 Since 15 June 2015 every Swiss Re ADR represents one quarter of a Swiss Re share. Prior to close of business on 12 June 2015, one ADR represented one Swiss Re share.

# Swiss Re's 2018 economic result was impacted by large losses and an unfavourable contribution from investment activities.

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# EVM performance

Underwriting result in Property & Casualty Reinsurance and Corporate Solutions impacted by large losses, partially offset by strong new business contributions in Life & Health Reinsurance.

Read online a description of the summary of significant EVM principles and sensitivities.

**John Dacey**
Group Chief Financial Officer

"EVM highlights the resilience of Swiss Re's balance sheet."

Economic Value Management (EVM) is Swiss Re's proprietary integrated economic valuation and steering framework, consistently measuring economic performance across all businesses.

Swiss Re reported a total contribution to economic net worth (ENW) of USD 2.2 billion in 2018 compared to USD 1.9 billion in 2017. On a risk-adjusted basis, Swiss Re reported an EVM loss of USD 693 million, compared to an EVM loss of USD 9 million in 2017.

**EVM profit**
in USD millions, 2018

# –693

(2017: USD –9 million)

**ENW per share growth**
over-the-cycle target: 10%

# 4.4%

(2017: 10.8%)

**Total contribution to ENW**
in USD billions, 2018

# 2.2

(2017: USD 1.9 billion)

## Group performance

The EVM loss of USD 693 million in 2018 reflected the impact of large natural catastrophe and man-made losses that adversely impacted the Property & Casualty Reinsurance and Corporate Solutions underwriting performance, and an unfavourable investment result, mainly due to widening credit spreads. These losses were partially offset by a strong new business result in Life & Health Reinsurance and a previous years' business profit in Property & Casualty Reinsurance.

The EVM profit on new business was USD 356 million compared to an EVM loss on new business of USD 1.3 billion in 2017. The 2018 result was mainly driven by a strong new business result in Life & Health Reinsurance, partially offset by the Property & Casualty Reinsurance and Corporate Solutions new business results following large natural catastrophe and man-made losses.

The EVM profit from previous years' business amounted to USD 638 million in 2018 compared to an EVM loss of USD 148 million in 2017. The result was primarily driven by a previous years' business profit in Property & Casualty Reinsurance, partially offset by large man-made losses in Corporate Solutions.

Investment activities generated an EVM loss of USD 1.7 billion in 2018 compared to a profit of USD 1.5 billion in 2017. The 2018 result reflected a negative impact from credit spread widening as well as underperformance from equities and Principal Investments. The 2017 result was driven by favourable performance across credit and equities as well as from Principal Investments.

ENW per share growth amounted to 4.4% in 2018, below the over-the-cycle target of 10%. The underperformance was due to large losses, a negative investment result, and unfavourable foreign exchange impacts.

**KEY INFORMATION**

| USD millions, unless otherwise stated | 2017 | 2018 | Change in % |
|---|---|---|---|
| EVM profit | –9 | –693 | – |
| Total contribution to ENW | 1 867 | 2 166 | 16 |
| Economic net worth (ENW) | 37 667 | 35 993 | –4 |
| Economic net worth per share in USD | 119.74 | 119.96 | 0 |
| *Economic net worth per share growth, %*[1] | *10.8* | *4.4* | |
| *Profit margin – new business, %* | *–4.1* | *1.2* | |
| *Profit margin – previous years' business, %* | *–0.8* | *3.5* | |
| *Profit margin – investments, %* | *16.5* | *–18.3* | |

[1] ENW per share growth is calculated as follows: (current-year closing ENW per share + current year dividends per share) / (prior-year closing ENW per share + current year opening balance sheet adjustments per share).

**Business segment performance**

Property & Casualty Reinsurance reported an EVM profit of USD 199 million in 2018 compared to a loss of USD 1.2 billion in 2017. The EVM loss on new business of USD 430 million was driven by large natural catastrophe and man-made losses, which included typhoons Jebi and Trami in Japan, hurricanes Florence and Michael as well as the Carr, Camp and Woolsey wildfires in the US. 2017 included large losses due to hurricanes Harvey, Irma and Maria (HIM), two earthquakes in Mexico and wildfires in California. EVM profit on previous years' business was USD 698 million, driven by a net favourable development in expected claims payout patterns and ultimate claims estimates as well as lower capital costs. Investment activities generated an EVM loss of USD 68 million in 2018 compared to a profit of USD 212 million in 2017. The 2018 loss was driven by the impact of credit spread widening as well as losses from equities, partially offset by positive performance of alternative investments. The 2017 profit was driven by positive performance across equities and alternative investments, as well as credit investments.

Life & Health Reinsurance reported an EVM profit of USD 523 million in 2018 compared to USD 1.6 billion in 2017. The EVM profit on new business of USD 980 million reflected a strong contribution from transactions in New Zealand and Japan and improved core business profitability in the US. The 2018 previous years' business profit was USD 168 million. This included the positive impact of lower capital costs, partly offset by adverse experience in the US and several valuation and assumption updates. Investment activities generated an EVM loss of USD 625 million in 2018 compared to a profit of USD 627 million in 2017. The 2018 loss reflected the impact from unfavourable interest rate movements on the net duration position, as well as credit spread widening, while the prior year was positively impacted by credit spread tightening as well as performance from equity securities.

Corporate Solutions reported an EVM loss of USD 673 million in 2018 compared to a loss of USD 917 million in 2017. The EVM loss on new business was USD 81 million, driven by large natural catastrophe and man-made losses, partially offset by a 2018 current accident year retrocession recovery on the Ituango dam flooding and the occurrence of a higher premium volume from a moderately improved market environment. The EVM loss on previous years' business was USD 530 million, significantly impacted by high severity and frequency of large man-made losses; the largest being the gross loss on the 2011 contract year Ituango dam flooding and a major satellite loss, as well as reserve strengthening on the excess and surplus casualty book. Investment activities generated an EVM loss of USD 63 million in 2018 compared to a profit of USD 79 million in 2017, with results in 2018 reflecting the impact of credit spread widening and unfavourable performance from equity investments, both in contrast to the 2017 result.

Life Capital generated an EVM loss of USD 93 million in 2018 compared to a profit of USD 572 million in 2017. The 2018 loss reflected a negative investment performance of USD 533 million, impacted by credit spread widening and underperformance from implied equity exposure arising from the unit-linked business. This was partially offset by a favourable underwriting result. The 2017 profit reflected a strong investment performance of USD 420 million as well as a favourable underwriting result.

In 2018, an EVM loss of USD 649 million was reported in Group items compared to a loss of USD 128 million in 2017. The EVM loss from new business was USD 179 million in 2018, mainly driven by capital costs on excess capital and expenses, partially offset by trademark licence fees charged to the business segments. The previous years' business loss was USD 72 million, driven by an increase in overhead expenses. Investment activities generated an EVM loss of USD 398 million in 2018 compared to a profit of USD 146 million in 2017, reflecting an unfavourable result from Principal Investments.

## BUSINESS SEGMENTS – KEY INFORMATION

| USD millions, unless otherwise stated | Property & Casualty Reinsurance | Life & Health Reinsurance | Corporate Solutions | Life Capital | Group items | **Total** |
|---|---|---|---|---|---|---|
| 2017 | | | | | | |
| EVM profit | –1 161 | 1 625 | –917 | 572 | –128 | –9 |
| Total contribution to ENW | –954 | 2 180 | –750 | 987 | 404 | 1 867 |
| *Profit margin – new business, %* | *–10.2* | *8.6* | *–21.2* | *4.3* | | *–4.1* |
| *Profit margin – previous years' business, %* | *1.9* | *0.1* | *–18.3* | *1.0* | | *–0.8* |
| *Profit margin – investments, %* | *7.2* | *16.0* | *14.6* | | *11.0* | *16.5* |
| **2018** | | | | | | |
| EVM profit | 199 | 523 | –673 | –93 | –649 | –693 |
| Total contribution to ENW | 1 350 | 1 271 | –474 | 265 | –245 | 2 166 |
| *Profit margin – new business, %* | *–3.1* | *8.2* | *–2.2* | *11.8* | | *1.2* |
| *Profit margin – previous years' business, %* | *11.7* | *1.8* | *–36.4* | *23.1* | | *3.5* |
| *Profit margin – investments, %* | *–2.4* | *–19.4* | *–11.9* | | *–16.5* | *–18.3* |

# EVM financial information

## EVM INCOME STATEMENT

For the years ended 31 December

| USD millions, unless otherwise stated | 2017 | 2018 |
|---|---|---|
| **Underwriting result** | | |
| Gross premiums and fees | 41 846 | 44 807 |
| *Gross premiums and fees growth rate, %* | *–11.4* | *7.1* |
| Premiums and fees | 40 796 | 43 860 |
| *Premiums and fees retention rate, %* | *97.5* | *97.9* |
| *Premiums and fees growth rate, %* | *–12.4* | *7.5* |
| Claims and benefits | –30 017 | –29 904 |
| Commissions | –7 413 | –8 278 |
| Other | 136 | 286 |
| **Gross underwriting result – new business** | **3 502** | **5 965** |
| Expenses | –3 390 | –3 624 |
| **Net underwriting result – new business** | **112** | **2 341** |
| Taxes | 18 | –415 |
| Capital costs | –1 475 | –1 570 |
| **EVM profit – new business** | **–1 345** | **356** |
| **EVM profit – previous years' business** | **–148** | **638** |
| **EVM profit – underwriting** | **–1 493** | **993** |
| **Investment result** | | |
| Mark-to-market investment result | 5 132 | 895 |
| Benchmark investment result | –1 761 | –1 702 |
| **Gross outperformance (underperformance)** | **3 371** | **–808** |
| Other | 125 | 116 |
| Expenses | –253 | –252 |
| **Net outperformance (underperformance)** | **3 243** | **–943** |
| Taxes | –747 | 167 |
| Capital costs | –1 012 | –911 |
| **EVM profit – investments** | **1 484** | **–1 686** |
| **EVM profit** | **–9** | **–693** |
| Cost of debt | –626 | –67 |
| Release of current year capital costs | 2 792 | 3 059 |
| Additional taxes | –290 | –133 |
| **Total contribution to ENW** | **1 867** | **2 166** |
| | | |
| *Profit margin – new business, %* | *–4.1* | *1.2* |
| *Profit margin – previous years' business, %* | *–0.8* | *3.5* |
| *Profit margin – investments, %* | *16.5* | *–18.3* |

## EVM BALANCE SHEET

As of 31 December

| USD millions | 2017 | 2018 |
|---|---|---|
| **Assets** | | |
| Investments | 162 873 | 143 663 |
| Cash and cash equivalents | 6 467 | 5 695 |
| In-force business assets | 224 231 | 223 075 |
| Retrocession assets | 25 000 | 22 170 |
| Other assets | 3 998 | 3 540 |
| **Total assets** | **422 569** | **398 142** |
| | | |
| **Liabilities** | | |
| In-force business liabilities | 331 288 | 315 737 |
| Retrocession liabilities | 19 835 | 17 114 |
| Provision for capital costs | 9 034 | 7 569 |
| Future income tax liabilities | 4 914 | 4 264 |
| Debt | 13 095 | 11 180 |
| Other liabilities | 6 736 | 6 285 |
| **Total liabilities** | **384 902** | **362 149** |
| **Economic net worth** | **37 667** | **35 993** |
| **Total liabilities and economic net worth** | **422 569** | **398 142** |

## STATEMENT OF ECONOMIC NET WORTH

For the years ended 31 December

| USD millions | 2017 | 2018 |
|---|---|---|
| **Economic net worth as of 1 January** | **36 648** | **37 667** |
| Total contribution to ENW | 1 867 | 2 166 |
| Dividends and share buy-back | −2 629 | −2 939 |
| Other, including foreign exchange on economic net worth | 1 781 | −901 |
| **Economic net worth as of 31 December** | **37 667** | **35 993** |
| Common shares outstanding as of 31 December | 314 585 765 | 300 044 141 |
| Economic net worth per share in USD as of 31 December | 119.74 | 119.96 |

## BUSINESS SEGMENTS – EVM INCOME STATEMENT

For the year ended 31 December

| USD millions, unless otherwise stated | Property & Casualty Reinsurance | Life & Health Reinsurance | Corporate Solutions | Life Capital | Group items | Consolidation | Total |
|---|---|---|---|---|---|---|---|
| 2017 | | | | | | | |
| **Underwriting result** | | | | | | | |
| Gross premiums and fees[1] | 17 914 | 19 118 | 4 207 | 1 315 | | –708 | 41 846 |
| *Gross premiums and fees growth rate, %[1]* | *–4.8* | *–20.7* | *0.0* | *49.6* | | | *–11.4* |
| Premiums and fees | 17 495 | 18 974 | 3 685 | 642 | | | 40 796 |
| *Premiums and fees retention rate, %[1]* | *97.7* | *99.2* | *87.6* | *48.8* | | | *97.5* |
| *Premiums and fees growth rate, %* | *–5.1* | *–21.1* | *–0.6* | *79.3* | | | *–12.4* |
| Claims and benefits | –13 253 | –13 330 | –2 929 | –505 | | | –30 017 |
| Commissions | –4 156 | –2 628 | –561 | –68 | | | –7 413 |
| Other | –47 | –37 | –92 | 309 | 3 | | 136 |
| **Gross underwriting result – new business** | **39** | **2 979** | **103** | **378** | **3** | **0** | **3 502** |
| Expenses | –1 320 | –909 | –843 | –203 | –115 | | –3 390 |
| **Net underwriting result – new business** | **–1 281** | **2 070** | **–740** | **175** | **–112** | **0** | **112** |
| Taxes | 172 | –369 | 129 | 22 | 64 | | 18 |
| Capital costs | –384 | –714 | –128 | –65 | –184 | | –1 475 |
| **EVM profit – new business** | **–1 493** | **987** | **–739** | **132** | **–232** | **0** | **–1 345** |
| **EVM profit – previous years' business** | **120** | **11** | **–257** | **20** | **–42** | **0** | **–148** |
| **EVM profit – underwriting** | **–1 373** | **998** | **–996** | **152** | **–274** | **0** | **–1 493** |
| **Investment result** | | | | | | | |
| Mark-to-market investment result | 1 287 | 1 912 | 273 | 1 099 | 561 | | 5 132 |
| Benchmark investment result | –542 | –757 | –116 | –295 | –51 | | –1 761 |
| **Gross outperformance (underperformance)** | **745** | **1 155** | **157** | **804** | **510** | **0** | **3 371** |
| Other | 58 | 26 | 9 | 32 | | | 125 |
| Expenses | –87 | –63 | –14 | –38 | –51 | | –253 |
| **Net outperformance (underperformance)** | **716** | **1 118** | **152** | **798** | **459** | **0** | **3 243** |
| Taxes | –162 | –260 | –35 | –184 | –106 | | –747 |
| Capital costs | –342 | –231 | –38 | –194 | –207 | | –1 012 |
| **EVM profit – investments** | **212** | **627** | **79** | **420** | **146** | **0** | **1 484** |
| **EVM profit** | **–1 161** | **1 625** | **–917** | **572** | **–128** | **0** | **–9** |
| Cost of debt | –352 | –170 | –39 | –40 | –25 | | –626 |
| Release of current year capital costs | 881 | 871 | 186 | 382 | 472 | | 2 792 |
| Additional taxes | –322 | –146 | 20 | 73 | 85 | | –290 |
| **Total contribution to ENW** | **–954** | **2 180** | **–750** | **987** | **404** | **0** | **1 867** |
| | | | | | | | |
| *Profit margin – new business, %* | *–10.2* | *8.6* | *–21.2* | *4.3* | | | *–4.1* |
| *Profit margin – previous years' business, %[2]* | *1.9* | *0.1* | *–18.3* | *1.0* | | | *–0.8* |
| *Profit margin – investments, %* | *7.2* | *16.0* | *14.6* | | *11.0* | | *16.5* |

[1] The Group revised its disclosure of gross premiums and fees to include assumed intra-group transactions. Comparative information for 2017 has been amended accordingly; this includes the gross premiums and fees growth rate and premiums and fees retention rate.
[2] The overall previous years' business profit margin for the Business Unit Reinsurance was 0.8%.

## BUSINESS SEGMENTS - EVM INCOME STATEMENT

For the year ended 31 December

| USD millions, unless otherwise stated | Property & Casualty Reinsurance | Life & Health Reinsurance | Corporate Solutions | Life Capital | Group items | Consolidation | Total |
|---|---|---|---|---|---|---|---|
| **2018** | | | | | | | |
| **Underwriting result** | | | | | | | |
| Gross premiums and fees | 19 014 | 19 754 | 4 488 | 1 376 | | 175 | 44 807 |
| *Gross premiums and fees growth rate, %* | *6.1* | *3.3* | *6.7* | *4.7* | | | *7.1* |
| Premiums and fees | 18 604 | 20 253 | 3 962 | 1 042 | | | 43 860 |
| *Premiums and fees retention rate, %* | *97.8* | *102.5* | *88.3* | *75.7* | | | *97.9* |
| *Premiums and fees growth rate, %* | *6.3* | *6.7* | *7.5* | *62.3* | | | *7.5* |
| Claims and benefits | –12 587 | –14 141 | –2 367 | –809 | | | –29 904 |
| Commissions | –4 644 | –2 923 | –617 | –93 | | | –8 278 |
| Other | 62 | –143 | –9 | 286 | 89 | | 286 |
| **Gross underwriting result – new business** | **1 435** | **3 045** | **969** | **427** | **89** | **0** | **5 965** |
| Expenses | –1 301 | –929 | –880 | –302 | –211 | | –3 624 |
| **Net underwriting result – new business** | **134** | **2 116** | **89** | **124** | **–122** | **0** | **2 341** |
| Taxes | –117 | –388 | –21 | 31 | 79 | | –415 |
| Capital costs | –447 | –748 | –148 | –89 | –137 | | –1 570 |
| **EVM profit – new business** | **–430** | **980** | **–81** | **66** | **–179** | **0** | **356** |
| **EVM profit – previous years' business** | **698** | **168** | **–530** | **374** | **–72** | **0** | **638** |
| **EVM profit – underwriting** | **268** | **1 148** | **–611** | **440** | **–251** | **0** | **993** |
| **Investment result** | | | | | | | |
| Mark-to-market investment result | 1 046 | –28 | 125 | –137 | –112 | | 895 |
| Benchmark investment result | –707 | –442 | –164 | –310 | –77 | | –1 702 |
| **Gross outperformance (underperformance)** | **339** | **–470** | **–39** | **–447** | **–189** | **0** | **–808** |
| Other | 59 | 22 | 10 | 24 | 1 | | 116 |
| Expenses | –90 | –66 | –17 | –36 | –44 | | –252 |
| **Net outperformance (underperformance)** | **308** | **–513** | **–46** | **–460** | **–232** | **0** | **–943** |
| Taxes | –74 | 97 | 9 | 92 | 44 | | 167 |
| Capital costs | –302 | –209 | –26 | –165 | –209 | | –911 |
| **EVM profit – investments** | **–68** | **–625** | **–63** | **–533** | **–398** | **0** | **–1 686** |
| **EVM profit** | **199** | **523** | **–673** | **–93** | **–649** | **0** | **–693** |
| Cost of debt | –58 | –40 | 36 | –2 | –3 | | –67 |
| Release of current year capital costs | 908 | 1 060 | 200 | 398 | 493 | | 3 059 |
| Additional taxes | 299 | –272 | –37 | –38 | –86 | | –133 |
| **Total contribution to ENW** | **1 350** | **1 271** | **–474** | **265** | **–245** | **0** | **2 166** |
| | | | | | | | |
| *Profit margin – new business, %* | *–3.1* | *8.2* | *–2.2* | *11.8* | | | *1.2* |
| *Profit margin – previous years' business, %*[1] | *11.7* | *1.8* | *–36.4* | *23.1* | | | *3.5* |
| *Profit margin – investments, %* | *–2.4* | *–19.4* | *–11.9* | | *–16.5* | | *–18.3* |

[1] The overall previous years' business profit margin for the Business Unit Reinsurance was 5.7%.

## BUSINESS SEGMENTS – EVM BALANCE SHEET

As of 31 December

| USD millions | Property & Casualty Reinsurance | Life & Health Reinsurance | Corporate Solutions | Life Capital | Group items | Consolidation | **Total** |
|---|---|---|---|---|---|---|---|
| 2017 | | | | | | | |
| **Assets** | | | | | | | |
| Investments | 54 625 | 38 384 | 9 323 | 64 776 | 6 284 | –10 519 | 162 873 |
| Cash and cash equivalents | 1 335 | 1 595 | 651 | 2 623 | 263 | | 6 467 |
| In-force business assets | 16 446 | 223 346 | 2 962 | 32 100 | 3 | –50 626 | 224 231 |
| Retrocession assets | 2 776 | 35 944 | 4 637 | 25 378 | | –43 735 | 25 000 |
| Other assets | 6 675 | 652 | 485 | 1 657 | 1 651 | –7 122 | 3 998 |
| **Total assets** | **81 857** | **299 921** | **18 058** | **126 534** | **8 201** | **–112 002** | **422 569** |
| **Liabilities** | | | | | | | |
| In-force business liabilities | 54 174 | 218 935 | 12 608 | 88 590 | 717 | –43 736 | 331 288 |
| Retrocession liabilities | 537 | 40 151 | 912 | 28 861 | | –50 626 | 19 835 |
| Provision for capital costs | 97 | 7 179 | 198 | 1 560 | | | 9 034 |
| Future income tax liabilities | 1 513 | 3 259 | 79 | 239 | –176 | | 4 914 |
| Debt | 4 697 | 14 071 | 526 | 2 246 | 60 | –8 505 | 13 095 |
| Other liabilities | 8 429 | 3 245 | 817 | 1 060 | 2 315 | –9 130 | 6 736 |
| **Total liabilities** | **69 447** | **286 840** | **15 140** | **122 556** | **2 916** | **–111 997** | **384 902** |
| **Economic net worth** | **12 410** | **13 081** | **2 918** | **3 978** | **5 285** | **–5** | **37 667** |
| **Total liabilities and economic net worth** | **81 857** | **299 921** | **18 058** | **126 534** | **8 201** | **–112 002** | **422 569** |

## BUSINESS SEGMENTS – EVM BALANCE SHEET

| USD millions | Property & Casualty Reinsurance | Life & Health Reinsurance | Corporate Solutions | Life Capital | Group items | Consolidation | Total |
|---|---|---|---|---|---|---|---|
| **2018** | | | | | | | |
| **Assets** | | | | | | | |
| Investments | 55 645 | 34 641 | 8 774 | 49 954 | 7 263 | −12 614 | 143 663 |
| Cash and cash equivalents | 1 651 | 1 705 | 795 | 1 316 | 227 | | 5 695 |
| In-force business assets | 15 912 | 219 518 | 2 677 | 28 760 | | −43 793 | 223 075 |
| Retrocession assets | 2 613 | 33 303 | 5 046 | 22 577 | | −41 369 | 22 170 |
| Other assets | 5 710 | 1 954 | 745 | 1 196 | 1 370 | −7 434 | 3 540 |
| **Total assets** | **81 531** | **291 122** | **18 038** | **103 802** | **8 860** | **−105 210** | **398 142** |
| **Liabilities** | | | | | | | |
| In-force business liabilities | 54 480 | 215 998 | 13 237 | 72 558 | 745 | −41 280 | 315 737 |
| Retrocession liabilities | 492 | 35 317 | 665 | 24 529 | | −43 889 | 17 114 |
| Provision for capital costs | −88 | 6 250 | 226 | 1 181 | | | 7 569 |
| Future income tax liabilities | 324 | 4 396 | −186 | −48 | −221 | | 4 264 |
| Debt | 5 415 | 14 339 | 817 | 1 290 | 547 | −11 227 | 11 180 |
| Other liabilities | 7 996 | 2 446 | 824 | 1 023 | 2 810 | −8 814 | 6 285 |
| **Total liabilities** | **68 618** | **278 745** | **15 583** | **100 532** | **3 881** | **−105 210** | **362 149** |
| **Economic net worth** | **12 913** | **12 377** | **2 454** | **3 270** | **4 979** | **0** | **35 993** |
| **Total liabilities and economic net worth** | **81 531** | **291 122** | **18 038** | **103 802** | **8 860** | **−105 210** | **398 142** |

## BUSINESS SEGMENTS – STATEMENT OF ECONOMIC NET WORTH

For the year ended 31 December

| USD millions | Property & Casualty Reinsurance | Life & Health Reinsurance | Corporate Solutions | Life Capital | Group items | Consolidation | **Total** |
|---|---|---|---|---|---|---|---|
| **2018** | | | | | | | |
| Economic net worth as of 1 January | 12 410 | 13 081 | 2 918 | 3 978 | 5 285 | –5 | 37 667 |
| Change in EVM methodology[1] | 743 | –813 | 63 | 64 | –57 | | 0 |
| **Adjusted economic net worth as of 1 January** | **13 153** | **12 268** | **2 981** | **4 042** | **5 228** | **–5** | **37 667** |
| Total contribution to ENW | 1 350 | 1 271 | –474 | 265 | –245 | | 2 166 |
| Dividends and share buy-back | –1 300 | –650 | –50 | –1 125 | 186 | | –2 939 |
| Other, including foreign exchange on economic net worth | –289 | –512 | –3 | 88 | –190 | 5 | –901 |
| **Economic net worth as of 31 December** | **12 913** | **12 377** | **2 454** | **3 270** | **4 979** | **0** | **35 993** |

[1] The Group revised the method to allocate EVM deferred tax assets and liabilities to business segments. The impact of the change in EVM methodology was recorded as an adjustment to the opening balance of 2018 economic net worth.

## Comparison of EVM and US GAAP

The most significant differences between EVM and US GAAP are as follows:

- **Discounting:** For EVM, all future expected cash flows are discounted using risk-free interest rates. Under US GAAP, most property and casualty reserves are undiscounted (except for reserves acquired in business combinations), whereas life and health reserves are usually discounted based on book yields.
- **Investments and debt:** For EVM, all investments and debt positions are carried at fair value. Under US GAAP, different treatment applies for certain investments (eg real estate is held at depreciated cost) and debt is carried at amortised cost rather than at fair value.
- **Reserving basis:** For EVM, best-estimate current assumptions are used for all re/insurance reserves. Under US GAAP, life and health assumptions, including book yield discounting assumptions, are usually locked in and can include a provision for adverse deviation.
- **Recognition differences:** EVM considers the economic value related to annual management charges on unit-linked funds and adjusts for counterparty credit risk in the valuation of insurance-related net assets. In addition, EVM does not show minority interests on the balance sheet, but consolidates assets and liabilities based on the proportion of the interest held by Swiss Re.
- **Goodwill and other intangibles:** EVM excludes the recognition of potential future new business activities, including potential renewals. As a result, no goodwill or other intangible assets are carried in the EVM balance sheet.
- **Taxes:** For EVM, deferred tax assets and liabilities are recognised for temporary differences between US GAAP and EVM.
- **Capital costs:** EVM recognises opportunity costs for shareholders' capital. The present value of capital costs allocated to existing contracts are recognised in the EVM balance sheet.

### BUSINESS SEGMENTS – RECONCILIATION TO US GAAP

As of 31 December

| USD billions | Property & Casualty Reinsurance | Life & Health Reinsurance | Corporate Solutions | Life Capital | Group items | Total |
|---|---|---|---|---|---|---|
| 2017 | | | | | | |
| **US GAAP shareholders' equity** | **10.7** | **8.2** | **2.4** | **7.1** | **5.7** | **34.1** |
| Discounting | 4.4 | –0.3 | 0.4 | –4.2 | 0.0 | 0.3 |
| Investments and debt | 1.8 | –2.3 | 0.0 | 0.0 | 0.5 | 0.0 |
| Reserving basis | | | | | | |
| GAAP margins | 0.0 | 17.3 | 0.0 | 3.3 | 0.0 | 20.6 |
| Other | –0.1 | 0.1 | 1.0 | –0.5 | –0.7 | –0.2 |
| Recognition differences | 0.0 | 0.0 | –0.1 | –0.5 | 0.0 | –0.6 |
| Goodwill and other intangibles | –2.0 | –1.9 | –0.4 | –0.2 | –0.5 | –5.0 |
| Taxes | –2.0 | –0.9 | –0.3 | 0.6 | 0.1 | –2.5 |
| Capital costs | 0.0 | –7.1 | –0.2 | –1.6 | 0.0 | –8.9 |
| Other | –0.4 | 0.0 | 0.1 | 0.0 | 0.2 | –0.1 |
| **Total EVM valuation adjustments** | **1.7** | **4.9** | **0.5** | **–3.1** | **–0.4** | **3.6** |
| **Economic net worth** | **12.4** | **13.1** | **2.9** | **4.0** | **5.3** | **37.7** |
| **2018** | | | | | | |
| **US GAAP shareholders' equity** | **9.5** | **6.3** | **1.8** | **5.1** | **5.3** | **27.9** |
| Discounting | 4.8 | –0.8 | 0.4 | –3.1 | 0.0 | 1.3 |
| Investments and debt | 2.0 | –1.4 | 0.0 | 0.1 | 0.9 | 1.6 |
| Reserving basis | | | | | | |
| GAAP margins | 0.0 | 18.6 | 0.0 | 2.8 | 0.0 | 21.4 |
| Other | 0.0 | 0.1 | 0.9 | –0.5 | –0.7 | –0.2 |
| Recognition differences | 0.0 | –0.2 | –0.1 | –0.1 | 0.0 | –0.4 |
| Goodwill and other intangibles | –2.0 | –1.8 | –0.4 | –0.2 | –0.6 | –4.9 |
| Taxes | –1.2 | –2.2 | –0.1 | 0.5 | 0.0 | –3.1 |
| Capital costs | 0.2 | –6.2 | –0.2 | –1.5 | 0.0 | –7.7 |
| Other | –0.4 | 0.1 | 0.0 | 0.0 | 0.2 | –0.1 |
| **Total EVM valuation adjustments** | **3.4** | **6.1** | **0.7** | **–1.8** | **–0.3** | **8.1** |
| **Economic net worth** | **12.9** | **12.4** | **2.5** | **3.3** | **5.0** | **36.0** |

# Independent Assurance Report

**On the Economic Value Management financial information as of 31 December 2018 to the Board of Directors of Swiss Re Ltd, Zurich**

We have been engaged to perform a reasonable assurance engagement on the Economic Value Management ('EVM') financial information of Swiss Re Ltd (the 'Company') for the year ended 31 December 2018 (the 'EVM financial information'). The EVM financial information consists of the income statement, balance sheet, statement of economic net worth and information on business segments as set out on pages 60 to 67 in the Company's 2018 Annual Report.

All other EVM information included in, or made available outside, the Company's 2018 Annual Report was not subject to assurance procedures and, accordingly, we express no conclusion on this information.

The reporting criteria used by the Company are described in the significant EVM principles (hereafter referred to as "EVM principles") as published on the Company's website (swissre.com/EVM_principles).

**Board of Directors' responsibility**
The Board of Directors is responsible for the preparation of the EVM financial information in accordance with the Company's EVM principles, including data, valuation and accounting principles, assumptions and factors used and the related internal controls as determined necessary to enable the preparation of the EVM financial information that are free from material misstatement.

**Practitioner's responsibility**
Our responsibility is to perform a reasonable assurance engagement to express a conclusion on the EVM financial information as set out on pages 60 to 67 in the Company's 2018 Annual Report. We conducted our reasonable assurance engagement in accordance with International Standards on Assurance Engagements 3000 (Revised) 'Assurance engagements other than audits or reviews of historical financial information' issued by the International Auditing and Assurance Standards Board. This standard requires that we plan and perform this engagement to obtain reasonable assurance about the assurance conclusions.

A reasonable assurance engagement involves performing procedures to obtain evidence about the execution of the valuation and accounting for the purpose of the EVM financial information in accordance with the Company's EVM principles. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the EVM financial information, whether due to omissions, misrepresentation, fraud or error. In making those risk assessments, we consider internal controls relevant to the preparation of the EVM financial information in order to design assurance procedures that are appropriate in the circumstances, but not for the purpose of expressing a conclusion on the effectiveness of the entity's internal controls regarding the EVM financial information. A reasonable assurance engagement also includes evaluating the appropriateness of the policies used and reasonableness of significant estimates made, as well as evaluating the adequacy of the overall presentation of the EVM financial information in accordance with the Company's EVM principles.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our assurance conclusion.

**Our Independence and Quality Control**
We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which is founded on the fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

Our firm applies International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

**Conclusion**
In our opinion, the EVM financial information of the Company for the year ended 31 December 2018 as set out on pages 60 to 67 are prepared, in all material respects, in accordance with the Company's EVM principles applied as published on the Company's website (swissre.com/EVM_principles).

PricewaterhouseCoopers Ltd

Roy Clark

Frank Trauschke

Zurich, 13 March 2019

**Enclosure:**
EVM financial information (income statement, balance sheet, statement of economic net worth and information on business segments)

In 2018, Swiss Re maintained its strong capitalisation despite large natural catastrophes and man-made events. Our long-term sustainable capital generation and controlled risk-taking support our attractive capital management actions.

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# Overview

## Our sustainable capital generation allows us to continue returning excess capital to shareholders.

Despite the fourth-costliest year for the insurance industry, our Group SST ratio of 251% remains comfortably above the 220% target. This is supported by our diversified business model and disciplined risk-taking.

**John Dacey**
Group Chief Financial Officer

"Large losses keep reminding us of the importance of maintaining a robust capital position."

**Patrick Raaflaub**
Group Chief Risk Officer

"Risk Management enables sound risk-taking and makes us a reliable partner to our clients."

## Financial strength

Swiss Re maintained a market-leading capital position during 2018 despite natural catastrophes and large man-made losses. The Group's Swiss Solvency Test (SST) ratio of 251% remains comfortably above Swiss Re's target capitalisation of 220%. Rating agencies A.M. Best, Moody's and Standard & Poor's (S&P) rated Swiss Re's financial strength 'superior', 'excellent' and 'very strong', respectively. This capital strength enables Swiss Re to support its clients in difficult times while continuously returning capital to shareholders.

Swiss Re's overarching target is to maintain a very strong capital position that operates efficiently within constraints imposed by regulators and requirements from rating agencies while giving the company maximum financial flexibility. Swiss Re's capital allocation decisions are steered to make capital and liquidity fungible to the Group wherever possible, while complying with local regulations and client needs. Cash dividends paid by our Business Units to the Group's parent holding company, Swiss Re Ltd, have amounted to USD 17.2 billion since 2013.

As part of the ongoing maintenance of the Group's target capital structure, Swiss Re further enhanced its financial flexibility by issuing a USD 500 million non-dilutive senior exchangeable bond with anytime issuer stock settlement.

Based on the Group's capital strength, the Board of Directors proposes a 2018 regular dividend of CHF 5.60 per share. In addition, the Board of Directors proposes a further public share buyback programme at the discretion of the Board of Directors and subject to obtaining all necessary legal and regulatory approvals.

## Liquidity

Our core insurance and reinsurance operations generate liquidity primarily through premium income. Our exposure to liquidity risk stems mainly from two sources: the need to cover potential extreme loss events and regulatory constraints that limit the flow of funds within the Group.

The amount of liquidity held is largely determined by internal liquidity stress tests, which estimate the potential funding requirements stemming from extreme loss events. Based on these internal liquidity stress tests, we estimate that Swiss Reinsurance Company Ltd, the most important legal entity of the Group from a liquidity perspective, currently holds significant surplus liquidity.

Swiss Re also provides FINMA with a yearly report on its liquidity position, in accordance with FINMA Circular 13/5, "Liquidity — Insurers".

## Risk Management

Group Risk Management is key to the controlled risk-taking that underpins Swiss Re's financial strength. Risk Management is mandated to ensure that the Group and its legal entities have the necessary expertise, frameworks and infrastructure to support good risk-taking. In addition, it monitors and ensures adherence to applicable frameworks and also performs reserving and reporting activities.

Risk Management is embedded throughout Swiss Re's business. The Group has dedicated Chief Risk Officers and risk teams for all major legal entities and regions. These are closely aligned to Swiss Re's business structure, in order to ensure effective risk oversight, but remain part of the Risk Management function under the Group CRO, thus ensuring their independence as well as a consistent Group-wide approach to overseeing and controlling risks. They are supported in this by central risk teams that provide specialised risk expertise and oversight.

The Group's risk-taking is steered by Swiss Re's Risk Appetite Framework, which consists of two interlinked components: risk appetite and risk tolerance. The risk appetite statement facilitates discussions about where and how Swiss Re should deploy its capital, liquidity and other resources under a risk/return view. The risk tolerance sets clear boundaries to risk-taking.

Swiss Re's proprietary integrated risk model provides a meaningful assessment of the risks to which the Group is exposed and represents an important tool for managing our business. It determines the capital requirements for internal purposes and forms the basis for regulatory reporting under the SST and under Solvency II for our legal entities in the EEA.

Swiss Re continuously reviews and updates its internal model and parameters to reflect the Group's experiences and changes in the risk environment and current best practice.

## Swiss Re's risk profile

In SST 2019, Swiss Re's overall risk remains broadly stable at USD 19.7 billion (compared to USD 19.9 billion in SST 2018), as higher underwriting and credit risks are more than offset by a decrease in financial market risk.

Property and casualty risk increases due to growth in property business in 2018 and the 1 January 2019 renewals which leads to higher natural catastrophe and terrorism exposure. These effects are partly offset by lower costing and reserving risk.

Life and health risk increases due to business growth in Asian markets increasing critical illness and lethal pandemic exposure. Mortality trend risk also increases reflecting an update on external retrocession cashflow. The increase is further driven by the introduction of an improved health model.

Financial market risk decreases mainly driven by significantly lower credit spread risk and to a lesser extent by lower equity risk. The decrease in credit spread and equity risk is driven by adverse market developments during 2018.

Credit risk increases slightly since SST 2018 driven by business growth in credit and surety business.

# Financial strength and capital management

## Maintained very strong capital position

**Swiss Re remained strongly capitalised throughout 2018 despite large industry losses, allowing us to deploy capital for potential market developments while continuing to repatriate excess capital to our shareholders.**

**Robust capitalisation despite large events**
Swiss Re's policy of ensuring superior capitalisation at all times has meant that even in the face of large insurance losses in two consecutive years, the Group maintains a very strong capital position and high financial flexibility. Swiss Re's financial strength enables the Group to stay committed to creating sustainable long-term shareholder value by growing the regular dividend.

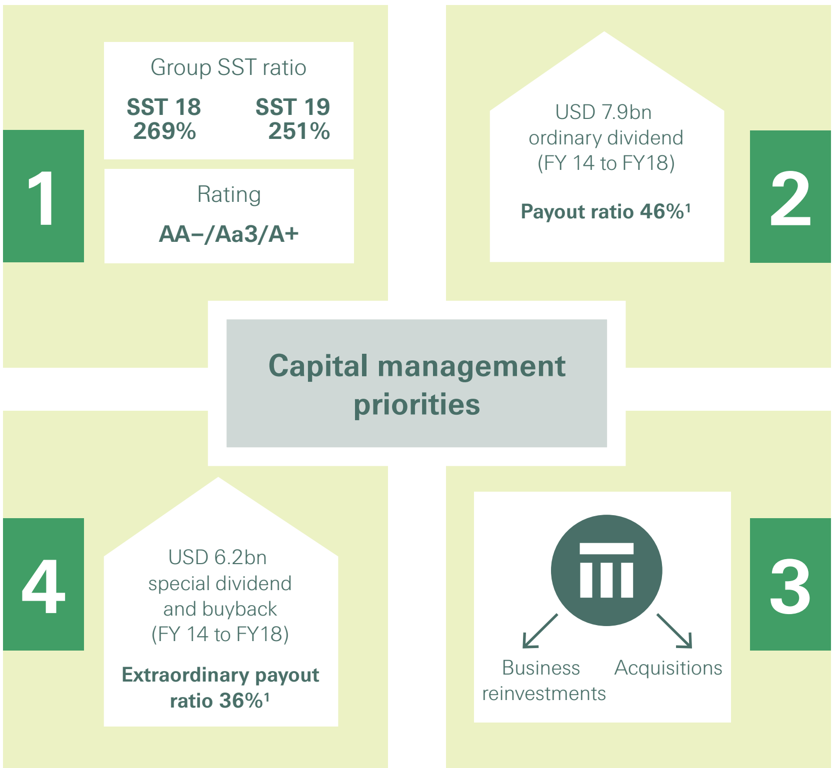
Swiss Re's capital management priorities aim to ensure the ability to continue operations following an extremely adverse year of losses from insurance and/or financial market events.

Swiss Re's Group Board of Directors has also defined an SST capitalisation target of 220% for the Swiss Re Group.

The below subsections describe Swiss Re's capitalisation according to the SST and the financial strength ratings.

**Swiss Solvency Test (SST)**
Swiss Re is supervised at the Group level and for its regulated legal entities domiciled in Switzerland by FINMA. FINMA supervision comprises minimum solvency requirements, along with a wide range of qualitative assessments and governance standards.

1. Ensure superior capitalisation at all times and maximise financial flexibility
2. Grow the regular dividend with long-term earnings, and at least maintain it
3. Deploy capital for business growth where it meets our strategy and profitability requirements
4. Repatriate further excess capital to shareholders



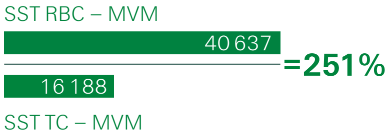

[1] Payout ratio calculated as capital repatriation over total contribution to ENW; assumes AGM approval of the proposed ordinary dividend of CHF 5.60 per share and the unconditional share buy-back of up to CHF 1bn

Based on current SST rules introduced in 2017, the ratio is calculated as SST risk-bearing capital (SST RBC) minus the market value margin (MVM), divided by SST target capital (TC) minus the MVM.

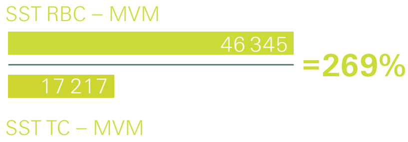
The Group SST 2019 report will be filed with FINMA in April 2019. Accordingly, the information presented below is based on currently available figures and may differ from the information included in the final Group SST 2019 report.

In SST 2019, the solvency of Swiss Re Group remains at a very strong level of 251% and comfortably above the target of 220%. In a challenging year with large losses Swiss Re was able to generate a positive underwriting contribution. This is also reflected in a relative increase of insurance risk in the overall risk profile. Capital repatriation, the redemption of a subordinated instrument and depressed financial markets resulting in negative contribution from investments ultimately lead to a decrease in the overall SST ratio.

**SST 2019**




**SST 2018**




**SST ratio 2019**

251%

### SWISS RE GROUP SST RATIO

| USD millions | SST 2018 | **SST 2019** | Change |
|---|---|---|---|
| SST risk-bearing capital – market value margin | 46 345 | **40 637** | –5 708 |
| SST target capital – market value margin | 17 217 | **16 188** | –1 029 |
| **SST ratio** | 269% | **251%** | –18pp |

### SST risk-bearing capital (SST RBC)

The SST RBC is derived from the SST net asset value (NAV), which represents the difference between the market consistent value of assets and liabilities, according to the valuation methodology prescribed under SST. For this purpose, the SST NAV is adjusted for the items in the table below.

Changes to the SST NAV mainly include economic capital generation or depletion due to underwriting and investment activities, foreign exchange movements, and capital management actions (such as paying dividends and share repurchases).

Compared to the previous reporting period, the SST NAV decreases by USD 3.6 billion. The decrease is mainly driven by dividends paid and share repurchases, negative foreign exchange movements in 2018 and negative investment contributions. These effects are partly offset by positive contributions from underwriting activities.

### SST RISK-BEARING CAPITAL

| USD millions | SST 2018 | **SST 2019** | Change |
|---|---|---|---|
| **SST net asset value** | 50 865 | **47 268** | –3 597 |
| Deductions | –3 161 | –3 058 | 103 |
| **SST core capital** | 47 704 | **44 210** | –3 494 |
| Supplementary capital | 4 584 | 3 450 | –1 134 |
| **SST risk-bearing capital** | 52 288 | **47 660** | –4 628 |
| Market value margin | 5 943 | 7 023 | 1 080 |
| **SST risk-bearing capital – market value margin** | 46 345 | **40 637** | –5 708 |

The overall contribution from underwriting activities is positive, mainly reflecting underwriting contributions from Property & Casualty Reinsurance, Life & Health Reinsurance and Life Capital, partly offset by negative underwriting contribution from Corporate Solutions, due to large natural catastrophe and man-made losses:

- The Property & Casualty Reinsurance contribution to the SST NAV is mainly driven by a net favourable development in expected claims payout patterns and ultimate claims estimates. The positive impacts are partly offset by adverse large loss experience from natural catastrophe and man-made losses.
- The Life & Health Reinsurance contribution is driven by large transactions in Asia and strong core business in the US, partly offset by adverse experience, as well as valuation and assumption updates (mainly in the US and EMEA).
- The Corporate Solutions underwriting contribution is negatively impacted by large natural catastrophes in the US as well as the high severity and frequency of large man-made losses.
- The Life Capital underwriting contribution is positive, resulting from favourable underwriting results.

The contribution from investment activities is negative, mainly driven by the impact of spread widening and negative equity performance as well as losses from Principal Investments.

The negative impact from foreign exchange movements on the SST NAV mainly reflects the weakening of major currencies against the US dollar.

Dividend payments and share repurchases lead to a decline in the SST NAV of USD 2.9 billion.

Deductions mainly reflect projected dividends and share repurchases (to be paid in 2019 and subject to AGM 2019 approval) as well as deferred taxes on real estate. These items decrease by USD 103 million compared to SST 2018.

Supplementary capital is recognised as risk bearing under SST. The change in SST supplementary capital of USD 1.1 billion reflects the redemption of a subordinated instrument as well as changes in the market value of the capital instruments.

A description of the change in market value margin, which represents the capital costs for the run-off period, is provided together with the SST TC comments below.

### SST target capital (SST TC)

Swiss Re uses an internal risk model to determine the economic capital required to support the risks on the Group's book, as well as to allocate risk-taking capacity to the different lines of business. The model also provides the basis for capital cost allocation in Swiss Re's EVM framework, which is used for pricing, profitability evaluation and compensation decisions. In addition to these internal purposes, the model is used to determine regulatory capital requirements under economic solvency frameworks such as SST and Solvency II.

In 2017, FINMA approved Swiss Re's internal model and its components for use of SST reporting purposes under their revised model review process. In 2018, FINMA conducted a material review of Swiss Re's credit risk model, which was approved for use of SST 2019 though it will require minor adjustments for later reporting periods.

Since SST 2018, two major model changes have been implemented and were approved by FINMA in October 2018:

- Financial market risks – The change in calibration approach had no impact on required capital when it was introduced. The prospective impact is contingent on financial markets developments.
- Critical illness, income protection and hospital cash risk – The introduction of the new health model resulted in an increase in required capital.

The risk exposure basis for SST is a projection for the period from 1 January 2019 to 31 December 2019 and is based on the economic balance sheet as of 31 December 2018 and adjustments to reflect 1 January 2019 business shifts.

In order to derive SST TC, total risk is adjusted for the line item Other impacts as shown in the table below.

SST TC remains broadly stable at USD 23.2 billion as minor changes in total risk and other impacts offset each other (see Risk assessment p. 87 for details).

Other impacts mainly reflect run-off capital costs (MVM) – which are deducted again from target capital to calculate the ratio – as well as the impact from business development over the forecasting period and requirements from FINMA that are not included in total risk as they are not consistent with Swiss Re's own risk view.

The increase in MVM is mainly driven by actual and projected growth in Asian critical illness business and model improvements. These effects are partly offset by the depreciation of major currencies against the US dollar and slightly higher interest rates, mainly in US and Canadian dollar.

**SST TARGET CAPITAL**

| USD millions | SST 2018 | **SST 2019** | Change |
|---|---|---|---|
| **Total risk** | 19 859 | **19 713** | –146 |
| Other impacts | 3 301 | 3 498 | 197 |
| **SST target capital** | 23 160 | **23 211** | 51 |
| Market value margin | 5 943 | 7 023 | 1 080 |
| **SST target capital – market value margin** | 17 217 | **16 188** | –1 029 |

Find more information about Swiss Re's risk model in the interactive online report.

**Distribution to shareholders since 2013, in USD billions**

17.2

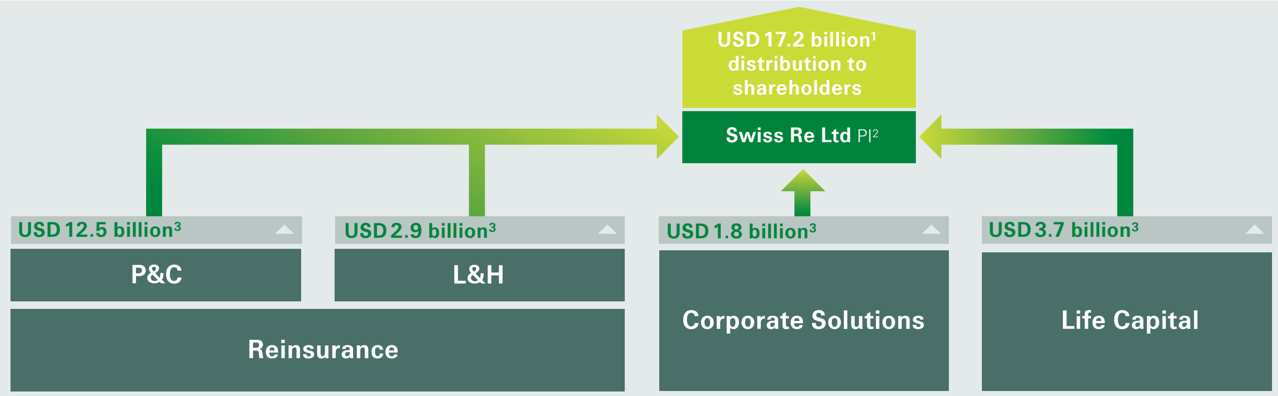
**External dividends to shareholders**
Based on the Group's solid economic earnings, the Board of Directors proposes a regular dividend of CHF 5.60 per share for the 2018 financial year, up from CHF 5.00 in 2017.

Consistent with the established capital management priorities, the Board of Directors proposes a further public share buyback programme. The first tranche of up to CHF 1.0 billion purchase value would commence at the discretion of the Board of Directors shortly after the 2019 AGM approval, subject to regulatory approvals. The second tranche of up to CHF 1.0 billion purchase value is conditional on the 2019 development of the Group's excess capital position.

**Business Unit structure and capital allocation**
Our peer-leading capital repatriation is supported by strong dividend payments from our Business Units. The cash dividends paid to Swiss Re Ltd since 2013 totalled USD 22.0 billion, while the total amount of capital returned to shareholders in the same time period is USD 17.2 billion.

The Group also reinvested into the business by redeploying capital into the Business Units. The majority of this capital was allocated to Life & Health Reinsurance, Corporate Solutions and Life Capital's open-book businesses, reflecting our strategy to steer capital to the growing areas of the business in a competitive environment.

**CAPITAL RETURNED TO SHAREHOLDERS SINCE 2013**




[1] Reflects total external dividend and public share buyback programmes between January 2013 and December 2018.
[2] Principal Investments has paid to Group dividends of USD 1.0bn between January 2013 and December 2018.
[3] Internal dividend flows from January 2013 to December 2018.

## Rating agency

Rating agencies assign credit ratings to the obligations of Swiss Re and its rated subsidiaries. The agencies evaluate Swiss Re based on a set of criteria that include an assessment of our capital adequacy. Each rating agency uses a different methodology for this assessment.

A.M. Best, Moody's and S&P rate Swiss Re's financial strength based upon interactive relationships. The insurance financial strength ratings are shown in the table below.

On 24 October 2018, S&P affirmed the AA– financial strength of Swiss Re and its core subsidiaries. The outlook on the rating is "Stable". The rating reflects Swiss Re's extremely strong capital adequacy in excess of the 'AAA' benchmark and extremely strong competitive position build on a highly recognised brand name, highly diversified product offering and long-established direct client relationships.

On 13 December 2018, A.M. Best confirmed the Group Swiss Re Financial Strength Rating of A+ (Superior) with stable outlook. The rating reflect A.M. Best's assessment of Swiss Re's "strongest" balance sheet strength, strong operating performance, very favourable business profile and very sophisticated enterprise risk management.

On 19 December 2017, Moody's affirmed Swiss Re's insurance financial strength rating and outlook at "Aa3" stable. The rating reflects Swiss Re's excellent market position, very strong business and geographic diversification and strong balance sheet in terms of capital and financial flexibility.

### SWISS RE'S FINANCIAL STRENGTH RATINGS

| As of 31 December 2018 | Financial strength rating | Outlook | Last update |
|---|---|---|---|
| Moody's | Aa3 | Stable | 19 December 2017 |
| Standard & Poor's | AA– | Stable | 24 October 2018 |
| A.M. Best | A+ | Stable | 13 December 2018 |

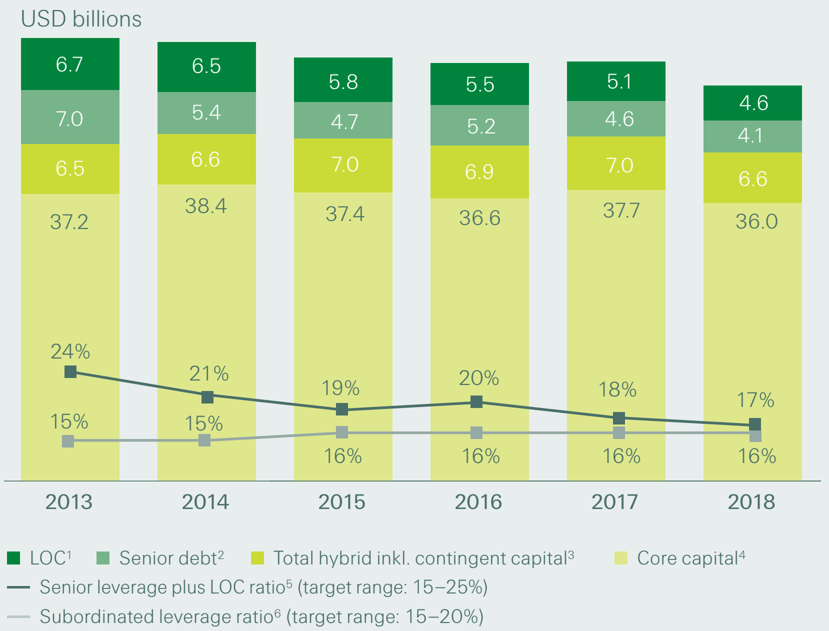
## Maintenance of target capital structure

Having achieved the Group's target capital structure in 2016, the focus is now on maintaining it.

In June 2018, Swiss Re Ltd issued a USD 500 million 6 year non-dilutive senior exchangeable bond with anytime issuer stock settlement at a coupon of 3.25%. This new issuance in the equity-linked capital market provides Swiss Re with valuable, cost efficient contingent capital, further enhancing the Group's financial flexibility. The new bond replaced the CHF 320 million perpetual subordinated notes with anytime issuer stock settlement issued in 2012 by Swiss Reinsurance Company Ltd, which were redeemed in September 2017. Swiss Reinsurance Company Ltd further reduced subordinated leverage by USD 750 million by redeeming its second series of perpetual subordinated notes with anytime issuer stock settlement on their first call date in September 2018.

The Group's leverage is comfortably within target capital structure senior leverage target range (15–25%) and at within the subordinated leverage target range (15–20%), providing the Group with additional financial flexibility.

### TARGET LEVERAGE MAINTAINED




[1] Unsecured LOC capacity and related instruments (usage is lower).
[2] Senior debt excluding non-recourse positions.
[3] Includes SRL's pre-funded dated subordinated debt facilities and contingent capital instruments accounted for as equity.
[4] Core capital of Swiss Re Group is defined as economic net worth (ENW).
[5] Senior debt plus LOCs divided by total capital.
[6] Subordinated debt divided by sum of subordinated debt and ENW.

# Liquidity management

## The active management of liquidity risks ensures the Group's ability to satisfy its financial obligations.

**As a re/insurance group, Swiss Re's core business generates liquidity primarily through premium income. The Group's exposure to liquidity risk stems mainly from two sources: the need to cover potential extreme loss events and regulatory constraints that limit the flow of funds within the organisation.**

A range of liquidity policies and measures are in place to manage these risks, in particular to ensure that
- sufficient liquidity is held to meet funding requirements under current conditions as well as adverse circumstances;
- funding is charged and credited at an appropriate market rate through Swiss Re's internal transfer pricing;
- diversified sources are used to meet the Group's residual funding needs; and
- long-term liquidity needs are taken into account in the Group's planning process and in the management of financial market risk.

### Liquidity risk management

Swiss Re's core liquidity policy is to retain access to sufficient liquidity in the form of unencumbered liquid assets, cash, and pre-funded facilities, to meet potential funding requirements arising from a range of possible stress events. To allow for regulatory restrictions on intra-Group funding, liquidity is managed from a legal entity perspective. The amount of liquidity held is determined by internal liquidity stress tests, which estimate the potential funding requirements stemming from extreme loss events.

The funding requirements under stress include:
- Cash and collateral outflows, as well as potential capital and funding support required by subsidiaries as a result of loss events
- Repayment or loss of all maturing unsecured debt and credit facilities
- Additional collateral requirements associated with a potential ratings downgrade
- Further contingent funding requirements related to asset downgrades
- Other large committed payments, such as expenses, commissions and tax

The stress tests also assume that funding from assets is subject to conservative haircuts, intra-Group funding is not available if subject to regulatory approval, no new unsecured funding is available and funding from new re/insurance business is reduced.

The primary liquidity stress test is based on a one-year time horizon, a loss event corresponding to 99% tail value at risk (see pages 87–88), and a three-notch ratings downgrade.

Swiss Re's liquidity stress tests are reviewed regularly and their main assumptions are approved by the Group Executive Committee. Swiss Re provides FINMA with a yearly report on its liquidity position, in accordance with FINMA circular 13/5, "Liquidity — Insurers."

### Liquidity position of Swiss Reinsurance Company Ltd (SRZ)

From a liquidity perspective, SRZ is the most important legal entity of the Group. The estimated total liquidity sources in SRZ available within one year, after haircuts and net of short-term loans from Swiss Re Ltd and securities lending, amounted to USD 15.0 billion as of 31 December 2018, compared with USD 17.9 billion as of 31 December 2017. Based on the internal liquidity stress tests described above, we estimate that SRZ holds surplus liquidity after dividends to Swiss Re Ltd.

In 2018, the amount of surplus liquidity reduced. This reduction was largely due to the management decision to reduce external debt, as well as an increase in contingent funding requirements stemming from extreme stress loss events.

# Risk management

Risk Management provides independent oversight and applies an integrated approach to managing current and emerging risks.

**Embedded throughout the business, the Group Risk Management function ensures an integrated approach to managing current and emerging threats. Risk Management plays a key role in business strategy and planning discussions, where Swiss Re's risk appetite framework facilitates risk/return discussions and sets boundaries to Group-wide risk-taking.**

Taking and managing risk is central to Swiss Re's business. All risk-related activities, regardless of the legal entity in which they are undertaken, are subject to the Group's risk management framework. Consequently, the framework is applied at Group level and cascaded to all legal entity levels, whereby the three entities Swiss Reinsurance Company Ltd (SRZ), Swiss Re Corporate Solutions Ltd (SRCS) and Swiss Re Life Capital Ltd (SRLC) represent the top-level legal entities for the Business Units Reinsurance, Corporate Solutions and Life Capital.

The risk management framework sets out how Swiss Re organises and applies its risk management practices to ensure that all activities are conducted in line with the principles and limits mandated by the Group Risk Policy.

The framework comprises the following major elements:

- Risk governance documentation, including Group Risk Policy
- Key risk management principles
- Fundamental roles for delegated risk-taking
- Risk culture
- Organisation of risk management, including responsibilities at Board and executive level
- Risk control framework
- Risk appetite framework, including limits

Swiss Re applies a differentiated governance approach at legal entity level, depending on the materiality of individual entities. SRZ, SRCS and SRLC, as well as major legal entities within the Group that are designated as so-called "Level I entities", are subject to enhanced governance, which includes the following requirements:

- Develop and maintain corporate and risk governance documentation that governs the responsibilities of the legal entity Board, committees and management
- Establish an Audit Committee as well as a Finance and Risk Committee to support the legal entity Board in performing its oversight responsibility for risk and capital steering
- Designate a Chief Risk Officer and Chief Financial Officer

### Risk governance documentation

Swiss Re's risk management framework is set out in risk governance documentation at Group and legal entity level. Risk governance is the subset of corporate governance that describes the risk management framework and documents risk management practices. Group-level risk documents form the basis for all risk governance across Swiss Re. Additional risk governance for legal entities is prepared as an addendum to the Group or parent entity document.

Group risk governance documents are organised hierarchically across five levels, which are mirrored by equivalent documents at legal entity (LE) level:

- (SRL) Bylaws and the charter for the Group Finance and Risk Committee outline the ultimate authority for risk management, assigning responsibilities to the Group Board of Directors and the Group Executive Committee.
- The Group Risk Policy is defined by the Group Board and articulates Swiss Re's risk appetite framework (risk appetite and tolerance) as well as fundamental risk and capital structure principles.
- The Group Risk Management Standards outline how the Group organises and applies its risk management practices.
- Risk category standards describe how risk practices are implemented for a specific category.
- The lowest level comprises risk management methodology and process documentation.

### Key risk management principles

Swiss Re's risk management is based on four fundamental principles. These apply consistently across all risk categories at Group and legal entity level:

- *Controlled risk-taking* – Financial strength and sustainable value creation are central to Swiss Re's value proposition. The Group thus operates within a clearly defined risk policy and risk control framework.
- *Clear accountability* – Swiss Re's operations are based on the principle of delegated and clearly defined authority. Individuals are accountable for the risks they take on, and their incentives are aligned with Swiss Re's overall business objectives.
- *Independent risk controlling* – Dedicated units within Risk Management control all risk-taking activities. These are supported by Compliance and Group Internal Audit functions.
- *Transparency* – Risk transparency, knowledge-sharing and responsiveness to change are integral to the risk control process. The central goal of risk transparency is to create a culture of mutual trust, and reduce the likelihood of surprises in the source and potential magnitude of losses.

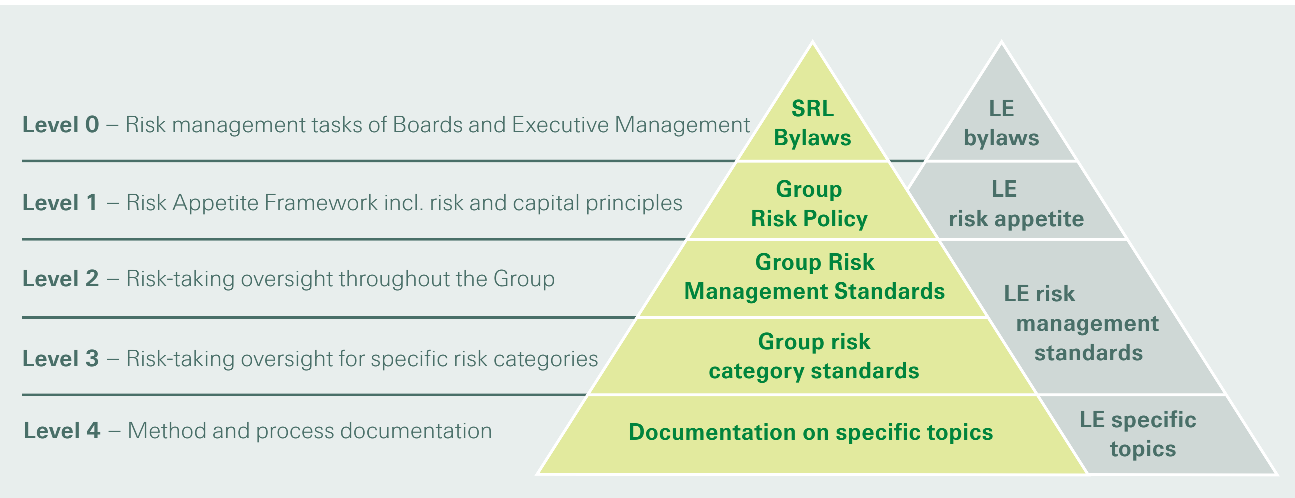
### Fundamental roles for delegated risk-taking

In order to ensure clear control, accountability and independent monitoring for all risks, Swiss Re's risk governance distinguishes between three fundamental roles in the risk-taking process:

- *Risk owner* – establishes a strategy, delegates execution and control, and retains ultimate responsibility for the outcomes.
- *Risk taker* – executes an objective within the authority delegated by the risk owner; risk takers are required to provide the respective risk controller with all information required to monitor and control their risks.
- *Risk controller* – is tasked by the risk owner with independent oversight of risk-taking activities to mitigate potential conflicts of interest between the risk owner and risk taker; risk controllers are responsible for escalating relevant concerns.

Risk-taking activities are typically subject to three lines of control. The first line comprises the day-to-day risk control activities performed by risk takers in the business as well as in Group functions, including identification of risks and design of effective controls. Independent oversight performed by functions such as Risk Management and Compliance represents the second line of control. The third line consists of independent audits of processes and procedures carried out by Group Internal Audit or by external auditors. This approach is designed to achieve a strong, coherent and Group-wide risk culture built on the principles of ownership and accountability.

**RISK GOVERNANCE DOCUMENTATION HIERARCHY**



## Risk culture

Swiss Re fosters and maintains a strong risk culture to promote risk awareness and discipline across all its activities. This risk culture stands for the risk- and control-related values, knowledge and behaviour shared by all employees. Its principal components are summarised in a framework that builds on the Group Code of Conduct as well as on key risk management principles in the Group Risk Policy.

The risk culture framework serves to influence appropriate risk-taking behaviour in four key aspects, which are assessed annually for all employees in the performance and compensation process:

- Leadership in providing clear vision and direction
- Consideration of risk-relevant information in decision-making
- Risk governance and accountability of risk takers as well as transparent flow of risk information
- Embedding of risk management skills and competencies

Swiss Re's risk culture provides the foundation for the efficient and effective application of its Group-wide risk management framework. Group Risk Management reinforces the risk culture by ensuring risk transparency and fostering open discussion and challenge in the Group's risk-taking and risk management processes.

Key risk takers across Swiss Re are a particular focus in promoting good risk- and control-related behaviours. The relevant positions are identified in a regular process, and those who hold them are subject to additional behavioural objectives and assessments.

Risk culture is directly linked to Swiss Re's performance management, which is based not only on business results but also on behaviours. Swiss Re's compensation framework aims to foster compliance and support sensible risk-taking. Swiss Re also has a range of incentive programmes that reflect the long-term nature of its business by rewarding sustained performance rather than short-term results. This helps to align shareholder and employee interests.

Swiss Re's compensation principles and framework are captured within the Swiss Re Group Compensation Policy. The Group's Finance and Risk Committee conducts a regular risk assessment for all changes to this policy.

**KEY RISK MANAGEMENT BODIES AND RESPONSIBILITIES**

**Group Board of Directors**
- Responsible for the Group's governance principles and policies
- Acts through the Finance and Risk Committee, Investment Committee and Audit Committee

**Group Executive Committee**
- Develops and implements risk management framework
- Sets and monitors risk limits
- Some responsibilities delegated to Group CRO and major legal entities

**Legal entity management**
- Manages underwriting decisions and operational risks in its area

**Group CRO**
- Principal independent risk controller
- Heads the Risk Management function
- Member of Group Executive Committee
- Reports to Board as well as to Group CEO

**Central Risk Management units**
- Oversight of financial market, credit and liquidity risk
- Shared risk expertise: risk modelling and governance, as well as political, sustainability and emerging risks
- Strategic control services: operational and regulatory risk management

**Legal entity CROs**
- Responsible for risk oversight and establishing risk governance in their respective legal entities
- Supported by functional, regional and subsidiary CROs as well as dedicated risk teams

**Group Internal Audit**
- Independent risk controller
- Assesses adequacy and effectiveness of internal control systems

**Compliance**
- Compliance with applicable laws, Code of Conduct
- Manages compliance risks

## Organisation of risk management

The Group Board of Directors (Group Board, the Board) is ultimately responsible for Swiss Re's overall risk governance principles and policies. It defines basic risk management principles and the risk appetite framework, including the Group's risk appetite and risk tolerance; in addition, it approves the Group's risk strategy. The Group Board mainly performs risk oversight and governance through three committees:

- Finance and Risk Committee – defines the Group Risk Policy, reviews risk capacity limits, monitors adherence to risk tolerance, and reviews top risk issues and exposures.
- Investment Committee – reviews the financial risk analysis methodology and valuation related to each asset class, and ensures that the relevant management processes and controlling mechanisms are in place.
- Audit Committee – oversees internal controls and compliance procedures.

The Group Executive Committee is responsible for developing and implementing Swiss Re's Group-wide risk management framework. It also sets and monitors risk capacity limits, oversees the Economic Value Management framework, determines product policy and underwriting standards, and manages regulatory interactions and legal obligations. The Group Executive Committee has delegated various risk management responsibilities to the Group Chief Risk Officer (Group CRO) as well as to certain legal entity CROs, in particular the CROs of the legal entities SRZ, SRCS and SRLC.

The Group CRO is appointed as the principal independent risk controller of Swiss Re. He is a member of the Group Executive Committee and reports directly to the Group CEO as well as to the Board's Finance and Risk Committee. The Group CRO also advises the Group Executive Committee, the Chairman or the respective Group Board Committees, in particular the Finance and Risk Committee, on significant matters arising in his area of responsibility.

The Group CRO leads the independent Risk Management function, which is responsible for risk oversight and control across Swiss Re. It thus forms an integral part of Swiss Re's business model and risk management framework. The Risk Management function comprises dedicated risk teams for legal entities and regions, as well as central teams that provide specialised risk expertise and oversight.

While the Risk Management organisation is closely aligned to Swiss Re's business structure, in order to ensure effective risk oversight, all embedded teams and CROs remain part of the Group Risk Management function under the Group CRO, thus ensuring their independence as well as a consistent Group-wide approach to overseeing and controlling risks.

Legal entity risk teams are led by dedicated CROs who report directly or indirectly to their top-level entity CRO, with a secondary reporting line to their respective legal entity CEO. These legal entity CROs are responsible for risk oversight in their respective entities, as well as for establishing the proper risk governance to ensure efficient risk identification, assessment and control. They are supported by functional, regional and subsidiary CROs who are responsible for overseeing risk management issues that arise at regional or subsidiary level.

The central risk teams oversee Group liquidity and capital adequacy and maintain the Group frameworks for controlling these risks throughout Swiss Re. They also support CROs at Group and legal entity level in discharging their oversight responsibilities. They do so by providing services, such as:
- Financial risk management
- Specialised risk category expertise and accumulation control
- Risk modelling and analytics
- Regulatory relations management
- Maintaining the central risk governance framework

Risk Management is also in charge of actuarial reserving and monitoring of reserve holdings for SRCS and SRLC as well as their subsidiaries, while for SRZ and its subsidiaries the setting of the reserves is performed by valuation actuaries within the P&C and L&H Business Management units.

Risk management activities are complemented by Swiss Re's Group Internal Audit and Compliance units:
- Group Internal Audit performs independent, objective assessments of the adequacy and effectiveness of internal control systems. It evaluates the execution of processes within Swiss Re, including those within Risk Management.
- The Compliance function oversees Swiss Re's compliance with applicable laws, regulations, rules and the Code of Conduct. It also assists the Group Board, Group Executive Committee and other management bodies in identifying, mitigating and managing compliance risks.

**Risk control framework**

Swiss Re operates within a clearly defined risk control framework. This is set out in the Group Risk Management Standards and comprises a body of standards that establish an internal control system for taking and managing risk. These standards set responsibilities for risk takers and risk controllers. The risk control framework defines key tasks, which are the core components of Swiss Re's risk management cycle:
- *Risk tolerance and appetite assessment of plan* – ensures that the risk implications of plans are understood, and determines whether business and investment plans adhere to the risk appetite framework (risk appetite and tolerance).
- *Risk identification* – ensures that all risks to which Swiss Re is exposed are transparent in order to make them controllable and manageable.
- *Risk measurement* – enables Swiss Re to understand the magnitude of its risks and to set quantitative controls that limit its risk-taking.
- *Risk limit framework* – allows Swiss Re to control its risk-taking decisions and total risk accumulations, including the passive risk we are exposed to through our operations.
- *Risk reporting* – creates internal risk transparency and enables Swiss Re to meet external disclosure requirements.

In addition, Risk Management performs the following risk control activities:
- *Model and tool assurance* – ensures that models or tools used for costing, valuation and risk capital determination are based on sound scientific concepts, have been implemented and calibrated correctly, and produce accurate results.
- *Valuation assurance* – assesses the quality of valuations for financial instrument prices and reserves.
- *Insurance risk reviews* – assess the quality of decision-making in the taking of insurance risks by performing independent evaluations of underwriting, costing, pricing and claims handling.

Swiss Re has implemented a principle-based integrated internal control system to mitigate identified operational risks including financial reporting and compliance risks, as well as risks that could impair the effectiveness and efficiency of operations. This control system represents a subset of Swiss Re's risk control framework and is based on international standards established by COSO (the Committee of Sponsoring Organisations of the Treadway Commission). It is applied on multiple organisational levels, including Group, functions, regions and legal entities.

**Risk transfer**

To efficiently manage capital across the Group and ensure that risk-taking in individual legal entities is well diversified, the Group employs internal retrocession and funding agreements. These serve to improve the fungibility of capital and consequently Group-wide diversification. In addition, the Group aims to maximise the amount of funds available centrally by optimising the excess capital held within its subsidiaries and branches.

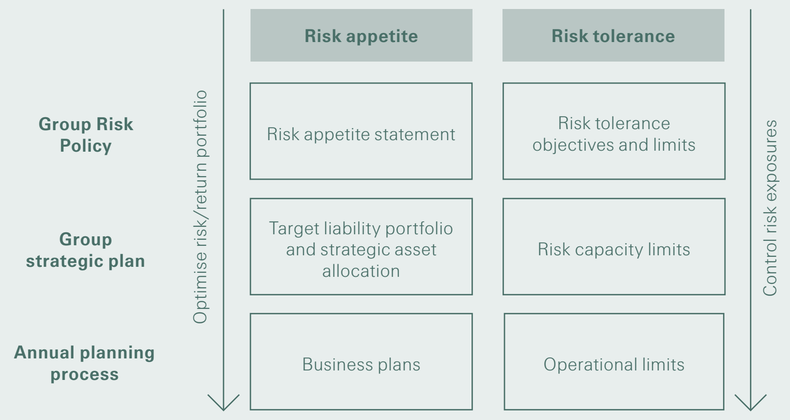
Swiss Re also manages and mitigates insurance risk through external retrocession, insurance risk swaps or by transferring risk to capital markets through insurance-linked securities, industry loss warranties or other derivatives. This provides protection against extreme catastrophic events, further diversifies risk, stabilises economic results and releases underwriting capacity.

In addition, Swiss Re uses financial market derivative instruments as well as financial market securities to hedge financial market and credit risks arising from investments and insurance liabilities. Interest rate risk from insurance liabilities is managed through investments in fixed-income instruments whose pricing is sensitive to changes in government yields, such as government bonds.

Find more information about Swiss Re's risk control framework in the interactive online report.

## RISK APPETITE FRAMEWORK

The risk appetite framework establishes the overall approach through which Swiss Re practices controlled risk-taking throughout the Group. The framework is set out in the Group Risk Policy and consists of two interlinked components: risk appetite and risk tolerance.




Find more information about Swiss Re's risk appetite framework in the interactive online report.

### Risk Appetite Framework

In the context of business strategy and planning, the risk appetite statement facilitates discussions about where and how Swiss Re should deploy its capital, liquidity and other resources under a risk/return view, while the risk tolerance sets clear boundaries to risk-taking.

During strategic planning and target-setting, Risk Management provides an opinion on the proposed strategy and targets to the Group Executive Committee and ultimately the Group Board. The opinion focuses on the risk impact of the proposed strategy and the risks related to its implementation. The strategic plan, risk appetite and capital allocation ambition are expressed in a target portfolio for the Group's assets and liabilities, which should ultimately deliver the Group's targeted performance.

Swiss Re's risk appetite outlines the Group's principles on acceptable risks and provides key directions for risk-taking and risk controlling as part of implementing Swiss Re's strategy: achieving targeted performance, providing liquidity and financial flexibility, managing capital adequacy, and protecting and growing franchise value.

The Group Board further details Swiss Re's risk appetite through its approval or review of the following key steering frameworks as part of the Group's planning process: target liability portfolio, strategic asset allocation and the Group's target capital structure.

Swiss Re's risk tolerance describes the extent to which the Group Board has authorised executive management to assume risk. It represents the amount of risk that Swiss Re is willing to accept within the constraints imposed by its capital and liquidity resources, its strategy, and the regulatory and rating agency environment within which it operates.

The Group's risk tolerance is based on three objectives:

- To protect the shareholders' franchise by ensuring that the Group is able to continue operating the business following an extreme loss event
- To maintain capital and liquidity at respectability levels that are sufficiently attractive from a client perspective, and that meet regulatory requirements and expectations
- To avoid material operational risks that could subject the Group to large operational losses with corresponding consequences from an economic, reputational or regulatory perspective

To meet the first objective, the Group Risk Policy defines an extreme loss absorption limit with conditions that must be fulfilled following the realisation of a loss corresponding to a 99% Group shortfall event. To meet the second objective, the Group's risk tolerance criteria includes respectability limits, which need to be met under normal operating conditions. These limits ensure that Swiss Re has adequate capital and liquidity above minimum requirements to be considered a respectable counterparty by external stakeholders. To meet the third objective, the Group has established a Group-wide risk matrix methodology in which key operational risks are assessed against an acceptable level of expected losses.

The risk tolerance respectability criteria for the Swiss Re Group are set out in the Group Risk Policy. The Group Board is responsible for approving the risk tolerance criteria, as well as for monitoring and reviewing risk tolerance through its Finance and Risk Committee. Breaches or anticipated breaches of limits established to control the risk tolerance criteria must be communicated to the Group Finance and Risk Committee.

Swiss Re's risk-taking is governed by a limit framework in order to ensure that accumulation risk and large losses remain at an acceptable level, as well as to steer the allocation of available risk capacity. The limit framework is rooted in the risk appetite and risk tolerance objectives set in the Group Risk Policy and helps to translate these objectives into concrete, measurable criteria. In addition, lower level limits are implemented to allocate scarce capacity. The limit framework also allows for risk monitoring and thus supports risk controlling during the execution of the plan.

# Risk assessment

In SST 2019, total risk remains broadly stable, as higher underwriting and credit risks are more than offset by a decrease in financial market risk.

**Swiss Re's internal model provides a meaningful assessment of the risks to which the company is exposed and is an important tool for managing the business. It is used to measure the Group's risk position and related capital requirements as well as for defining the risk tolerance, risk limits and liquidity stress tests.**

Find more information about Swiss Re's internal risk model in the interactive online report.

Swiss Re is exposed to insurance and financial risks that are calculated in its internal risk model, as well as other risks that are not explicitly part of the economic capital requirement but are actively monitored and controlled due to their significance for Swiss Re. These include operational, liquidity, model, valuation, regulatory, political, strategic and sustainability risks (see Swiss Re's risk landscape, p. 88).

Property and casualty insurance risk is mainly driven by underlying risks inherent in the business Swiss Re underwrites, in particular costing and reserving and non-life claims inflation, as well as Atlantic hurricane risk. The main drivers of life and health insurance risk are lethal pandemic, mortality trend, lapse and critical illness risk.

The Group's financial risk derives from financial market risks as well as from credit risk. Key drivers of financial market risk are credit spread and equity risk. Credit risk is mainly driven by default risk of capital market products and credit and surety business.

Total risk is based on 99% tail VaR and represents the average unexpected loss that occurs with an estimated frequency of less than once in 100 years over a one-year time horizon.

In SST 2019, total risk remains broadly stable, as higher underwriting and credit risks are more than offset by a decrease in financial market risk. The weakening of major currencies against the US dollar also lowers this effect.

## GROUP CAPITAL REQUIREMENT BASED ON ONE-YEAR 99% TAIL VAR

| USD millions | SST 2018 | **SST 2019** | Change | cross reference information |
|---|---|---|---|---|
| Property and casualty | 10 113 | 10 537 | 424 | see page 90 |
| Life and health | 7 727 | 8 633 | 906 | see page 91 |
| Financial market | 11 992 | 10 981 | –1 011 | see page 92 |
| Credit[1] | 3 175 | 3 371 | 196 | see page 93 |
| *Diversification* | *–13 148* | *–13 809* | *–661* | |
| **Total risk** | **19 859** | **19 713** | **–146** | |

[1] Credit comprises credit default and credit migration risk from both asset management and underwriting. Credit spread risk falls under financial market risk.

Swiss Re's internal risk model takes account of the accumulation and diversification between individual risks. The effect of diversification at the category level is demonstrated in the table above, which represents the difference between the Group 99% tail VaR and the sum of standalone tail VaR amounts in the individual risk categories. The extent of diversification is largely determined by the selected level of aggregation – the higher the aggregation level, the lower the diversification effect.

## ALTERNATIVE RISK MEASUREMENTS FOR SWISS RE GROUP

| USD billions | SST 2018 | **SST 2019** | Change in % |
|---|---|---|---|
| **99% VaR**[1] | 14.6 | **14.8** | 1 |
| **99.5% VaR**[1] | 17.4 | **17.5** | 1 |

[1] For the alternative risk measurements, the same risk exposure and data basis is applied as for the SST calculation.

Alternative risk measurements – 99% and 99.5% VaR – remained broadly stable at USD 14.8 billion and USD 17.5 billion, respectively.

## Swiss Re's risk landscape

**The risk categories shown in the table below are discussed on the following pages. Across these categories we identify and evaluate emerging threats and opportunities through a systematic framework that includes the assessment of potential surprise factors that could affect known loss potentials. Liquidity risk management is discussed on page 80.**

| CORE RISKS IN SWISS RE'S INTERNAL MODEL | | | |
|---|---|---|---|
| INSURANCE RISK | | FINANCIAL RISK | |
| **PROPERTY & CASUALTY** | **LIFE & HEALTH** | **FINANCIAL MARKET** | **CREDIT** |
| ■ Natural catastrophe<br>■ Man-made<br>■ Costing and reserving<br>■ Claims inflation | ■ Lethal pandemic<br>■ Mortality trend<br>■ Longevity<br>■ Critical illness<br>■ Income protection<br>■ Lapse | ■ Credit spread<br>■ Equity<br>■ Foreign exchange<br>■ FM inflation<br>■ Interest rate<br>■ Real estate | ■ Default risk<br>■ Migration risk |
| **OTHER SIGNIFICANT RISKS** | | | |
| OPERATIONAL | LIQUIDITY | MODEL | VALUATION |
| REGULATORY | POLITICAL | STRATEGIC | SUSTAINABILITY |
| EMERGING RISKS | | | |

**Swiss Re is exposed to a broad landscape of risks. These include risks that are actively taken as part of insurance or asset management operations and are calculated in the internal risk model as part of the Group's economic capital requirement as well as to allocate risk-taking capacity:**

- *Property and casualty insurance risk* arises from coverage provided for property, liability, motor and accident risks, as well as for specialty risks such as engineering, agriculture, aviation and marine. It includes underlying risks inherent in the business Swiss Re underwrites, such as inflation or uncertainty in pricing and reserving.
- *Life and health insurance risk* arises from coverage provided for mortality (death), longevity (annuity) and morbidity (illness and disability) as well as from acquiring closed books of business. In addition to potential shock events (such as a severe pandemic), it includes underlying risks inherent in life and health contracts that arise when mortality, morbidity or lapse experience deviates from expectations.
- *Financial market risk* represents the potential impact on assets or liabilities that may arise from movements in financial market prices or rates, such as equity prices, interest rates, credit spreads, foreign exchange rates or real estate prices. Financial market risk originates from two main sources: investment activities and the sensitivity of the economic value of liabilities to financial market fluctuations.
- *Credit risk* reflects the potential financial loss that may arise due to diminished creditworthiness or default of counterparties of Swiss Re or of third parties; credit risk arises from investment and treasury activities, structured transactions and retrocession, as well as from liabilities underwritten by credit and surety insurance units.

The risk landscape also includes other risks that are not explicitly part of the Group's economic capital requirement but are actively monitored and controlled due to their significance for Swiss Re:

- *Liquidity risk* represents the possibility that Swiss Re will not be able to meet expected and unexpected cash flow and collateral needs without affecting either daily operations or Swiss Re's financial condition.

- *Operational risk* represents the potential economic, reputational or compliance impact of inadequate or failed internal processes, people and systems or from external events, including legal risk and the risk of a material misstatement in financial reporting. Swiss Re has implemented a capital model for operational risk, which is used for Solvency II purposes.
- *Strategic risk* represents the possibility that poor strategic decision-making, execution or response to industry changes or competitor actions could harm Swiss Re's competitive position and thus its franchise value.
- *Regulatory risk* arises from changes to insurance regulations and supervisory regimes as well as from interactions with regulatory authorities and supervisory regimes of the jurisdictions in which Swiss Re operates.
- *Political risk* comprises the consequences of political events or actions that could have an adverse impact on Swiss Re's business or operations.
- *Model risk* reflects the potential impact of model errors or the inappropriate use of model outputs. It may arise from data errors or limitations, operational or simulation errors, or limitations in model specification, calibration or implementation; model risk may also be caused by insufficient knowledge of the model and its limitations, in particular by management and other decision-makers.
- *Valuation risk* represents uncertainty around the appropriate value of assets or liabilities. It may arise from product complexity, parameter uncertainty, quality and consistency of data, valuation methodology, or changes in market conditions and liquidity. Swiss Re is exposed to financial valuation risk from investment assets it holds as well as reserve valuation risk from insurance liabilities that result from the coverage it underwrites.
- *Sustainability risk* comprises the environmental, social and ethical risks that may arise from individual business transactions or the way Swiss Re conducts its operations.
- Across all risk categories, Swiss Re actively identifies *emerging risks* and threats as part of its risk identification process; this includes new risks as well as changes to previously known risks that could create new risk exposures, or increase the potential exposure or interdependency between existing risks.

Some of these risks are reflected indirectly in the risk model, as their realisations may be contained in the historical data used to calibrate some of the risk factors. In addition, output from the model is used in measuring liquidity risk under stressed conditions. As separate risk categories, these risks are an integral part of Swiss Re's risk landscape. They are monitored and managed within the Risk Management organisation, and included in risk reports to executive management and the Board at Group and legal entity level.

Reputational risk is not considered a separate risk category but rather represents a possible consequence of any risk type in addition to the potential financial and compliance impact.

# Insurance risk

**Insurance risk management involves identifying, assessing and controlling risks that Swiss Re takes through its underwriting activities, including related risks such as inflation or uncertainty in pricing and reserving.**

Risk Management also provides independent assurance throughout the business cycle, starting with the annual business planning process. It reviews underwriting standards, costing models and large transactions, and monitors exposures, reserves and limits.

In 2018, Swiss Re further refined its limit framework, establishing a principles-based approach that is more strongly focused on Swiss Re's key defensive objectives. The new framework enables more dynamic capital allocation while strengthening the accountability of the first line of control of the capacity allocation decisions and capacity management.

Regular internal reports ensure transparency across the Group, providing management with quantitative and qualitative risk assessments. Swiss Re's insurance risk landscape and related governance processes are regularly discussed and reviewed by the Senior Risk Council and other insurance risk oversight bodies in order to assist and advise the Group CRO in the risk oversight.

Swiss Re also manages and mitigates insurance risk through external retrocession, insurance risk swaps or by transferring risk to capital markets. This provides protection against extreme catastrophic events, further diversifies risk, stabilises economic results and releases underwriting capacity.

## Property and casualty risk

**Change since SST 2018: +4%**

### Risk developments

The increase in property and casualty risk is driven by growth in property business, which increases both natural catastrophe and terrorism exposure. Costing and reserving risk decreases, reflecting claims payment and reserve releases related to the 2017 natural catastrophes, partly offset by reserve increases for the 2018 large losses.

### Management

The legal entity CROs are responsible for overseeing all property and casualty exposures written in their areas. In addition, Group Risk Management monitors and controls accumulated exposures across Swiss Re to ensure that they remain within the defined risk tolerance level.

The first line of control for property and casualty risks lies within Swiss Re's underwriting units. In general, all transactions must be reviewed by at least two authorised individuals, and are subject to authority limits. Each underwriter is assigned an individual authority based on technical skills and experience. In addition, capacity limits are allocated to local teams; any business that exceeds this authority or is otherwise complex or unusual triggers an escalation process that extends up to the Group Executive Committee. Certain single risks and specified renewable treaty classes with non-material changes can be authorised by only one individual underwriter with the necessary authority – but these risks and treaties are subject to checks after acceptance.

All transactions that could materially impact the risk at Group level or for key legal entities require independent review and sign-off by Risk Management before they are authorised. This is part of a three-signature principle, under which key transactions must be approved by Client Markets, Underwriting and Risk Management. For transactions of defined types and within defined limits, this may be applied through the approval of underwriting or pricing guidelines. For other transactions, the signatures must be secured through an individual review.

In addition to underwriting and capacity limits, Swiss Re's limit framework includes individual limits for major natural catastrophe scenarios and other key risks, such as terrorism, claims inflation, reserving and liability. These limits guard against exposure accumulations and ensure that risk-taking remains within Swiss Re's risk tolerance.

## INSURANCE RISK STRESS TESTS: ANNUALISED LOSSES WITH A 200-YEAR RETURN PERIOD

| Annualised, 99.5% VaR in USD millions | SST 2019 |
|---|---|
| Atlantic hurricane | 5 854 |
| Californian earthquake | 3 751 |
| European windstorm | 2 336 |
| Japanese earthquake | 3 351 |
| Lethal pandemic | 2 799 |

In SST 2019, the largest natural catastrophe exposure for Swiss Re Group derives from the Atlantic hurricane scenario with a USD 5.9 billion loss. The lethal pandemic loss is estimated to be at USD 2.8 billion.

## Life and health risk

**Change since SST 2018: +12%**

### Risk developments

Overall life and health risk increases due to business growth in Asian markets increasing critical illness and lethal pandemic exposure. Mortality trend risk also increases reflecting an update on external retrocession cashflow. The increase is further driven by the introduction of an improved health model, which assumes higher dependencies between different health products and mortality trend risk.

### Management

The legal entity CROs are responsible for overseeing all life and health exposures written in their respective areas. Accumulated exposures across Swiss Re are monitored and controlled by Group Risk Management to ensure that they remain at an acceptable level for the Group.

Underwriters represent the first line of control for life and health risks. All transactions that could materially change risk at Group level or for key legal entities require independent review and sign-off by Risk Management before they can be authorised. This is part of a three-signature principle, under which key transactions must be approved by Client Markets, Underwriting and Risk Management. For transactions of defined types and within defined limits, this may be applied through the approval of underwriting or pricing guidelines. For other transactions, the signatures must be secured through a review of the individual transaction.

In addition to underwriting and capacity limits, Swiss Re's limit framework includes separate limits for key risks such as mortality, longevity and lethal pandemic risk. Market exposure limits are in place for catastrophe and stop loss business. Swiss Re pays particular attention to densely populated areas and applies limits for individual buildings to guard against risk exposure accumulations.

# Financial risk

**Financial risk management involves identifying, assessing and controlling risks inherent in the financial markets as well as counterparty credit risks, while monitoring compliance with Swiss Re's risk appetite and risk management standards.**

Swiss Re's central Financial Risk Management team oversees all activities that generate financial market or credit risk. Its mandate covers internally and externally managed assets, strategic participations, treasury activities, and credit and market risks that derive from Swiss Re's underwriting and retrocession activities, including structured transactions, credit insurance and surety business. The Head of Financial Risk Management reports to the Group CRO, with a secondary reporting line to the Group Chief Investment Officer. Financial Risk Management controls exposure accumulation for financial market and credit risks. In addition, the team is responsible for assurance activities related to asset valuation and financial risk models, as well as for reporting Swiss Re's financial risks. These responsibilities are exercised through defined governance processes, including regular reviews by Swiss Re's Senior Risk Council and other financial risk oversight bodies.

All activities with financial market and credit risk are subject to limits at various levels of the organisation (eg Group, lines of business and legal entities). At the highest level, the Group Board of Directors sets a financial risk concentration limit, which defines how much of the Group's risk exposure can derive from financial risk. The Group Executive Committee establishes the principal risk limits for aggregate financial market and credit risk at Group level. Where required, additional risk limits are established by Risk Management for legal entities, key business lines, individual counterparties and countries. Furthermore, as part of the planning process, the risk-taking functions employ capacity limits to control the amount of risk mandated from the risk owner to the risk takers. Limits may be expressed in terms of losses in a stress scenario, value at risk based on historic market moves, linear sensitivities to a particular risk factor or different methodologies of exposure aggregation.

## Financial market risk

**Change since SST 2018: –8%**

### Risk developments

Financial market risk decreases mainly driven by significantly lower credit spread risk and to a lesser extent by lower equity risk. The decrease in credit spread and equity risk is driven by adverse market developments during 2018. The increased minority investment of MS&AD into ReAssure leads to a further reduction, in particular for credit spread risk.

### Management

Financial market risk is monitored and controlled by dedicated experts within the Group's Financial Risk Management team. Financial Risk Management regularly reports on key financial market risks and risk aggregations, as well as on specific limits for internally and externally managed investment mandates. These reports track exposures, document limit usage and provide information on key risks that could affect the portfolio. The reports are presented and discussed with those responsible for the relevant business line at the weekly Financial Market Risk Council.

The reporting process is complemented by regular risk discussions between Financial Risk Management, Asset Management and the Group's external investment managers, as well as by regular interactions with other key units that take financial market risk, such as Principal Investments and Acquisitions, Treasury and the respective business teams that write transactions.

## FINANCIAL MARKET SST RATIO SENSITIVITIES

| Impact on SST ratio | SST 2019 |
|---|---|
| Interest rates +50bps | 10pp |
| Interest rates –50bps | –12pp |
| Spreads +50bps | –7pp |
| Spreads –50bps | 8pp |
| Equity values +25% | 3pp |
| Equity values –25% | –3pp |
| Real estate values +25% | 6pp |
| Real estate values –25% | –6pp |

Among financial market sensitivities, the Group is most sensitive to a 50-basis point decrease in interest rates, leading to an estimated decrease in the SST ratio of 12 percentage points.

## CREDIT RISK STRESS TEST

| Annualised, 99.5% VaR in USD millions | SST 2019 |
|---|---|
| Credit default | 2 331 |

## Credit risk

**Change since SST 2018: +6%**

### Risk developments

Credit risk increases slightly since SST 2018 driven by business growth in credit and surety business.

### Management

Credit risk is monitored and controlled by experts within the Financial Risk Management team. Financial Risk Management regularly monitors and reports on credit exposures and limits. In addition, it is responsible for regularly monitoring corporate counterparty credit quality and exposures, and compiling watch lists of cases that merit close attention. These reports are presented and discussed with those responsible for the relevant business line at the weekly Credit Council.

The reporting process is supported by a Group-wide credit exposure information system that contains all relevant data, including counterparty details, ratings, credit risk exposures, credit limits and watch lists. Key credit practitioners across Swiss Re have access to this system, thus providing the necessary transparency to implement specific exposure management strategies for individual counterparties, industry sectors and geographic regions.

Credit risks are aggregated by country in order to monitor and control risk accumulation to specific risk drivers, such as economic, sovereign and political risks.

# Management of other significant risks

**Operational risk**

The Group has implemented an internal control system to mitigate operational risks through three lines of control. This system assigns primary responsibility for identifying and managing operational risks to individual risk takers (first line of control), with independent oversight and control by the Risk Management and Compliance functions (second line of control) as well as Group Internal Audit (third line of control). Members of the Group Executive Committee are required to certify the effectiveness of the internal control system for their area of responsibility on a quarterly basis.

Operational risk is inherent within Swiss Re's business processes. As the company does not receive an explicit financial return for such risks, the approach to managing operational risk differs from the approach applied to other risk categories. The purpose of Operational Risk Management is not to eliminate risks but rather to identify and cost-effectively mitigate operational risks that approach or exceed Swiss Re's tolerance.

Risk Management is responsible for monitoring and controlling operational risks based on a centrally coordinated methodology. This includes a pre-defined taxonomy that is used for identifying, classifying and reporting operational risks, as well as a matrix in which risks are assessed according to their estimated probability and impact. Risks are assessed for their residual economic, financial reporting, reputational and compliance impact, taking into account existing mitigation and controls.

The matrix is also used to assess residual exposures against Swiss Re's tolerance limits for operational risk. This limit represents the level of operational risk that the Board of Directors and executive management teams are willing to accept. Material risks that exceed or are approaching risk tolerance are reported to executive management and Boards of Directors at Group and legal entity level. In addition, mitigation strategies are required for all risks that are outside of operational risk limits in order to bring them within tolerance.

Cyber risk and information security are a key focus of Swiss Re's operational risk controls. The Group performs an annual cyber risk assessment to determine the current maturity of controls; this is based on internationally recognised standards defined by the Information Security Forum. The results of the assessment are shared with senior management and integrated into Swiss Re's Group-wide cybersecurity programme. This programme focuses on five key areas: security culture, critical information, technology defence, incident response and supplier governance.

All operational events and issues are recorded and managed in a central Operational Risk Management system in order to address the identified problems and avoid the recurrence of similar events. The results are reviewed by the company's CRO and reported to the management team and Board.

While techniques and technologies to turn data into risk knowledge are becoming increasingly sophisticated, Swiss Re further enhanced its organisational measures to protect privacy and safeguard data confidentiality in line with requirements of the European General Data Protection Regulation which took effect on 25 May 2018. Processes have been finetuned to meet new requirements (eg, Data Subject Rights, Data Protection Impact Assessment, Personal Data Breach Notification) with further strengthening of Swiss Re internal control system and increased awareness of expected behaviors in respect of data protection.

**Strategic risk**

Overall responsibility for managing strategic risk lies with the Group Board, which establishes Swiss Re's overall strategy. The Boards of legal entities are responsible for the strategic risk inherent in their specific strategy development and execution. Strategic risks are addressed by examining multi-year scenarios, considering the related risks, as well as monitoring the implementation of the chosen strategy year-by-year in terms of the annual business plan.

As part of their independent oversight role, Risk Management, Compliance and Group Internal Audit are responsible for controlling the risk-taking arising from the implementation of the strategy.

## Regulatory risk

Swiss Re is strongly engaged in the regulatory debate and interaction, striving to mitigate potentially negative impacts while supporting reforms that could enhance the overall health of the sector, facilitate convergence of regulatory standards or generate business opportunities.

Regulatory developments and related risks that may affect Swiss Re and its subsidiaries are identified, assessed and monitored as part of regular oversight activities. Periodic reports and recommendations on regulatory issues are provided to executive management and the Board at Group and legal entity level.

The regulatory environment of the insurance industry continues to evolve on the regional, national and international level. While some regulatory changes create new business opportunities, others come with significant costs and business restrictions. Growing regulatory complexity, increased national protectionism and a fragile global economy are persistent themes affecting regulation and the way Swiss Re operates worldwide.

While prudential regulation in most regions is developing towards more risk-sensitive and economic-based capital regimes, regulatory fragmentation is increasing. Regulators show declining appetite for globally aligned policy reforms. Local capitalisation rules often fail to fully recognise the benefits of risk mitigation and diversification. In addition, there are moves to limit the use of internal models influenced by post-crisis banking regulation. Swiss Re strongly supports the use of internal models, full recognition of risk mitigation and diversification, appropriate consideration of counterparty default and concentration risk, and efficient application of eligible capital instruments. Uncoordinated regulatory approaches will be less effective in promoting financial stability and could undermine re/insurers' ability to support economic activity and closing the protection gap.

Technology regulation is increasing in importance. While this is mainly targeted at technology companies, it also has a significant effect on insurers and reinsurers where it concerns access to and usability of data. Insurance regulators have also to examine the use of data. If efforts at data regulation are not coordinated between jurisdictions, they could impact Swiss Re's future use of data-linked technologies on a global basis.

Swiss Re continues to advocate for the removal or reduction of market access barriers, so that policyholders, governments, taxpayers and national economies can fully benefit from international diversification and therefore reliable, quality and affordable risk cover.

## Political risk

Political developments can threaten Swiss Re's operating model but also open up opportunities for developing the business. The Group adopts a holistic view of political risk and analyses developments in individual markets and jurisdictions, as well as cross-border issues such as war, terrorism, energy-related issues and international trade controls.

A dedicated Political Risk team identifies, assesses and monitors political developments world-wide. Swiss Re's political risk experts exercise oversight and control functions for named political risks, such as in the political risk insurance business; this includes monitoring political risk exposures, providing recommendations on particular transaction referrals and risk reporting. In addition, the Political Risk team provides specific country ratings that cover political, economic and security-related country risks; these ratings complement sovereign credit ratings and are used to support risk control activities and inform underwriting or other decision-making processes throughout the Group.

Swiss Re seeks to raise awareness of political risk within the insurance industry and the broader public, and actively engages in dialogue with clients, media and other stakeholders. The Group also builds relationships that expand the company's access to information and intelligence, and allow Swiss Re to further enhance its methodologies and standards. For example, Swiss Re participates in specialist events hosted by institutions such as the International Institute of Strategic Studies, the Geneva Center for Security Policy, or the Risk Management Association, and maintains relationships with political risk specialists in other industries, think tanks and universities, as well as with governmental and non-governmental organisations.

The ultimate outcome of Brexit and the relationship between the EU and the UK remain unclear. Swiss Re operates in the UK through the UK branches of Swiss Re's Luxembourg entities and some UK-domiciled entities. Swiss Re is actively engaging with the relevant UK and EEA regulators to ensure minimum disruption from Brexit and has actioned contingency plans to mitigate the risk of any adverse impacts on Swiss Re's businesses or the ability to service clients and customers as a result of Brexit.

## Model risk

Swiss Re uses models throughout its business processes and operations, in particular to price insurance products, value financial assets and liabilities, assess reserves and portfolio cash flows, and estimate risk and capital requirements. Model owners have primary responsibility for model-related risks and are required to adhere to a robust tool development process, including testing, peer review, documentation and sign-off. A similar process also applies to model maintenance.

Swiss Re's model governance is based on Group-wide standards for model assurance. These standards seek to ensure that each material model has a clear scope, is based on sound mathematical and scientific concepts, has been implemented correctly and produces appropriate results given the stated purpose. Furthermore, the calibration of model parameters (and the data on which calibration relies) must be trustworthy, while expert judgments are required to be sensible, documented and evidenced.

Analytical or financial models that are used for costing, valuation and risk capital calculations are governed by Swiss Re's Model and Tool Assurance Framework. This requires the appropriateness of models to be assessed in an independent end-to-end validation process that includes specification, algorithms, calibration, implementation, results and testing. Material models used for costing, valuation of reserves and assets as well as Swiss Re's internal risk model are validated by dedicated teams within Risk Management. These teams provide independent assurance that the framework has been adhered to, and also conduct independent validations. Swiss Re's risk model is also subject to regulatory scrutiny.

Model-related incidents are captured within Swiss Re's operational risk framework. In addition, material model developments, incidents and risks are reported in regular risk updates to executive management and the Board at Group and legal entity level.

Swiss Re works closely with industry peers to develop and share best practices for assessing and managing model-related risks. In this context, Swiss Re is actively participating in a CRO Forum working group that provides a platform for such exchanges and are working on frameworks for model risk.

## Valuation risk

Financial valuation risk is managed by a dedicated team within Financial Risk Management. The team performs independent price verification for financial risk positions to confirm that valuations are reasonable and ensure there are no material misstatements of fair value in Swiss Re's financial reports. The results of the independent price verification process are reviewed by the Asset Valuation Committee. Summary results are regularly reported to executive management and the Board at Group and legal entity level. In addition, Swiss Re's external auditor conducts quarterly reviews as well as a comprehensive year-end audit of controls, methodology and results.

Reserve valuation risk is managed by Swiss Re's Actuarial Control function, with dedicated teams for property and casualty, and life and health valuation. These teams ensure that Swiss Re's reserve setting process uses an appropriate governance framework, including defined accountabilities and decision-making processes for risk takers (as the first line of control) as well as for Actuarial Control. The framework ensures that there is independent assurance on the data, assumptions, models and processes used for valuation purposes; for all property and casualty business and selected life and health portfolios, it also includes an independent valuation of coverage provided to ensure that reserves are within an adequate range. Regular deep-dive investigations are performed into selected portfolios in order to review the appropriateness of both the reserves and the applied reserving approach.

## Sustainability risk

Swiss Re's continued business success depends on the successful management of sustainability risks, thus helping to maintain the trust of its stakeholders. The Group has a long-standing commitment to sustainable business practices, active corporate citizenship, as well as good, transparent governance. All employees are required to commit to and comply with Swiss Re's values and sustainability policies.

Potential sustainability risks are mitigated through clear corporate values, active dialogue and engagement with affected external stakeholders, and robust internal controls. These include a Group-wide Sustainability Risk Framework to identify and address sustainability risks across Swiss Re's business activities. The framework comprises sustainability-related policies – with pre-defined exclusions, underwriting criteria and quality standards – as well as a central due diligence process for related transactional risks.

Sustainability risks are monitored and managed by dedicated experts in Swiss Re's Group Sustainability Risk team, which is also responsible for maintaining the Sustainability Risk Framework. In addition, this unit supports Swiss Re's risk management and business strategy through tailored risk assessments and risk portfolio reviews. It fosters risk awareness through internal training, and facilitates development of innovative solutions to address sustainability issues. Finally, it represents and advocates Swiss Re's position on selected sustainability risk topics to external stakeholders.

Swiss Re is a founding signatory to the UN Principles for Sustainable Insurance (UN PSI) and is currently a board member of this initiative. The UN PSI provide a global framework for managing environmental, social and governance challenges. Swiss Re has been actively contributing to the initiative for several years, co-chaired it from 2013 to 2015 and publicly reports progress against the principles in its annual Corporate Responsibility Report; the 2018 edition has been published together with the 2018 Financial Report.

Swiss Re is currently developing a carbon risk steering mechanism that will help to guide the Group's business towards a low-carbon world and support Swiss Re's clients in their transition. In July 2018, Swiss Re launched a first element of the carbon steering mechanism in the form of a new thermal coal policy. The new policy is part of Swiss Re's Sustainability Risk Framework and applies across all lines of direct, facultative and treaty business.

Reflecting the Group's strong overall commitment to corporate responsibility, Swiss Re continued to be included in leading sustainability indexes and rankings such as FTSE4Good, Euronext Vigeo World 120, Ethibel Excellence Global, oekom Prime Investment and the Dow Jones Sustainability Index. For more information on Swiss Re's sustainability practices, see also the Corporate Responsibility section on page 174 as well as Swiss Re's 2018 Corporate Responsibility Report.

**Emerging risk**

Anticipating possible developments in the risk landscape is a central element of Enterprise Risk Management. Swiss Re promotes pre-emptive thinking on risk in all areas of the business in order to reduce uncertainty and diminish the volatility of the Group's results, while also identifying new business opportunities and raising awareness for emerging risks.

For this purpose, Swiss Re's risk identification processes are supported by a systematic framework that identifies, assesses and monitors emerging risks and opportunities across all areas of Swiss Re's risk landscape. This framework combines a bottom-up approach driven by employee input with central and regional experts on emerging risk. The resulting information is complemented with insights from external organisations such as think tanks, academic networks and international organisations, as well as from interaction with clients.

Findings are reported to management and internal stakeholders, including a prioritised overview of newly identified emerging risks and an estimate of their potential impact on Swiss Re's business. Swiss Re also publishes an annual emerging risk report (Swiss Re SONAR) to raise awareness within the Group and across the industry, and initiate a risk dialogue with key external stakeholders.

To further advance risk awareness across the industry and beyond, Swiss Re continues to participate actively in strategic risk initiatives such as the CRO Forum's Emerging Risk Initiative and the International Risk Governance Council.

Find more information about Swiss Re's Emerging Risk Management activities in the interactive online report.

# Our governance standards and procedures apply throughout the Swiss Re Group.

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# Overview

Corporate governance continues to evolve towards increased transparency and accountability of companies to stakeholders.

**Walter B. Kielholz**
Chairman of the Board of Directors

"We are in a constant dialogue with our shareholders and incorporate their valuable feedback into our governance framework."

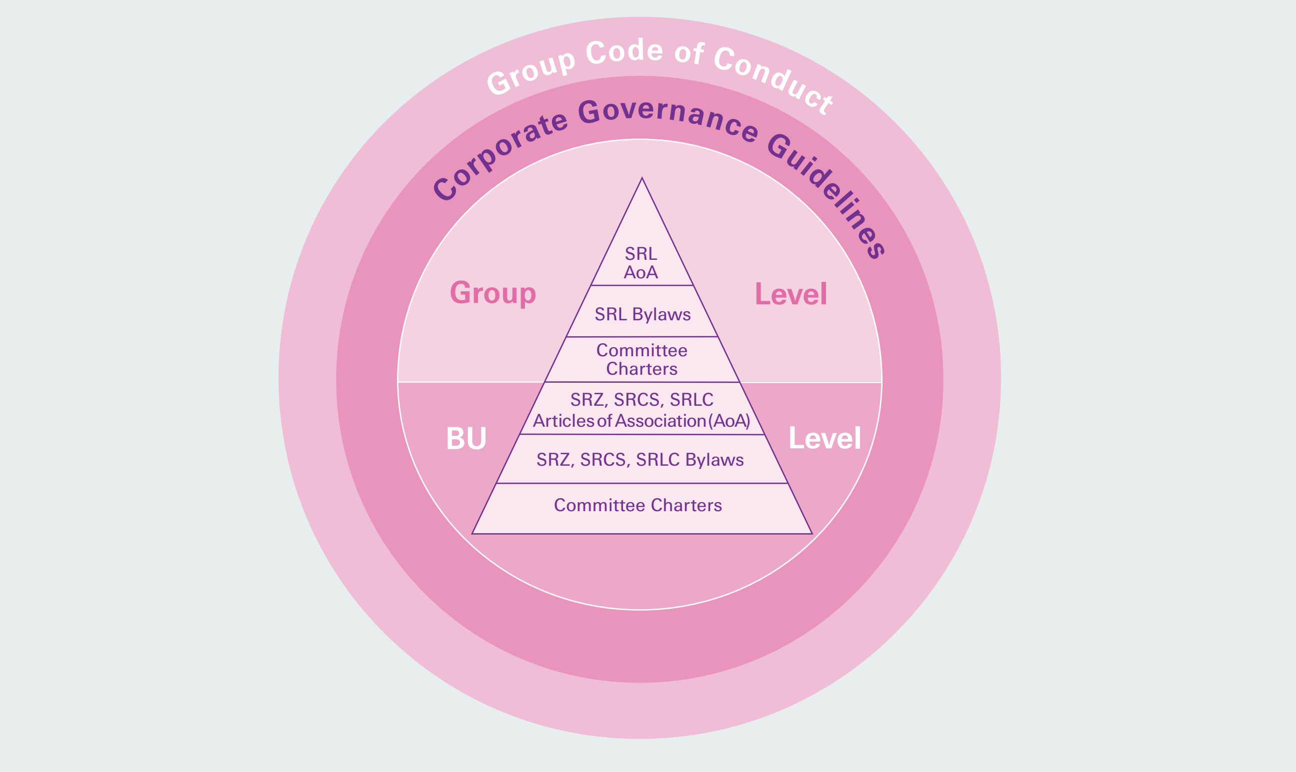
Our Board of Directors closely monitors corporate governance developments globally, with a particular focus on trends in Switzerland, the United States and the European Union. Institutional investors in particular are increasingly focused on greater transparency and greater accountability to shareholders on a broad range of corporate governance issues. Expectations of boards are shifting considerably, with the clearest example being the increased demands of shareholders for more meaningful and more frequent engagement with management and boards of directors. A key trend in engagement efforts is in the area of ESG – environmental, social and governance – matters.

Our Board of Directors is in a regular dialogue with our shareholders and welcomes their valuable feedback on our governance framework.

**INFORMATION ON COMPENSATION**

Information on compensation, shareholdings and loans of the members of the Board of Directors and the Group Executive Committee (Group EC) are included in the Compensation Report beginning on page 142 of this Financial Report.

## SWISS RE'S GOVERNANCE DOCUMENTS




### Swiss Re's corporate governance framework

Swiss Re Ltd's Board of Directors is responsible for oversight, while the Group EC is responsible for managing operations. This structure maintains effective mutual checks and balances between these top corporate bodies. Our corporate governance principles and procedures are defined in several documents governing the oversight, organisation and management of the company. These include at the Group level:

- The Group Code of Conduct, outlining our compliance framework and setting out the basic ethical and legal principles and policies we apply globally
- The Corporate Governance Guidelines (Guidelines), setting forth the Group's governance framework, principles, processes and requirements, ensuring consistent and fitted corporate governance across the Group
- The Articles of Association of Swiss Re Ltd (SRL), defining the legal and organisational framework of the Group's holding company SRL, (available at https://media.swissre.com/documents/SRL_articles_of_association_en_july2018.pdf)
- The SRL Bylaws, defining the governance framework of SRL and the Group, including the responsibilities and authorities of the Board of Directors, Chairman, Vice Chairman, Lead Independent Director, Board committees, Group EC, Group CEO and other individual Group EC members, including the Regional Presidents, as well as the relevant reporting procedures
- The Board Committee Charters, outlining the duties and responsibilities of the Board committees

In addition, they include at the Business Unit level:

- The Articles of Association of Swiss Reinsurance Company Ltd (SRZ), Swiss Re Corporate Solutions Ltd (SRCS) and Swiss Re Life Capital Ltd (SRLC), defining the legal and organisational framework of the Business Unit (BU) top-level companies SRZ, SRCS and SRLC
- The SRZ, SRCS, SRLC Bylaws, defining the governance framework of the legal entities SRZ, SRCS and SRLC, their interactions with the respective BU Reinsurance, Corporate Solutions and Life Capital from a functional responsibility point of view, including the responsibilities and authorities of the SRZ, SRCS and SRLC Boards of Directors, the SRZ, SRCS and SRLC Board Committees and the SRZ, SRCS and SRLC Executive Committees, as well as the relevant reporting procedures
- The Board Committee Charters, outlining the duties and responsibilities of the SRZ, SRCS and SRLC Board Committees

## 2018 KEY FOCUS AREAS

### Swiss Re Summit

On 19 June 2018, we held the Swiss Re Summit in Armonk, New York, where we brought together the members of the Boards of Directors of the ten most important Group companies. They were joined by the members of the Executive Committees of SRL as well as SRZ, SRCS and SRLC. The purposes of the Summit were to provide a dialogue platform for the Board members of the various Group companies and to hold practical training sessions on current trends: The Group CEO provided the participants with an update on the Group Strategy. They also received practical insights related to cyber risks and completed a cyber resilience exercise. The Summit was followed by an Audit Summit, where the members of the Group Audit Committee met with the members of the Audit Committees of the ten most important Group companies. The participants were introduced to the new Group CFO and discussed important large ongoing projects as well as Compliance and Internal and External Audit topics.

### Subsidiary boards

Swiss Re's Corporate Governance Guidelines outline qualifications and skills required for the members of the Boards of Directors of the Group's subsidiaries. They also establish procedures for the appointment and onboarding of Board and management members across the Group. In order to ensure an aligned implementation of the Group's Strategy across the Group, the Boards of the most important Group companies are also comprised of individual SRL Board and Group EC members. The Boards also include non-executive members to comply with local requirements.

An example is Swiss Re Asia Pte. Ltd. (Swiss Re Asia). Effective 31 January 2018, Swiss Re strengthened its presence in Asia with the establishment of Swiss Re Asia, its headquarters for Asia. The Board of Directors of Swiss Re Asia includes four members of the Group EC as well as six external directors, who provide Swiss Re Asia with external perspectives and identify emerging trends that have the potential to affect Swiss Re's business across the region. The composition of the Board of Directors ensures that the Asia-wide expertise of external Board members complements the global reinsurance experience of the members from Swiss Re's Group EC.

### Enhanced Group Sustainability Strategy

Swiss Re has formulated an enhanced Group Sustainability Strategy. This supports Swiss Re in maintaining its position as a leading re/insurer, being a responsible company and achieving a long-term competitive advantage. The Group Sustainability Strategy links Swiss Re's vision to the Sustainability Mission, its Ambitions, Strategic Pillars and Fundamentals:

- Our Sustainability Mission: We insure, invest and share our knowledge to tackle sustainability challenges and create long-term value.
- Our 2030 Sustainability Ambitions:
  1. Mitigating climate risk and advancing the energy transition
  2. Building societal resilience
  3. Driving digital insurance solutions
- The three supporting Strategic Pillars:
  - (i) Embed sustainability in all our business activities
  - (ii) Lead sustainability-linked solutions and embrace opportunities
  - (iii) Quantify sustainability performance and impact

## SWISS RE'S CORPORATE GOVERNANCE ADHERES TO

- the SIX Swiss Exchange's Directive on Information Relating to Corporate Governance (including its annex) of May 2018;
- the principles of the Swiss Code of Best Practice for Corporate Governance (Swiss Code) of September 2014, issued by economiesuisse, the Swiss business federation; and
- the Swiss Financial Market Supervisory Authority FINMA provisions on corporate governance, risk management and internal control system at insurers.

Swiss Re's corporate governance furthermore complies with applicable local rules and regulations in all jurisdictions where it conducts business.

## Network for Innovative Corporate Governance

**Swiss Re and the University of St.Gallen (HSG) have entered into a strategic research cooperation**

The Network's purpose is to integrally develop corporate governance from a theoretical as well as practical perspective. Swiss Re will contribute to the development of a modern corporate governance responding to various stakeholder interests. The Network provides companies with solutions for the implementation of its insights. This Network is under the leadership of Professor Dr Michèle Sutter-Rüdisser (HSG) and Dr Felix Horber, Company Secretary of Swiss Re Ltd.

## Board of Directors

**Composition**

- Karen Gavan, Eileen Rominger and Larry Zimpleman were elected as new members to the Board of Directors by the shareholders at the Annual General Meeting, which took place in Zurich on 20 April 2018.
- Mary Francis, Rajna Gibson Brandon and C. Robert Henrikson did not stand for re-election.
- The Annual General Meeting 2018 re-elected Walter B. Kielholz for a further one-year term of office as Chairman of the Board of Directors.
- Renato Fassbind, Raymond K.F. Ch'ien, Trevor Manuel, Jay Ralph, Joerg Reinhardt, Philip K. Ryan, Sir Paul Tucker, Jacques de Vaucleroy and Susan L. Wagner were individually re-elected by the Annual General Meeting 2018 for a further one-year term of office as members of the Board of Directors.
- The Annual General Meeting 2018 re-elected Renato Fassbind, Raymond K.F. Ch'ien and Joerg Reinhardt as members, and elected Jacques de Vaucleroy as a new member of the Compensation Committee for a one-year term of office.

## Group EC

**Composition 2018**

- John R. Dacey, previously Group Chief Strategy Officer, became Group Chief Financial Officer as of 1 April 2018, succeeding David Cole, who had decided to step down as Group Chief Financial Officer. With that change, the two roles of Group Chief Financial Officer and Group Chief Strategy Officer were merged.
- Russell Higginbotham was appointed CEO Reinsurance EMEA and Regional President EMEA and a member of the Group EC effective 1 September 2018. Russell succeeded Jean-Jacques Henchoz, who had decided to pursue an opportunity outside Swiss Re.
- Since 1 April 2018, the Group EC consists of 12 members (prior to that it had 13 members).

**Announced composition changes in 2019**

- Anette Bronder (previously a member of the Management Board at T-Systems International) was appointed Group Chief Operating Officer and a member of the Group EC with effect from 1 July 2019, succeeding Thomas Wellauer, who will retire on 30 June 2019.
- Andreas Berger (former Chief Regions & Markets Officer and member of the Board of Management of Allianz Global Corporate & Specialty SE) was appointed CEO Corporate Solutions and a member of the Group EC with effect from 1 March 2019. He succeeds Agostino Galvagni, who had decided to step down as CEO Corporate Solutions at the end of 2018.

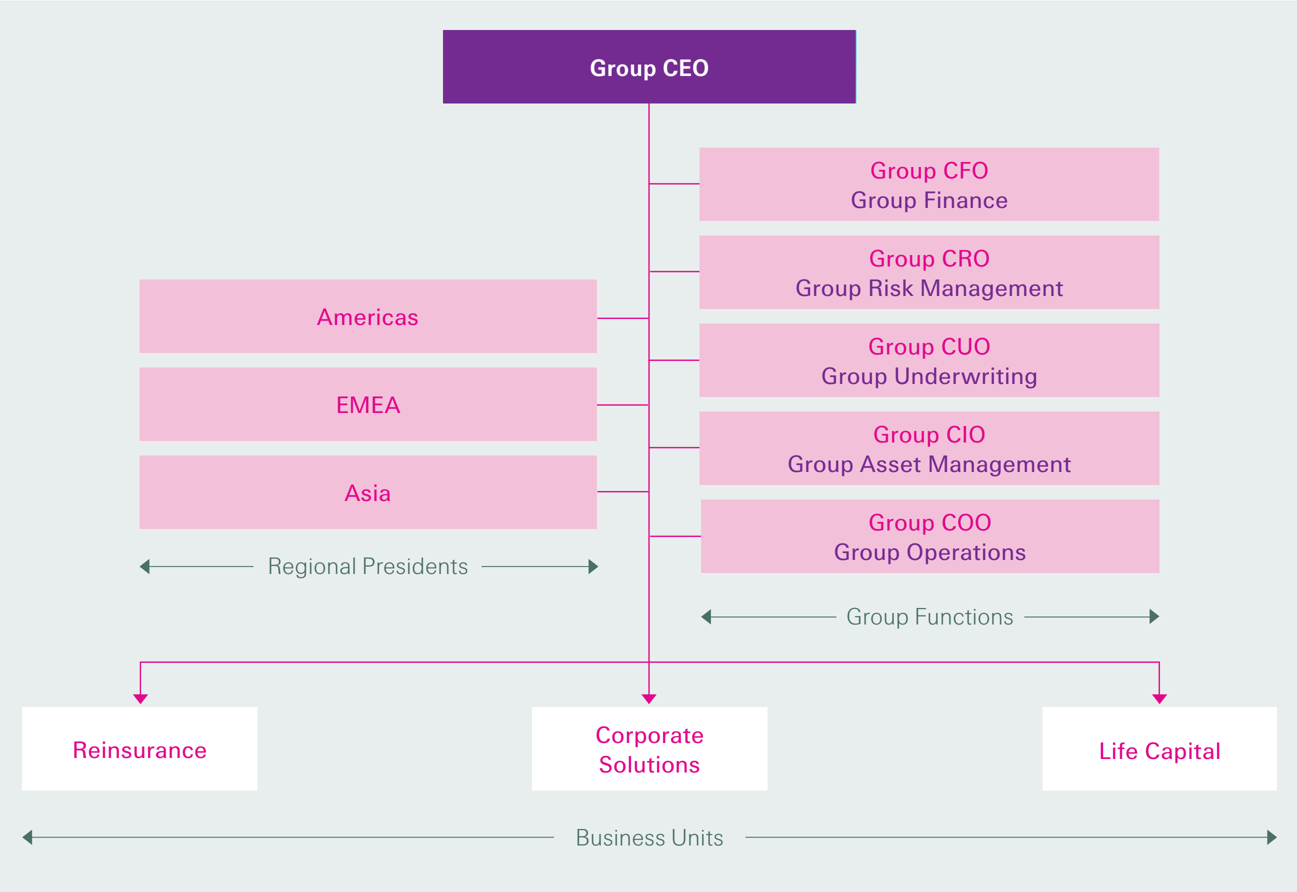
**Regional Presidents**

The Regional Presidents for the areas Americas, Asia and EMEA are responsible for representing the Swiss Re Group externally and internally, as well as enhancing our brand and safeguarding Swiss Re's reputation in the regions for which they are responsible. They also oversee the Group's operating platform and coordinate activities across the three Business Units in their region. The Regional Presidents' responsibilities are governed in the SRL Bylaws as well as in the Regional Presidents' Charter. The Charter has been revised in 2018 to simplify processes and implement changes based on gained experience.

For more information please visit:
www.swissre.com/about-us/corporate-governance.html

# Group structure and shareholders

OPERATIONAL GROUP STRUCTURE




**Legal structure — listed and non-listed Group companies**

Swiss Re Ltd, the Group's holding company, is a joint stock company, listed in accordance with the International Reporting Standard on SIX Swiss Exchange (ISIN CH0126881561), domiciled at Mythenquai 50/60 in 8022 Zurich, and organised under the laws of Switzerland.

Information on its market capitalisation is provided on page 53 of this Financial Report. No other Group companies have shares listed. More information on the Group companies is provided in Note 19 to the Group financial statements on pages 290–292.

Swiss Re Ltd has a level I American Depositary Receipts (ADR) programme in the US. The ADR are traded over the counter (OTC) (ISIN US8708861088, OTC symbol SSREY). One Swiss Re Ltd share equals four ADR. Neither the ADR nor the underlying Swiss Re Ltd shares are listed on a securities exchange in the US. Shares represented by ADR for which no specific voting instructions are received by the depositary from the holder will not be voted.

**Significant shareholders and shareholder structure**

Under the Financial Markets Infrastructure Act (FMIA), anyone holding shares in a company listed on SIX Swiss Exchange is required to notify the company and SIX Swiss Exchange if its direct or indirect holding reaches, falls below or exceeds the following thresholds: 3%, 5%, 10%, 15%, 20%, 25%, 33⅓%, 50% or 66⅔% of the voting rights pursuant to the entry into the commercial register, whether or not the voting rights can be exercised.* Notifications must also include financial instruments, regardless of whether cash or physically settled, constituting a purchase or a sale position. Upon receipt of such notifications, the company is required to inform the public by publishing within two trading days the notification on the electronic platform of SIX Swiss Exchange.

The following table provides a summary of the disclosure notifications of major shareholders holding more than 3% of the voting rights:

**SIGNIFICANT SHAREHOLDERS**

| Shareholder[1] | Number of shares | % of voting rights and share capital | Creation of the obligation to notify |
|---|---|---|---|
| BlackRock, Inc. | 17 037 445[2] | 5.03 | 27 December 2018 |

[1] In the context of the issuance of USD 500 000 000 exchangeable notes due 2024 by Swiss Re Ltd with issuer stock settlement, ELM B.V., Amsterdam, Netherlands, (the repackaging vehicle used for the issuance of these notes), notified Swiss Re Ltd, in compliance with Article 120 of the Financial Markets Infrastructure Act (FMIA), that as of 13 June 2018 it holds a purchase position in the amount of 3.20% of the voting rights in Swiss Re Ltd.

[2] In compliance with Article 120 of the Financial Markets Infrastructure Act (FMIA), BlackRock, Inc., New York, USA (BlackRock), notified Swiss Re Ltd (Swiss Re) on 28 December 2018 following an acquisition of collateral (acquisition and share position obligation) that it holds as of 27 December 2018 a total of 17 037 445 voting rights corresponding to 5.03% of the voting rights in Swiss Re. With recommendation of the Disclosure Office dated 15 July 2016, BlackRock was granted easing provisions from the obligation to disclose the direct shareholders according to Article 120(1) FMIA in conjunction with Article 11b and Article 22(1e) and (3) FMIO-FINMA when disclosing holdings according to Article 18(1) and (4) FMIO-FINMA. However, collective investment schemes within the meaning of Article 18(2a) FMIO-FINMA that hold individually 3% or more of the voting rights of the relevant issuer will be mentioned in the relevant disclosure notification. Any person shall, at his/her request and without prove of interest, receive information about the direct shareholders within the meaning of Article 11b and Article 22(1e) and (3) FMIO-FINMA. Such request has to be addressed via email to the Disclosure Office: offenlegung@six-group.com. The information will be provided within five trading days from receipt of the relevant request by BlackRock. The information will be provided in electronic format with a reference date not older than one month. The easing provisions are granted until 15 July 2019. The 17 037 445 voting rights result from (i) the holding of 14 231 033 registered shares of Swiss Re (corresponding to 4.20% of the voting rights), of which 387 711 voting rights (corresponding to 0.11% of the voting rights) are due to repos (on the purchaser side) and/or collateral received with the title transfer (non-repo), (ii) 2 743 998 voting rights (corresponding to 0.81% of the voting rights) delegated by a third party and which can be exercised at BlackRock's own discretion and (iii) contracts for difference and one equity-linked note (with expiry date of 6 February 2019) conferring a total of 62 414 voting rights (corresponding to 0.02% of the voting rights) in Swiss Re. In addition, BlackRock disclosed sales positions arising from contracts for difference amounting to 224 474 voting rights, corresponding to 0.07% of the voting rights in Swiss Re.

In addition, Swiss Re Ltd and Swiss Reinsurance Company Ltd held, as of 31 December 2018, directly and indirectly, 38 575 324 shares, which includes 10 050 442 shares repurchased under the public share buy-back programme Swiss Re Ltd launched on 7 May 2018. This represents 11.4% of voting rights and share capital. The public share buy-back programme was completed on 15 February 2019. Neither Swiss Re Ltd nor the Group companies can exercise the voting rights of these shares. All notifications received in 2018 are published at www.swissre.com/investors/shares/disclosure_of_shareholdings/

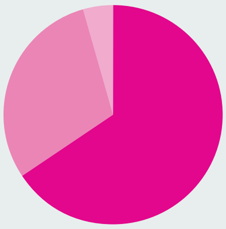
For further details on the share buy-back programmes please visit: www.swissre.com/investors/shares/share_buyback/

*According to Article 120(1) FMIA, anyone who directly or indirectly or acting in concert with third parties acquires or disposes shares or acquisition or sale rights relating to shares of a company with its registered office in Switzerland whose equity securities are listed in whole or in part in Switzerland, or of a company with its registered office abroad whose equity securities are mainly listed in whole or in part in Switzerland, and thereby reaches, falls below or exceeds the thresholds of 3%, 5%, 10%, 15%, 20%, 25%, 33⅓%, 50% or 66⅔% of the voting rights, whether exercisable or not, must notify this to the company and to the stock exchanges on which the equity securities are listed. According to Article 120(3) FMIA, anyone who has the discretionary power to exercise the voting rights associated with equity securities in accordance with Article 120(1) FMIA is also subject to the notification. The person or group is obliged to make a notification in writing to the company (issuer) and the stock exchange no later than four trading days after the creation of the obligation to notify (conclusion of a contract).

## REGISTERED SHAREHOLDINGS BY TYPE

As of 31 December 2018

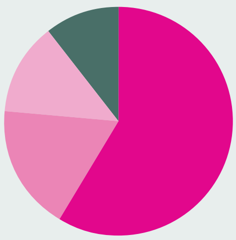
- 65.7% Institutional shareholders
- 29.9% Individual shareholders
- 4.4% Swiss Re employees



## REGISTERED SHAREHOLDINGS BY COUNTRY

As of 31 December 2018

- 58.7% Switzerland
- 17.9% United Kingdom
- 12.9% USA
- 10.5% Other registered shareholders



## SHAREHOLDER STRUCTURE

### Registered — unregistered shares

| As of 31 December 2018 | Shares | in % |
|---|---|---|
| Registered shares[1] | 175 680 523 | 51.9 |
| Unregistered shares[1] | 124 363 618 | 36.7 |
| Shares held by Swiss Re | 28 524 882 | 8.4 |
| Share buy-back programme | 10 050 442 | 3.0 |
| **Total shares issued** | **338 619 465** | **100.0** |

[1] Without Swiss Re's holdings.

### Registered shares with voting rights by shareholder type

| As of 31 December 2018 | Shareholders | in % | Shares | in % |
|---|---|---|---|---|
| Individual shareholders | 78 343 | 87.8 | 52 537 878 | 29.9 |
| Swiss Re employees | 6 864 | 7.7 | 7 663 333 | 4.4 |
| **Total individual shareholders** | **85 207** | **95.5** | **60 201 211** | **34.3** |
| **Institutional shareholders** | **4 017** | **4.5** | **115 479 312** | **65.7** |
| **Total** | **89 224** | **100.0** | **175 680 523** | **100.0** |

### Registered shares with voting rights by country

| As of 31 December 2018 | Shareholders | in % | Shares | in % |
|---|---|---|---|---|
| Switzerland | 76 941 | 86.2 | 103 088 947 | 58.7 |
| United Kingdom | 1 463 | 1.6 | 31 366 390 | 17.9 |
| USA | 1 464 | 1.6 | 22 693 849 | 12.9 |
| Other | 9 356 | 10.6 | 18 531 337 | 10.5 |
| **Total** | **89 224** | **100.0** | **175 680 523** | **100.0** |

### Registered shares with voting rights by size of holding

| As of 31 December 2018 | Shareholders | in % | Shares | in % |
|---|---|---|---|---|
| Holdings of 1–2 000 shares | 83 123 | 93.2 | 31 362 696 | 17.8 |
| Holdings of 2 001–200 000 shares | 6 017 | 6.7 | 55 615 847 | 31.7 |
| Holdings of > 200 000 shares | 84 | 0.1 | 88 701 980 | 50.5 |
| **Total** | **89 224** | **100.0** | **175 680 523** | **100.0** |

### Cross-shareholdings

Swiss Re has no cross-shareholdings in excess of 5% of capital or voting rights with any other company.

## MORE INFORMATION

More information on the Swiss Re shares, such as the price performance and trading volume in 2018, Swiss Re's dividend policy and dividends, the share buy-back programme and an overview on the key share statistics since 2014, is included in the section "Share performance" on pages 52–53 of this Financial Report.

# Capital structure

## Capital

As a result of the cancellation of shares repurchased under the share buy-back programme which was completed on 16 February 2018, the fully paid-in share capital of Swiss Re Ltd as of 31 December 2018 amounted to CHF 33 861 946.50. It is divided into 338 619 465 registered shares, each with a par value of CHF 0.10.

The table on page 108 of this Financial Report provides an overview of the issued, conditional and authorised capital of Swiss Re Ltd as of 31 December 2018 and 31 December 2017, respectively.

More information is provided in the sections "Conditional and authorised capital in particular" below and "Changes in capital" on page 108 of this Financial Report.

## Conditional and authorised capital in particular

### Conditional capital

As of 31 December 2018, the conditional capital of Swiss Re Ltd consisted of the following:

### Conditional capital for Equity-Linked Financing Instruments

The share capital of the company may be increased up to CHF 5 000 000 by issuing a maximum of 50 000 000 registered shares, payable in full, each with a nominal value of CHF 0.10.

Such shares are issued through the voluntary or mandatory exercise of conversion and/or option rights granted by the company or Group companies in connection with bonds or similar instruments, including loans or other financial instruments (Equity-Linked Financing Instruments).

Existing shareholders' subscription rights are excluded. The then current holders of the conversion and/or option rights granted in connection with Equity-Linked Financing Instruments shall be entitled to subscribe for the new registered shares. Subject to the Articles of Association, the Board of Directors may decide to restrict or exclude existing shareholders' advance subscription rights with regard to these Equity-Linked Financing Instruments. Such a decision may be made in order to issue Equity-Linked Financing Instruments on national and/or international capital markets or by way of private placements in connection with (i) mergers, acquisitions (including takeover) of companies, parts of companies, equity stakes (participations) or new investments planned by the company and/or Group companies, financing or re-financing of such mergers, acquisitions or new investments, or (ii) improving the regulatory capital position of the company or Group companies.

If advance subscription rights are excluded, then (i) the Equity-Linked Financing Instruments are to be placed at market conditions, (ii) the exercise period is not to exceed ten (10) years for option rights and thirty (30) years for conversion rights, and (iii) the conversion or exercise price or the calculation methodology for such price of the new registered shares is to be set in line with the market conditions and practice prevailing at the date on which the Equity-Linked Financing Instruments are issued or converted into new registered shares.

The acquisition of registered shares through the exercise of conversion or option rights and any further transfers of registered shares shall be subject to the restrictions specified in the Articles of Association.

### Authorised capital

As of 31 December 2018, the authorised capital of Swiss Re Ltd was as presented in the table on page 108.

According to the Articles of Association, the Board of Directors is authorised to increase the share capital of the company at any time up to 21 April 2019 by an amount not exceeding CHF 8 500 000 through the issue of up to 85 000 000 registered shares, payable in full, each with a nominal value of CHF 0.10. Increases by underwriting as well as partial increases are permitted. The Board of Directors determines the date of issue, the issue price, the type of contribution and any possible acquisition of assets, the date of dividend entitlement as well as the expiry or allocation of non-exercised subscription rights.

The subscription rights of existing shareholders may not be excluded with respect to a maximum of CHF 5 000 000 through the issue of up to 50 000 000 registered shares, payable in full, each with a nominal value of CHF 0.10, out of the total amount of authorised capital.

The Board of Directors may exclude or restrict the subscription rights of existing shareholders with respect to a maximum of CHF 3 500 000 through the issue of up to 35 000 000 registered shares, payable in full, each with a nominal value of CHF 0.10, out of the total amount of authorised capital. Such exclusion or restriction relates to the use of shares in connection with (i) mergers, acquisitions (including takeover) of companies, parts of companies or holdings, equity stakes (participations) or new investments planned by the company and/or Group companies, financing or re-financing of such mergers, acquisitions or new investments, the conversion of loans, securities or equity securities, and/or (ii) improving the regulatory capital position of the company or Group companies in a fast and expeditious manner if the Board of Directors deems it appropriate or prudent to do so (including by way of private placements).

The subscription and acquisition of the new registered shares, as well as each subsequent transfer of registered shares, shall be subject to the restrictions specified in the Articles of Association.

### Joint provision for conditional capital for Equity-Linked Financing Instruments and for the above-mentioned authorised capital

The total of registered shares issued from (i) authorised capital, where the existing shareholders' subscription rights were excluded and (ii) shares issued from conditional capital, where the existing shareholders' advance subscription rights on the Equity-Linked Financing Instruments were excluded, may not exceed 70 000 000 registered shares up to 21 April 2019.

## Changes in capital

### Changes in 2018

The Annual General Meeting 2018 approved the reduction of the ordinary share capital by CHF 1 083 281.60 from CHF 34 945 228.10 to CHF 33 861 946.50 by cancelling 10 832 816 shares with a nominal value of CHF 0.10 repurchased by Swiss Re Ltd on a second trading line on SIX Swiss Exchange, via Cantonal Bank of Zurich as agent. The 10 832 816 shares were repurchased under the share buy-back programme lasting from 3 November 2017 until 16 February 2018. The purchase value of the repurchased own shares corresponded to CHF 999 999 975.78.

The reduction of the ordinary share capital could only take place after the required three notices to creditors had been published in the Swiss Gazette of Commerce (*Schweizerisches Handelsamtsblatt*) as stipulated in Article 733 of the Swiss Code of Obligations. The reduction of the ordinary share capital approved by the Annual General Meeting on 20 April 2018 was published in the Swiss Gazette of Commerce on 24 July 2018.

On 20 April 2018 the Annual General Meeting authorised the Board of Directors to repurchase up to a maximum of CHF 1 billion purchase value of Swiss Re Ltd's own shares prior to the Annual General Meeting 2019 by way of a buy-back programme for cancellation purposes. The programme was launched on 7 May 2018 and completed on 15 February 2019. The purchase value of the repurchased own shares corresponded to CHF 999 999 983.08.

For further details on the share buy-back programmes, please visit: www.swissre.com/investors/shares/share_buyback/

### Changes in 2017

The Annual General Meeting 2017 approved the reduction of the ordinary share capital by CHF 1 062 028.00 from CHF 36 007 256.10 to CHF 34 945 228.10 by cancelling 10 620 280 shares with a nominal value of CHF 0.10 repurchased by Swiss Re Ltd on a second trading line on SIX Swiss Exchange, via Cantonal Bank of Zurich as agent. The 10 620 280 shares were repurchased under the share buy-back programme lasting from 4 November 2016 until 9 February 2017. The purchase value of the repurchased own shares corresponded to CHF 999 999 942.06.

The reduction of the ordinary share capital could only take place after the required three notices to creditors had been published in the Swiss Gazette of Commerce as stipulated in Article 733 of the Swiss Code of Obligations. The reduction of the ordinary share capital approved by the Annual General Meeting on 21 April 2017 was published in the Swiss Gazette of Commerce on 25 July 2017.

On 21 April 2017 the Annual General Meeting authorised the Board of Directors to repurchase up to a maximum of CHF 1 billion purchase value of Swiss Re Ltd's own shares prior to the Annual General Meeting 2018 by way of a buy-back programme for cancellation purposes. The programme was launched on 3 November 2017 and completed on 16 February 2018. The purchase value of the repurchased own shares corresponded to CHF 999 999 975.78.

For further details on the share buy-back programmes, please visit: www.swissre.com/investors/shares/share_buyback/

The Annual General Meeting 2017 approved that the authority to issue registered shares from authorised capital as set forth in the Articles of Association be renewed to 21 April 2019. It approved that the limitation included in the provisions of the Articles of Association to issue registered shares from authorised capital where the existing shareholders' subscription rights are excluded and to issue registered shares from conditional capital where the existing shareholders' advance subscription rights on the Equity-Linked Financing Instruments are excluded be extended to 21 April 2019. The Annual General Meeting 2017 approved that the maximum number of registered shares that may be issued according to the above limitation be set at 70 000 000 from previously 74 000 000.

### Changes in previous years

Information about changes in share capital of Swiss Re Ltd as well as of our former parent company Swiss Reinsurance Company Ltd for earlier years is provided in the Annual Reports of these companies for the respective years. For details please visit: www.swissre.com/investors/financial_information/

| | 31 December 2017 | | **31 December 2018** | |
|---|---|---|---|---|
| | Capital in CHF | Shares | **Capital in CHF** | **Shares** |
| Share capital | 34 945 228.10 | 349 452 281 | 33 861 946.50 | 338 619 465 |
| Conditional capital | | | | |
| for Equity-Linked Financing Instruments | 5 000 000.00 | 50 000 000 | 5 000 000.00 | 50 000 000 |
| | | | | |
| Authorised capital | 8 500 000.00 | 85 000 000 | 8 500 000.00 | 85 000 000 |

### Shares
All shares issued by Swiss Re Ltd are fully paid-in registered shares, each with a par value of CHF 0.10. Each share carries one vote. There are no categories of shares with a higher or limited voting power, privileged dividend entitlement or any other preferential rights, nor are there any other securities representing a part of the company's share capital.

The company cannot exercise the voting rights of treasury shares. As of 31 December 2018, shareholders had registered 175 680 523 shares for the purpose of exercising their voting rights, out of a total of 338 619 465 shares issued. As of 31 December 2018, 300 044 141 shares were entitled to dividend payment.

### Profit-sharing and participation certificates
Swiss Re Ltd has not issued any profit-sharing and participation certificates.

### Limitations on transferability and nominee registrations
#### Free transferability
The company maintains a share register for the registered shares, in which owners and usufructuaries are entered.

The company may issue its registered shares in the form of single certificates, global certificates and intermediated securities. The company may convert its registered shares from one form into another at any time and without the approval of the shareholders. The shareholders have no right to demand a conversion into a specific form of registered shares.

Each shareholder may, however, at any time request a written confirmation from the company of the registered shares held by such shareholder, as reflected in the company's share register.

The registered shares are administered as intermediated securities. The transfer of intermediated securities and furnishing of collateral in intermediated securities must conform to the Intermediary-Held Securities Act. The transfer and furnishing of collateral by assignment is excluded.

Persons acquiring registered shares will, upon application, be entered in the share register without limitation as shareholders with voting power if evidence of the acquisition of the shares is provided and if they expressly declare that they have acquired the shares in their own name and for their own account and, where applicable, that they are compliant with the disclosure requirement stipulated by the Financial Markets Infrastructure Act (FMIA) of 19 June 2015. The Board of Directors is allowed to remove the entry of a shareholder with voting rights from the share register retroactively from the date of entry if the entry was obtained under false pretences or if the owner, whether acting alone or as part of a group, has breached notification rules.

#### Admissibility of nominee registrations
Persons not expressly declaring in their application for entry in the share register that they are holding shares for their own account (nominees) are entered without further inquiry in the share register of Swiss Re Ltd as shareholders with voting rights up to a maximum of 2% of the outstanding share capital available at the time. Additional shares held by such nominees that exceed the limit of 2% of the outstanding share capital are entered in the share register with voting rights only if such nominees disclose the names, addresses and shareholdings of any persons for whose account the nominee is holding 0.5% or more of the outstanding share capital. In addition, such nominees must comply with the disclosure requirements of the FMIA.

### Convertible bonds and options
#### Convertible bonds
As of 31 December 2018, except as provided below, neither Swiss Re Ltd nor any of its subsidiaries has any bonds outstanding that are convertible into equity securities of Swiss Re Ltd solely at the option of bondholders. The same applied as of 31 December 2017 and 31 December 2016.

On 6 June 2018, Swiss Re Ltd placed with the market via a repackaging vehicle USD 500 000 000 of six-year exchangeable notes, which may be stock-settled at the option of Swiss Re Ltd. Subject to the conditions of the notes, noteholders may exchange their notes for ordinary shares of Swiss Re Ltd at an initial exchange price of USD 115.2593 (set at a premium of 30% to the reference share price of USD 88.6610 (being the initial volume weighted average price of such shares between 7 June and 20 June 2018)). The exchange price is subject to adjustment in certain circumstances described in the conditions of the notes. To economically offset the settlement of a noteholder-initiated exchange, Swiss Re Ltd purchased matching call options on Swiss Re Ltd shares with a portion of the proceeds. Consequently, no new Swiss Re Ltd shares will be issued upon a noteholder-initiated exchange. The settlement and delivery of these notes took place on 13 June 2018. For further details please see Note 7 on page 314.

#### Options
Valid exercise of stock options granted to Swiss Re employees are either cash or physically settled (with treasury shares). The number of issued shares will not be affected. For details on stock options granted to Swiss Re employees, see Note 15 to the Group financial statements on pages 285–286 of this Financial Report.

# Board of Directors

The Board of Directors has the ultimate responsibility for the success and for delivering the sustainable interests of Swiss Re Ltd and the Swiss Re Group.

From left to right: Philip K. Ryan, Sir Paul Tucker, Raymond K.F. Ch'ien, Jacques de Vaucleroy, Eileen Rominger, Joerg Reinhardt, Walter B. Kielholz, Renato Fassbind, Susan L. Wagner, Trevor Manuel, Jay Ralph, Larry Zimpleman, Karen Gavan

## MEMBERS OF THE BOARD OF DIRECTORS

According to the Articles of Association, the Board of Directors of Swiss Re Ltd, the holding company of the Swiss Re Group, consists of at least seven members. As of 31 December 2018 the Board of Directors consisted of the following members:

| Name | Nationality | Age | Initial election |
|---|---|---|---|
| Walter B. Kielholz (Chairman) | Swiss | 67 | 1998[1] |
| Renato Fassbind (Vice Chairman, Lead Independent Director) | Swiss | 63 | 2011 |
| Raymond K.F. Ch'ien | Chinese | 66 | 2008[1] |
| Karen Gavan | Canadian | 57 | 2018 |
| Trevor Manuel | South African | 62 | 2015 |
| Jay Ralph | American, Swiss | 59 | 2017 |
| Joerg Reinhardt | German | 62 | 2017 |
| Eileen Rominger | American | 64 | 2018 |
| Philip K. Ryan | American | 62 | 2015 |
| Sir Paul Tucker | British | 60 | 2016 |
| Jacques de Vaucleroy | Belgian | 57 | 2017 |
| Susan L. Wagner | American | 57 | 2014 |
| Larry Zimpleman | American | 67 | 2018 |

[1] Initially elected to the Board of Directors of Swiss Reinsurance Company Ltd, the Group's former parent company, and subsequently elected to the Board of Directors of Swiss Re Ltd in 2011.

**Felix Horber**
Company Secretary

Felix Horber, attorney-at-law, has been the Company Secretary of Swiss Re since 2007. He holds a PhD in Law, an Executive Master in European and International Business Law and is a Certified Director for Board Effectiveness.

## Walter B. Kielholz

Chairman, non-executive
Born: 1951
Nationality: Swiss

Walter B. Kielholz was elected to the Board of Directors of Swiss Reinsurance Company Ltd in 1998 and to the Board of Directors of Swiss Re Ltd in connection with its formation in 2011. He was Vice Chairman from 2003 to April 2009 and has been Chairman of the Board of Directors since May 2009. He chairs the Chairman's and Governance Committee.

### Professional experience

Walter B. Kielholz began his career at the General Reinsurance Corporation, Zurich, in 1976, where he held several positions in the US, the UK and Italy before assuming responsibility for the company's European marketing. In 1986, he joined Credit Suisse, where he was responsible for relationships with large insurance groups. He joined Swiss Re in 1989, where he became an Executive Board member in 1993 and was Chief Executive Officer from 1997 to 2002. He was also a member of the Board of Directors of Credit Suisse Group Ltd from 1999 to 2014 and served as Chairman from 2003 to 2009.

### External appointments

- Vice Chairman of the Institute of International Finance
- Member of the European Financial Services Round Table
- Chairman of the Zurich Art Society

### Educational background

- Business Finance and Accounting degree, University of St.Gallen, Switzerland

## Renato Fassbind

Vice Chairman and Lead Independent Director, non-executive and independent
Born: 1955
Nationality: Swiss

Renato Fassbind was elected to the Board of Directors of Swiss Re Ltd in 2011. He was appointed Vice Chairman in 2012 and Lead Independent Director in 2014. He chairs the Audit Committee and is a member of the Chairman's and Governance Committee and the Compensation Committee.

### Professional experience

After two years with Kunz Consulting AG, Renato Fassbind joined F. Hoffmann-La Roche Ltd in 1984, becoming Head of Internal Audit in 1988. From 1986 to 1987, he worked as a public accountant with Peat Marwick in New Jersey, USA. In 1990, he joined ABB Ltd as Head of Corporate Staff Audit and, from 1997 to 2002, was Chief Financial Officer and member of the Group Executive Committee. In 2002, he joined Diethelm Keller Holding Ltd as Group Chief Executive Officer. From 2004 to 2010, he was Chief Financial Officer and member of the Executive Board of Credit Suisse Group Ltd.

### External appointments

- Board member of Kühne + Nagel International Ltd.
- Board member of Nestlé S.A.

### Educational background

- PhD in Economics, University of Zurich, Switzerland
- Certified Public Accountant (CPA), Denver, USA

## Raymond K.F. Ch'ien

Member, non-executive and independent
Born: 1952
Nationality: Chinese

Raymond K.F. Ch'ien was elected to the Board of Directors of Swiss Reinsurance Company Ltd in 2008 and to the Board of Directors of Swiss Re Ltd in connection with its formation in 2011. He is a member of the Compensation Committee and the Investment Committee. He is also a member of the Board of Directors of Swiss Re Asia Pte. Ltd.

### Professional experience

Raymond K.F. Ch'ien was Group Managing Director of Lam Soon Hong Kong Group from 1984 to 1997, Chairman of CDC Corporation from 1999 to 2011 and Chairman of MTR Corporation Limited from 2003 to 2015.

### External appointments

- Chairman of the Board of Directors of Hang Seng Bank Ltd
- Board member of China Resources Power Holdings Company Ltd and the Hongkong and Shanghai Banking Corporation Ltd
- Honorary President of the Federation of Hong Kong Industries

### Educational background

- PhD in Economics, University of Pennsylvania, USA

## Karen Gavan

Member, non-executive and independent
Born: 1961
Nationality: Canadian

Karen Gavan was elected to the Board of Directors of Swiss Re Ltd in 2018. She is a member of the Audit Committee. She is also a member of the Board of Directors of Swiss Re America Holding Corporation.

### Professional experience

Karen Gavan started her career in finance roles at Prudential Insurance, Imperial Life and Canada Life. She joined Transamerica Life Canada in 1992 as Chief Financial Officer and added responsibilities over her tenure becoming Executive Vice President and Chief Financial Officer from 2000 to 2002 of Transamerica Life Canada/AEGON Canada, and from 2003 to 2005 the company's Chief Operating Officer. Until her retirement in November 2016, she served for five years as President and Chief Executive Officer at Economical Insurance, preparing the company for its initial public offering. During her leadership, the company also launched SONNET, Canada's first fully digital insurer.

### External appointments

- Board member of Mackenzie Financial Corporation

### Educational background

- Honours Bachelor of Commerce, Lakehead University, Canada
- Fellow, Institute of Chartered Accountants of Ontario, Canada

## Trevor Manuel

Member, non-executive and independent
Born: 1956
Nationality: South African

Trevor Manuel was elected to the Board of Directors of Swiss Re Ltd in 2015. He is a member of the Audit Committee and the Investment Committee.

### Professional experience

Trevor Manuel served in the South African government for more than 20 years, including as Minister of Finance from 1996 to 2009 and as Minister in Presidency, responsible for the National Planning Commission, from 2009 to 2014. He held positions at international bodies, including the United Nations Commission for Trade and Development, the World Bank, the International Monetary Fund, the G20, the African Development Bank and the Southern African Development Community.

### External appointments

- Chairman of the Board of Directors of Old Mutual Group Holdings Ltd and board member of Old Mutual plc
- Deputy Chairman of Rothschild South Africa
- Professor Extraordinaire, University of Johannesburg
- Honorary Professor, University of Cape Town
- Trustee of the Allan Gray Orbis Foundation Endowment

### Educational background

- National Diploma in Civil and Structural Engineering, Peninsula Technikon, South Africa
- Executive Management Programme, Stanford University, USA

## Jay Ralph

Member, non-executive and independent
Born: 1959
Nationality: American and Swiss

Jay Ralph was elected to the Board of Directors of Swiss Re Ltd in 2017. He is a member of the Finance and Risk Committee.

### Professional experience

Jay Ralph was a member of the Board of Management of Allianz SE from 2010 to 2016, where he also served on a number of boards of directors of Allianz SE subsidiaries. He was Chief Executive Officer of Allianz Re from 2007 to 2009 and President and Chief Executive Officer of Allianz Risk Transfer from 1997 to 2006. Before joining Allianz, he was auditor at Arthur Andersen & Company, Investment Officer at Northwestern Mutual Life Insurance Company, President at Centre Re Bermuda Ltd and a member of the Executive Board of Zurich Re.

### External appointments

- Member of the Siemens Pension Advisory Board
- Member of the Georgia O'Keeffe Museum Board of Trustees and Georgia O'Keeffe Museum Innovations Board

### Educational background

- MBA in Finance and Economics, University of Chicago, USA
- BBA in Finance and Accounting, University of Wisconsin, USA
- Certified Public Accountant (CPA), Chartered Financial Analyst (CFA) and Fellow, Life Management Institute (FLMI)

## Joerg Reinhardt

Member, non-executive and independent

Born: 1956

Nationality: German

Joerg Reinhardt was elected to the Board of Directors of Swiss Re Ltd in 2017. He is a member of the Compensation Committee.

### Professional experience

Joerg Reinhardt has been Chairman of the Board of Directors of Novartis since 2013. He was Chairman of the Board of Management and the Executive Committee of Bayer Health Care from 2010 to 2013 and, prior to that, held various executive positions at Novartis. He was Chief Operating Officer from 2008 to 2010, headed the Vaccines and Diagnostics Division from 2006 to 2008 and held a number of other senior roles, primarily in research and development, in the preceding years. Joerg Reinhardt started his career at Sandoz Pharma Ltd, a predecessor company of Novartis, in 1982.

### External appointments

- Chairman of the Board of Directors of Novartis Inc.
- Chairman of the Board of Trustees of the Novartis Foundation

### Educational background

- PhD in Pharmaceutical Sciences, Saarland University, Germany

## Eileen Rominger

Member, non-executive and independent

Born: 1954

Nationality: American

Eileen Rominger was elected to the Board of Directors of Swiss Re Ltd in 2018. She is a member of the Investment Committee.

### Professional experience

Eileen Rominger began her career at Oppenheimer Capital, where she worked for 18 years as an equity portfolio manager, serving as a Managing Director and a member of the Executive Committee. Eileen Rominger then joined Goldman Sachs Asset Management in 1999, where she held a number of senior leadership positions, becoming the company's Global Chief Investment Officer. She subsequently served from 2011 to 2012 as the Director of the Division of Investment Management at the United States Securities and Exchange Commission, where she led a team which implemented regulatory policy for mutual funds and federally registered investment advisors. From 2013 to 2018, Eileen Rominger held roles including being a senior advisor at CamberView Partners, a provider of advice to public companies on shareholder engagement and corporate governance.

### External appointments

None

### Educational background

- Bachelor's degree in English, Fairfield University, USA
- MBA in Finance, The Wharton Graduate School of Business, University of Pennsylvania, USA

## Philip K. Ryan

Member, non-executive and independent

Born: 1956

Nationality: American

Philip K. Ryan was elected to the Board of Directors of Swiss Re Ltd in 2015. He chairs the Finance and Risk Committee and is a member of the Chairman's and Governance Committee and the Audit Committee. He is also Chairman of Swiss Re America Holding Corporation.

### Professional experience

Philip K. Ryan held various positions with Credit Suisse from 1985 to 2008, including Chairman of the Financial Institutions Group, Chief Financial Officer of Credit Suisse Group Ltd, Chief Financial Officer of Credit Suisse Asset Management, and Managing Director of CSFB Financial Institutions Group. He was Chief Financial Officer of the Power Corporation of Canada from 2008 to 2012. In that capacity, he was a director of IGM Financial Inc., Great-West Lifeco Inc. and several of their subsidiaries, including Putnam Investments.

### External appointments

- Operating Partner Corsair Capital
- Member of the Advisory Board of NY Green Bank
- Adjunct Professor at NYU Stern School of Business
- Member of the Smithsonian National Board

### Educational background

- MBA, Kelley School of Business, Indiana University, USA
- Bachelor's degree in Industrial Engineering, University of Illinois, USA

## Sir Paul Tucker

Member, non-executive and independent
Born: 1958
Nationality: British

Sir Paul Tucker was elected to the Board of Directors of Swiss Re Ltd in 2016. He is a member of the Finance and Risk Committee and the Investment Committee.

### Professional experience

Sir Paul Tucker was the Deputy Governor of the Bank of England from 2009 to 2013. He held various senior roles at the Bank of England from 1980 onwards, including as a member of the Monetary Policy Committee, Financial Policy Committee, Prudential Regulatory Authority Board and Court of Directors. He also served as a member of the Steering Committee of the G20 Financial Stability Board and as a member of the Board of the Bank for International Settlements. In 2014, he was granted a knighthood for his services to central banking. Sir Paul Tucker is the author of *Unelected Power: The Quest for Legitimacy in Central Banking and the Regulatory State* (Princeton University Press, 2018).

### External appointments

- Chairman of the Systemic Risk Council
- Research Fellow at the Harvard Kennedy School of Government
- Board member of the Financial Services Volunteers Corps
- Member of the Advisory Committee of Autonomous Research
- Senior Fellow at the Harvard Center for European Studies
- Governor of the Ditchley Foundation
- President of the UK's National Institute of Economic and Social Research

### Educational background

- BA in Mathematics and Philosophy, Trinity College, Cambridge, United Kingdom

## Jacques de Vaucleroy

Member, non-executive and independent
Born: 1961
Nationality: Belgian

Jacques de Vaucleroy was elected to the Board of Directors of Swiss Re Ltd in 2017. He chairs the Compensation Committee and is a member of the Chairman's and Governance Committee and the Investment Committee. He is also Chairman of Swiss Re Europe S.A. and Swiss Re International SE.

### Professional experience

Jacques de Vaucleroy was a member of the Management Committee of AXA Group from 2010 to 2016, serving as Chief Executive Officer of North, Central and Eastern Europe and Chief Executive Officer of Global Life & Savings. He also held a number of positions in boards of directors and supervisory boards of AXA companies. Before that, he spent 24 years at ING, where he held senior roles in banking, asset management and insurance. He was a member of the Executive Board of ING Group from 2006 to 2009, in charge of insurance and asset management in Europe.

### External appointments

- Vice Chairman of the Board of Directors of Ahold Delhaize
- Board member of Colt Technology Services Group plc, Fidelity International Limited and Zabka Polska SA
- Board member of the Simõn I. Patiño Foundation and the TADA non-profit organisation

### Educational background

- Master's degree in Law, Université Catholique de Louvain, Belgium
- Master's degree in Business Law, Vrije Universiteit Brussel, Belgium

## Susan L. Wagner

Member, non-executive and independent
Born: 1961
Nationality: American

Susan L. Wagner was elected to the Board of Directors of Swiss Re Ltd in 2014. She chairs the Investment Committee and is a member of the Chairman's and Governance Committee and the Finance and Risk Committee.

### Professional experience

Susan L. Wagner is a co-founder of BlackRock, where she served as Vice Chairman and a member of the Global Executive and Operating Committees before retiring in 2012. Over the course of her nearly 25 years at BlackRock, Susan L. Wagner served in several roles such as Chief Operating Officer, Head of Strategy, Corporate Development, Investor Relations, Marketing and Communications, Alternative Investments and International Client Businesses. Prior to founding BlackRock, Susan L. Wagner was a Vice President at Lehman Brothers, supporting the investment banking and capital markets activities of mortgage and savings institutions.

### External appointments

- Board member of Apple Inc., BlackRock, Inc. and Color Genomics, Inc.
- Member of the Board of Trustees of Wellesley College, USA

### Educational background

- BA in English and Economics, Wellesley College, USA
- MBA in Finance, University of Chicago, USA

**Larry Zimpleman**

Member, non-executive and independent

Born: 1951

Nationality: American

Larry Zimpleman was elected to the Board of Directors of Swiss Re Ltd in 2018. He is a member of the Finance and Risk Committee.

### Professional experience

Larry Zimpleman started his career in 1971 as actuarial intern at The Principal Financial Group, an investment management company that offers insurance solutions, asset management and retirement services to individual and institutional clients. From 1976 to 2006, he held various senior management and leadership positions at The Principal. He became President and Chief Executive Officer in 2008 and Chairman in 2009. In August 2015, Larry Zimpleman stepped down as President and CEO. His membership in the Board of Directors ended in May 2016.

### External appointments

- Member of the Board of Trustees of the Drake University
- Member of the Board of Trustees of the Iowa Clinic

### Educational background

- Bachelor of Science, Drake University, USA
- MBA, Drake University, USA
- Fellow, Society of Actuaries, USA

### Independence

The SRL Bylaws stipulate that at least three-quarters of the members of the Board of Directors must be independent. Independence is defined in line with best-practice corporate governance standards. To be considered independent a Board member may not be, and may not have been in the past three years, employed as a member of the Group EC, or by any subsidiary of the Swiss Re Group, or may not have a material relationship with any part of the Swiss Re Group (either directly or as a partner, director or shareholder of an organisation that has a material relationship with the Swiss Re Group) other than serving as an independent board member in any subsidiary. In addition, the SRL Board agrees on other criteria that disqualify a Board member from being considered independent, taking into consideration provisions of applicable law, regulations and best practice.

In particular, each of the Board members must annually confirm that he or she: has not been employed by the company in any capacity within the last five years; has not accepted or does not have a family member who accepted any payments from the company or any subsidiary of the company in excess of USD 60 000 during the current fiscal year or any of the past three fiscal years; is not a family member of an individual who is, or during the past three years was employed by the company or by a subsidiary of the company in any capacity; is not (and is not affiliated with a company that is) an adviser or consultant to the company or a member of the company's senior management; is not affiliated with a significant customer or supplier of the company; does not have any personal services contract(s) with the company or a member of the company's senior management; is not affiliated with a not-for-profit entity that receives significant contributions from the company; has not been a partner or employee of the company's external auditor during the past three years and that he or she does not have any other conflict of interest that the Board of Directors determines to mean he or she cannot be considered independent.

All the members of the Board of Directors meet our independence criteria, with the exception of our Chairman. As a full-time Chairman he is not considered independent.

### Conflicts of interest

The members of the Board of Directors are also subject to procedures to avoid any action, position or interest that conflicts with an interest of Swiss Re Ltd or the Swiss Re Group or gives the appearance of a conflict. Each member must disclose any conflict of interest relating to a matter to be discussed at a meeting, as soon as the member becomes aware of the conflict, to the Chairman. The respective member must not participate in the discussion and decision-making involving the interest at stake. The Chairman informs the Board of Directors of the existence of the conflict and it is reflected in the meeting minutes. Each member must disclose any conflict of interest generally arising to the Group Chief Legal Officer (Group CLO), or in his absence to the Group Chief Compliance Officer (Group CCO), in line with the standards and procedures set forth by the Personal Conflicts of Interest Instructions. The Group CLO (or in his absence the Group CCO) ensures that such a reported conflict of interest is dealt with according to these standards and procedures.

### Information about managerial positions and significant business connections of non-executive directors

Walter B. Kielholz, Chairman of the Board of Directors since 1 May 2009, was Swiss Re's CEO from 1 January 1997 to 31 December 2002. In line with Swiss Re's independence criteria, Walter B. Kielholz, being a full-time Chairman, is not considered independent. No other director has ever held a management position within the Group. None of the members of the Board of Directors has any significant business connections with Swiss Re Ltd or any of the Group companies.

### Other mandates, activities and functions

In line with Swiss Re Ltd's Articles of Association, the members of the Board of Directors may not hold more than ten additional mandates, of which no more than four additional mandates with listed companies. Mandates (i) in companies which are controlled by Swiss Re Ltd or which control Swiss Re Ltd, (ii) mandates held at the request of Swiss Re Ltd or by companies controlled by Swiss Re Ltd as well as (iii) mandates in associations, charitable organisations, foundations, trusts, employee welfare foundations, investment companies, equity partnerships or limited liability partnerships are not subject to the above limitations. No member of the Board of Directors may hold more than 5 mandates as set out in (ii) above and not more than 15 mandates as set out in (iii) above. Mandates shall mean mandates in the supreme governing body of a legal entity which is required to be registered in the commercial register or a comparable foreign register. Mandates in different legal entities that are under joint control are deemed one mandate.

In addition, no member of the Board of Directors may serve on the board of directors of a listed company in which another member of the Board of Directors holds an executive function, or where a member of the Board of Directors is able to determine the compensation of another member of the Board of Directors.

The Board of Directors ensures that in any event the number of external mandates held by members of the Board of Directors does not conflict with their commitment, availability, capacity and independence required in fulfilling their role as Board member. All Board members comply with the requirements on external mandates set out in the Articles of Association.

Any activities of Board members in governing and supervisory bodies of important Swiss and foreign organisations, institutions and foundations, as well as permanent management and consultancy functions for important Swiss and foreign interest groups and official functions and political posts, are stated in each of the directors' biographies, which can be found on pages 111–115.

### Changes in 2018

At the Annual General Meeting on 20 April 2018, Karen Gavan, Eileen Rominger and Larry Zimpleman were elected as new non-executive and independent members of the Board of Directors for a one-year term of office. These elections are another step towards the Board of Directors' aim to complete the generation change in its composition initialised a few years ago. At the same time, the shareholders re-elected Walter B. Kielholz (Chairman), Renato Fassbind, Raymond K.F. Ch'ien, Trevor Manuel, Jay Ralph, Joerg Reinhardt, Philip K. Ryan, Sir Paul Tucker, Jacques de Vaucleroy and Susan L. Wagner for a one-year term of office as members of the Board of Directors. Mary Francis, Rajna Gibson Brandon and C. Robert Henrikson did not stand for re-election.

## Election, succession planning, qualifications and term of office

### Election procedure

Members of the Board of Directors and the Chairman of the Board of Directors are elected individually by the Annual General Meeting of shareholders for a term of office until completion of the next Annual General Meeting of shareholders.

### Succession planning

Succession planning is of high relevance to the Board of Directors. It regularly analyses its composition to confirm that its members' qualifications, skills and experience correspond to the Board's needs and requirements. The Board of Directors initiates the evaluation of potential new Board members timely with the continued aim to obtain among its members the desired qualifications and experience as well as to further diversify and renew its composition. The Chairman's and Governance Committee evaluates candidates for Board membership and makes recommendations to the Board of Directors for election or re-election proposals. The Board of Directors nominates candidates for Board membership for election at the General Meeting of shareholders, ensuring that the Board retains an adequate size and well-balanced composition and that at

## BOARD RENEWALS IN THE LAST FIVE YEARS

The goal is to strike the right balance between stability and consistency on the one hand and renewals on the other. Out of the 13 current members only 3 have been members of the Board of Directors already in 2013. The remaining ten members have joined since 2014.

Joiners

| AGM 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Current BoD |
|---|---|---|---|---|---|---|
| W. Kielholz | | | | | | W. Kielholz |
| M. Cabiallavetta | | | | | | R. Fassbind |
| R. Fassbind | | | | | | R. Ch'ien |
| J. Baer | | | | J. Ralph | K. Gavan | K. Gavan |
| R. Breu | | T. Manuel | | J. Reinhardt | E. Rominger | T. Manuel |
| R. Ch'ien | S. Wagner | P. Ryan | P. Tucker | J. de Vaucleroy | L. Zimpleman | J. Ralph |
| J. Coomber | | | | | | J. Reinhardt |
| M. Francis | J. Baer | R. Breu | M. Cabiallavetta | C. Represas | M. Francis | E. Rominger |
| R. Gibson | J. Coomber | | H. U. Maerki | | R. Gibson | P. Ryan |
| R. Henrikson | M. Knight | | J.-P. Roth | | R. Henrikson | P. Tucker |
| M. Knight | | | | | | J. de Vaucleroy |
| H.U. Maerki | | | | | | S. Wagner |
| C. Represas | | | | | | L. Zimpleman |
| J.-P. Roth | | | | | | |

Leavers

least three-quarters of its members are independent. With regard to its succession planning, the Board of Directors aims to safeguard the stability of its composition while also renewing the Board in a sensible way.

### Qualifications

The Board of Directors needs to assemble the necessary qualifications, skills and diversity to perform all required responsibilities. It must assemble among its members the balance of managerial expertise and knowledge from different fields required for the fulfilment of the oversight responsibility as well as for sound, independent decision-making in line with the needs of the business.

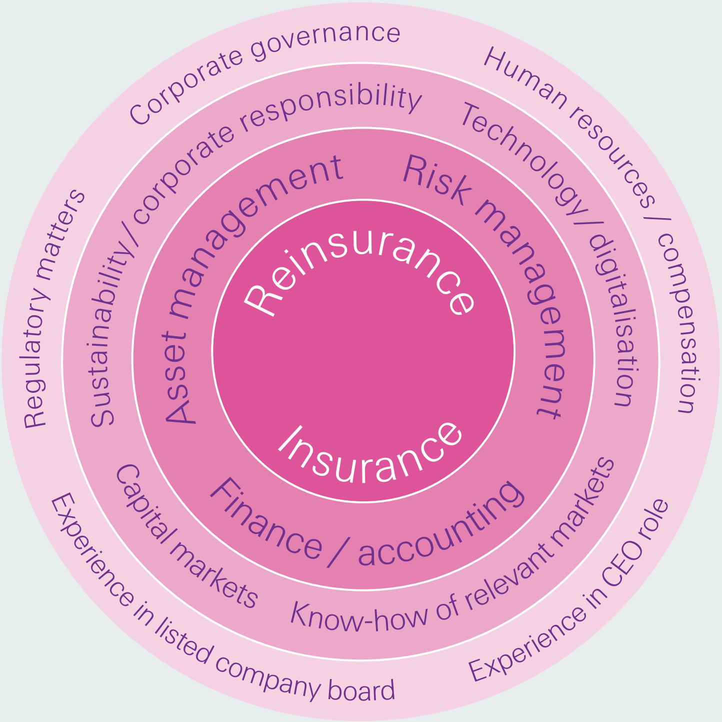
The Board of Directors defines the selection criteria against which candidates for Board membership are assessed. The requirements which potential Board members have to meet in terms of knowledge in various key areas and the industry are constantly increasing.

Membership on the Board of Directors requires experience in key sectors such as insurance and reinsurance, finance, accounting, capital markets, risk management and regulatory matters as well as leadership and decision-making experience in a large, complex financial institution. The mandate also demands significant commitment, integrity and intercultural communication competence.

As determined by applicable law, a Board member may not have any management or executive function within the Swiss Re Group.

The prevalence of these qualifications and skills ensures that Swiss Re Ltd has the relevant expertise required for active involvement and supervision of an international listed company.

**REQUIRED BOARD OF DIRECTORS SKILLS AND COMPETENCIES**




### Board members' training

The Board of Directors has a unique role in the company oversight. The company therefore strives on building a strong and effective Board culture, supported by ongoing learning, which is an important component to foster Board effectiveness. Newly elected Board members receive a comprehensive onboarding programme consisting of a total of 21 hours of sessions in order to gain a sound understanding of the Group's organisation, business and its environment. Additionally, the Board members update and enhance their knowledge of emerging business trends and risks through regular meetings with internal and external experts throughout the year. One-to-one educational sessions are offered any time through the year with our top executives and experts.

### Term of office

The members of the Board of Directors are elected for a term of office until completion of the next Annual General Meeting of shareholders. Members whose term has expired are immediately eligible for re-election.

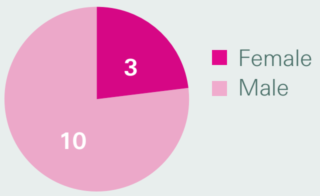
### First election date

The initial election year of each member is stated in the table on page 110.

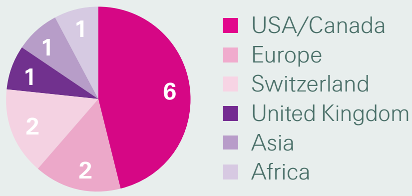
**BOARD OF DIRECTORS DIVERSITY**

In addition to the skill sets and competencies of the Board members the principles of gender and age diversity, inclusion, nationality and regional representation play an important role in the composition of the Board of Directors.

**Gender diversity**




**Regional representation**



### Nominations for re-election by the Annual General Meeting on 17 April 2019

On 1 January 2014 the Ordinance against Excessive Compensation at Public Corporations entered into effect. It provides that, as of the Annual General Meeting 2014, the shareholders will annually elect the members of the Board of Directors, the Chairman of the Board of Directors and the members of the Compensation Committee, individually and separately, for one-year terms.

The Board of Directors proposes that the following Board members be **re-elected** for a one-year term:

- Walter B. Kielholz
- Renato Fassbind
- Raymond K.F. Ch'ien
- Karen Gavan
- Trevor Manuel
- Jay Ralph
- Joerg Reinhardt
- Eileen Rominger
- Philip K. Ryan
- Sir Paul Tucker
- Jacques de Vaucleroy
- Susan L. Wagner
- Larry Zimpleman

The Board of Directors proposes that **Walter B. Kielholz** be re-elected as **Chairman of the Board of Directors** for a further one-year term. Walter B. Kielholz is a very experienced Chairman with our company. This proposal is in line with the Board of Directors' aim to ensure stability in the Board of Directors' composition and work.

The Board of Directors furthermore proposes that **Renato Fassbind, Raymond K.F. Ch'ien, Joerg Reinhardt** and **Jacques de Vaucleroy** be re-elected as members of the **Compensation Committee**.

### Organisational structure of the Board of Directors

The Board of Directors constitutes itself at the first meeting following the Annual General Meeting of shareholders. With the exception of the Chairman and the members of the Compensation Committee, who are elected at the Annual General Meeting of shareholders, the Board of Directors elects among its independent members a Vice Chairman and a Lead Independent Director. The same member may act in both roles. The Board of Directors also elects the Chairpersons and members of the Board Committees as proposed by the Chairman's and Governance Committee. The Board of Directors may remove the members from any such special function at any time. The Board of Directors also appoints its secretaries, who do not need to be members of the Board.

The organisation of the Board of Directors is set forth in the SRL Bylaws, which define the organisational structure of Swiss Re Ltd and the responsibilities and authorities of the Board of Directors, its committees and the Group EC and their members. The SRL Bylaws also provide an overview on periodic reports to be submitted to the Board of Directors and its committees. The Chairman's and Governance Committee and the entire Board of Directors review at least annually the SRL Bylaws to ensure their continued effectiveness and compliance with the Articles of Association, applicable laws, regulations and best practice.

## ALLOCATION OF TASKS WITHIN THE BOARD OF DIRECTORS

### Chairman of the Board of Directors

The Chairman of the Board of Directors leads the Board of Directors, convenes the Board and committee meetings, establishes the agendas and presides over Board meetings. The Chairman coordinates the work of the Board Committees together with the respective Chairpersons and ensures that the Board is kept informed about the committees' activities and findings. In cases of doubt, the Chairman makes decisions about the authority of the Board or its committees and about interpreting and applying the SRL Bylaws.

The Chairman chairs the Chairman's and Governance Committee and develops and continually adapts Swiss Re's governance to regulatory and corporate requirements. He keeps himself informed about the activities within the Group and may sit on Group EC and Business Unit Executive Committee meetings as he deems necessary. He also has access to all corresponding documentation and minutes. He ensures adequate reporting by the Group EC and the Group CEO to the Board of Directors and facilitates their communication with the Board.

He annually assesses the Group CEO's performance and discusses with the Group CEO the annual performance assessment of the Group EC members.

The Chairman presides over General Meetings of shareholders and represents the Swiss Re Group towards its shareholders, in industry associations and in the interaction with other stakeholders such as the media, political and regulatory authorities, governmental officials and the general public. Specifically, the Chairman keeps regular contact with our Group regulator (FINMA).

The Chairman arranges introduction for new Board members and appropriate training for all Board members.

If the office of the Chairman is vacant, the Board of Directors may appoint a new Chairman from among its members for the remaining term of office. Such a resolution requires both the presence of all remaining members of the Board of Directors, physically or by telephone or video conference, and a majority of at least three-quarters.

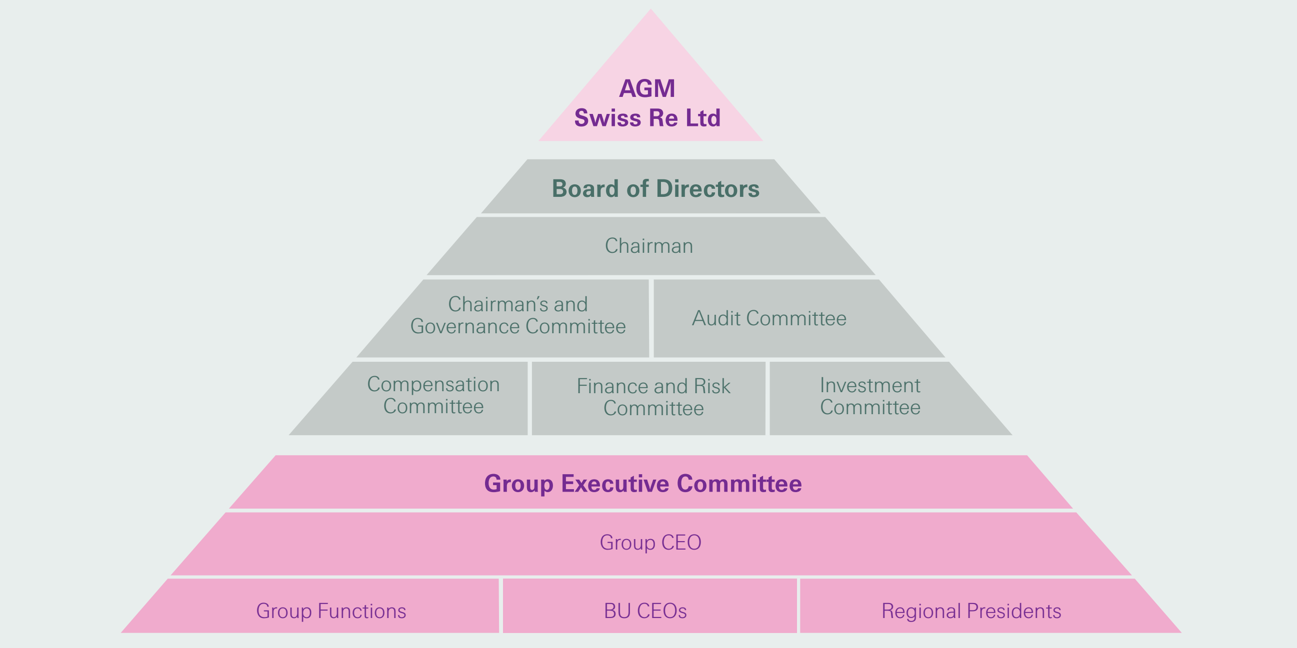
### Vice Chairman

The Vice Chairman deputises, if the Chairman is prevented from performing his duties or in a potential conflict-of-interest situation. The Vice Chairman may prepare and execute Board resolutions on request of the Board and liaises between the Board and the Group EC in matters not reserved to the Chairman.

### Lead Independent Director

The Vice Chairman or another member of the Board of Directors may also assume the role of the Lead Independent Director. The Lead Independent Director acts as an intermediary between the Swiss Re Group and its shareholders and stakeholders in the absence of the Chairman or in particular when a senior independent member of the Board is required. He may convene and chair sessions where the Chairman is not present. He will communicate the outcome of these sessions to the Chairman.

SWISS RE'S GOVERNANCE FRAMEWORK




## Committees of the Board of Directors

As determined by applicable law and the Articles of Association, the Board of Directors has inalienable and non-transferable responsibilities and authorities. The Board of Directors has established Board committees which support the Board in fulfilling its duties. The Board of Directors has delegated certain responsibilities, including the preparation and execution of its resolutions, to the following five committees:

- the Chairman's and Governance Committee
- the Audit Committee
- the Compensation Committee
- the Finance and Risk Committee
- the Investment Committee

Each committee consists of a chairperson and at least three other members elected from among the Board of Directors. The members of the Compensation Committee are annually elected by the Annual General Meeting of shareholders.

The term of office of a Board committee member is one year, beginning with the appointment at the constituting Board meeting following an Annual General Meeting of shareholders and ending at the Board meeting following the subsequent Annual General Meeting of shareholders. For the Compensation Committee members, the term of office begins with the election at the Annual General Meeting of shareholders until completion of the next Annual General Meeting of shareholders.

Each committee is governed by a Charter, which defines the committee's responsibilities. The committees operate in line with the SRL Bylaws and according to their respective Charters.

Please refer to the next page for an overview on the responsibilities and members of the Board committees.

## COMMITTEES OF THE BOARD OF DIRECTORS

### Chairman's and Governance Committee

#### Responsibilities

The Chairman's and Governance Committee's primary function is to act as counsellor to the Chairman and to address corporate governance issues affecting the Group and impacting the legal and organisational structure. It is in charge of the succession planning at the Board of Directors level and oversees the annual performance assessment and self-assessment at both the Board of Directors and the Group EC level.

#### Members

- Walter B. Kielholz, Chair
- Renato Fassbind
- Philip K. Ryan
- Jacques de Vaucleroy
- Susan L. Wagner

### Compensation Committee

#### Responsibilities

The Compensation Committee supports the Board of Directors in establishing and reviewing Swiss Re Ltd's compensation framework and guidelines and performance criteria as well as in preparing the proposals to the General Meeting of shareholders regarding the compensation of the Board of Directors and of the Group EC. It proposes compensation principles in line with legal and regulatory requirements and the Articles of Association for the Swiss Re Group to the Board of Directors for approval and, within those approved principles, determines the establishment of new (and amendments to existing) compensation plans, and determines, or proposes as appropriate, individual compensation as outlined in its Charter. The Compensation Committee also ensures that compensation plans do not encourage inappropriate risk-taking within the Swiss Re Group and that all aspects of compensation are fully compliant with applicable laws, rules and regulations.

#### Members

- Jacques de Vaucleroy, Chair
- Raymond K.F. Ch'ien
- Renato Fassbind
- Joerg Reinhardt

### Finance and Risk Committee

#### Responsibilities

The Finance and Risk Committee annually reviews the Group Risk Policy and proposes it for approval to the Board of Directors, reviews risk and capacity limits approved by the Group EC as well as their usage across the Swiss Re Group and reviews the Risk Control Framework. It reviews the most important risk exposures in all major risk categories as well as new products or strategic expansions of the Swiss Re Group's areas of business. It reviews the risk aspects of Control Transactions. In terms of risk and economic performance measurement it reviews critical principles used in internal risk measurement, valuation of assets and liabilities, capital adequacy assessment and economic performance management. It also reviews the capital adequacy and the Swiss Re Group's treasury strategy.

#### Members

- Philip K. Ryan, Chair
- Jay Ralph
- Sir Paul Tucker
- Susan L. Wagner
- Larry Zimpleman

### Audit Committee

#### Responsibilities

The central task of the Audit Committee is to assist the Board of Directors in fulfilling its oversight responsibilities as they relate to the integrity of Swiss Re's and the Group's financial statements, the Swiss Re Group's compliance with legal and regulatory requirements, the external auditor's qualifications and independence, and the performance of Group Internal Audit (GIA) and the Group's external auditor. The Audit Committee monitors independently and objectively Swiss Re's and the Group's financial reporting process and system of internal control, and facilitates ongoing communication between the external auditor, Group EC, Business Units, GIA and the Board with regard to the Swiss Re Group's financial situation.

#### Members

- Renato Fassbind, Chair
- Karen Gavan
- Trevor Manuel
- Philip K. Ryan

#### Independence and other qualifications

All members of the Audit Committee are non-executive and independent. In addition to the independence criteria applicable to Board members in general, additional independence criteria apply to members of the Audit Committee. They are required to possess such additional attributes as the Board of Directors may, from time to time, specify. Each member of the Audit Committee has to be financially literate. At least one member must qualify as an Audit Committee financial expert, as determined appropriate by the Board of Directors. Members of the Audit Committee should not serve on audit committees of more than four listed companies outside the Swiss Re Group. Audit Committee members have to advise the Chairman of Swiss Re Ltd before accepting any further invitation to serve on an audit committee of another listed company outside the Group and observe the limitations set in the Articles of Association in relation to external mandates (see other mandates, activities and functions on page 115).

### Investment Committee

#### Responsibilities

The Investment Committee endorses the strategic asset allocation and reviews tactical asset allocation decisions. It reviews the performance of the financial assets of the Swiss Re Group and endorses or receives information on Participations and Principal Investments. It reviews the risk analysis methodology as well as the valuation methodology related to each asset class and ensures that the relevant management processes and controlling mechanisms in asset management are in place.

#### Members

- Susan L. Wagner, Chair
- Raymond K.F. Ch'ien
- Trevor Manuel
- Eileen Rominger
- Sir Paul Tucker
- Jacques de Vaucleroy

## BOARD COMMITTEE MEMBERSHIPS

| Name | Chairman's and Governance Committee | Audit Committee | Compensation Committee | Finance and Risk Committee | Investment Committee |
|---|---|---|---|---|---|
| Walter B. Kielholz | X (chair) | | | | |
| Renato Fassbind | X | X (chair) | X | | |
| Raymond K.F. Ch'ien | | | X | | X |
| Karen Gavan | | X | | | |
| Trevor Manuel | | X | | | X |
| Jay Ralph | | | | X | |
| Joerg Reinhardt | | | X | | |
| Eileen Rominger | | | | | X |
| Philip K. Ryan | X | X | | X (chair) | |
| Sir Paul Tucker | | | | X | X |
| Jacques de Vaucleroy | X | | X (chair) | | X |
| Susan L. Wagner | X | | | X | X (chair) |
| Larry Zimpleman | | | | X | |

## Work methods of the Board of Directors and its committees

### Convening meetings and invitation

Swiss Re Ltd's Board of Directors oversees governance, audit, compensation, finance and risk and investment and is supported in this responsibility by its committees. The entire Board of Directors and its committees meet at the invitation of the Chairman of the Board of Directors as often as business requires or at least quarterly. Any member of the Board of Directors or the Group EC may, for a specific reason, require the Chairman to call an extraordinary Board of Directors or committee meeting. The members of the Board of Directors ensure that they are able to fulfil the responsibilities of their position even in periods when there are increased demands on their time. The Chairman defines the agenda for each meeting and therefore works closely with the chairpersons of the committees and the Group CEO. The agenda, along with any supporting documents, is delivered to the participants, as a rule, at least ten calendar days in advance of a meeting in order to allow enough preparation time. The Chairman may determine a Board of Directors meeting be held on an ad hoc basis, if circumstances require.

### Resolutions and quorum

A Board meeting has a quorum if at least the Chairman, the Vice Chairman or the Lead Independent Director and the majority of the members of the Board of Directors are present in person, by telephone or by video conference. A Board committee has a quorum if the majority of the Board committee members are present or participate by telephone or video conference.

Resolutions are adopted by majority vote. In the event of a tie at Board meetings, the Chairman's vote is decisive. In the event of a tie at Board committee meetings, the item shall be submitted to a vote by the entire Board of Directors.

Board and committee meetings deal with the items on the agenda incorporating presentations by members of the Group EC and, where needed, by subject matter experts or external advisors. It is contemplated for every meeting that an executive session is held for discussions between the Board of Directors and the Group CEO.

Furthermore, private sessions are held for discussions involving all members of the Board of Directors only.

The Board of Directors and its committees can also adopt resolutions by written agreement if no member of the Board of Directors requests a discussion of the motion. A circular resolution may be adopted only if all the members sign the circular resolution or respond to the email, respectively. A circular resolution shall be passed if the majority of the total number of Board members (or Board committee members) express their agreement with the resolution.

Each committee provides a report of its activities and recommendations following a committee meeting at the next Board of Directors meeting. If any significant topic comes up, the committees contact the Board of Directors immediately. It is the responsibility of each committee to keep the full Board of Directors informed on a timely basis, as deemed appropriate.

Minutes are kept of the discussions and resolutions taken at each meeting of the Board of Directors and its committees.

The table on the next page provides an overview of the meetings of the Board of Directors and its committees held in 2018.

## BOARD OF DIRECTORS AND BOARD COMMITTEE MEETINGS IN 2018

| Body | Number of meetings<br>Average duration | Invitees in advisory capacity, in addition to members |
|---|---|---|
| Board of Directors | 17 meetings[1]<br>3¼ hours | Group EC members, Group CLO, Company Secretary |
| Chairman's and Governance Committee | 7 meetings<br>2 hours | Group CEO, Company Secretary |
| Audit Committee | 8 meetings<br>3 hours | Group CEO, Group CFO, Group CRO, Group COO, Group CLO, Chief Compliance Officer, Head Group Internal Audit, Chief Accounting Officer, lead auditors of external auditor, Company Secretary |
| Compensation Committee | 6 meetings[2]<br>3¼ hours | Group CEO, Group COO, Chief Human Resources Officer, Head Reward, advisors[3] |
| Finance and Risk Committee | 6 meetings<br>3¾ hours | Group CEO, Group CFO, Group CRO, Group CUO, Group CIO, Group COO, Group Treasurer, CEO Reinsurance, CEO Corporate Solutions, CEO Life Capital, Company Secretary |
| Investment Committee | 5 meetings<br>3½ hours | Group CEO, Group CFO, Group CRO, Group CIO, Head Financial Risk Management, Group Treasurer, Co-Head Client Solutions & Analytics (Asset Management), Company Secretary |

[1] In addition, one decision by circular resolution.
[2] In addition, five decisions by circular resolution.
[3] The human resources consulting firm Mercer and the law firm Niederer Kraft & Frey Ltd (NKF) provided support and advice for compensation issues during the reporting year. Representatives of Mercer and NKF participated in all committee meetings in 2018. Mercer and NKF have further mandates with Swiss Re.

### Self-assessment

An open, transparent and critical board room culture forms the basis for the Board of Directors' annual review of its own performance and effectiveness. The Board of Directors evaluates its work on one hand and the performance of the Chairman on the other. It conducts the self-assessment on the basis of questionnaires, which deal with the Board's composition, organisation and processes, the Board's responsibilities governed by the SRL Bylaws as well as with the focus areas and goals of the year under review. The topics are discussed and take-aways defined to be incorporated in the goals for the upcoming year. In addition, each Board committee annually reviews the adequacy of its composition, organisation and processes as well as the scope of its responsibilities, assesses their accomplishments and evaluates the achievement of the goals set and its performance.

The self-assessments also build the basis for the Board's succession planning, comprising the evaluation of the skills needed amongst the members of the Board of Directors and Board committees. Please refer to page 117 for an overview on the Board of Directors' skills and competencies.

## ATTENDANCE RATES[1] OF BOARD MEMBERS[2]: BOARD OF DIRECTORS AND BOARD COMMITTEE MEETINGS IN 2018

| Meeting body | Average attendance of Board members in % |
|---|---|
| Board of Directors | 98.5 |
| Chairman's and Governance Committee | 97.7 |
| Audit Committee | 93.0 |
| Compensation Committee | 94.9 |
| Finance and Risk Committee | 97.3 |
| Investment Committee | 100 |
| **Overall attendance rate** | **97.8** |

## INDIVIDUAL ATTENDANCE RATES[1] OF BOARD MEMBERS[2]: BOARD OF DIRECTORS AND BOARD COMMITTEE MEETINGS IN 2018

| Attendance in % | Number of Board members[2] |
|---|---|
| 100 | 7 |
| 95–99.9 | 6 |
| 90–94.9 | 3 |

[1] The attendance rates are calculated taking into account the duration of all meetings the Board members were required to attend.
[2] Includes members who stepped down from the Board of Directors during the year.

## Board of Directors and Group EC: areas of responsibility

### Non-transferable duties

The Board of Directors has the ultimate responsibility for the success and for delivering the sustainable interests of SRL and the Swiss Re Group within a framework of effective and prudent controls. It is responsible for the overall direction, supervision and control of Swiss Re Ltd and the Group and the Group EC as well as for supervising compliance with applicable laws, rules and regulations. Such responsibility is inalienable and non-transferable and rests with the entire Board.

### Delegation of management

The Board of Directors has delegated the management of Swiss Re Ltd and the Swiss Re Group to the Group EC (see section on Executive Management, starting on page 128). Such delegated tasks are within the responsibility of the entire Group EC. The Group EC supports the Board of Directors in fulfilling its duties and prepares proposals for consideration and decision-making by the Board of Directors related to the following key responsibilities with Group relevance: strategy, business plan, organisational structure, accounting principles, risk tolerance levels, share capital and any share repurchase programmes, along with principles of financing through capital markets as well as for important strategic transactions.

The tables on pages 124–125 provide a summary of the key responsibilities of the Board of Directors and delegations to the Group EC. They are not to be understood as exhaustive.

## KEY RESPONSIBILITIES OF THE BOARD OF DIRECTORS

**Strategy and overall direction of the company:**

- Defines the strategy of the Swiss Re Group based on proposals by the Group EC
- Approves the capital allocation plan for both Underwriting and Asset Management
- Approves the Swiss Re Group Risk Strategy and Risk Policy, which defines the Group's Risk Appetite and Tolerance, key principles for risk-taking and control and key capital structuring principles based on endorsement by the Finance and Risk Committee
- Approves the entry into new business activities and the exit of existing activities, provided they are of strategic relevance
- Approves significant Corporate Transactions, Participations and Principal Investments and approves an annual capital expenditure plan
- Approves the financial objectives and the means necessary to achieve them
- Approves all matters where such decisions exceed the authorities delegated to the Board committees, the Group CEO, the Group EC and individual Group EC members and overrules decisions if necessary

**Governance and organisation:**

- Determines the operating model of the Swiss Re Group and the organisational structure in line with this model and the strategy
- Issues and regularly reviews the SRL Bylaws, necessary policies and directives, including governance standards and the Group Code of Conduct
- Regulates and supervises internal control
- Regulates the compensation framework of the Swiss Re Group; approves the Group's variable compensation pool; proposes the Board of Directors and Group EC compensation to the Annual General Meeting of shareholders for approval

**Accounting, financial control and financial planning:**

- Approves the applicable accounting standard for external reporting, budgeting and financial control and planning
- Approves the applicable proprietary economic reporting and performance measurement standard (EVM)
- Approves an annual budget and a mid-term financial plan based on both the accounting and the internal economic standards
- Approves the annual financial statements for both Swiss Re Ltd and the Swiss Re Group based on the recommendation of the Audit Committee
- Is informed of the quarterly and semi-annual financial statements for both Swiss Re Ltd and the Swiss Re Group, which are approved by the Audit Committee
- Approves the Annual Report of both Swiss Re Ltd and the Swiss Re Group
- Approves the publication of the Annual Report, semi-annual financial statements and quarterly key financial figures news releases

**Appointment and removal of Group EC members and further key executives, People Strategy:**

- Appoints and removes Group EC members and the Company Secretary; reviews their performance and plans their succession
- Approves the People Strategy of the Group and, on an annual basis, reviews progress towards this strategy
- Annually reviews with the Group EC the Swiss Re Group's overall human capital situation, strength of management and issues like diversity and inclusion, performance process and quality of succession planning

**Capital:**

- Takes decisions regarding equity and equity-linked issuances and reductions of equity in line with applicable law
- Approves annually a debt funding plan, and, if required, approves individual debt issuances

**General Meetings of shareholders:**

- Convenes General Meetings of shareholders and decides on proposals to be brought forward to the shareholders
- Implements resolutions taken by the shareholders

## KEY RESPONSIBILITIES OF THE GROUP EXECUTIVE COMMITTEE

Under the leadership of the Group CEO, the Group EC has management responsibility for matters concerning Swiss Re Ltd as a legal entity. Additionally, the Group EC has management and functional responsibility for the Swiss Re Group's matters. In particular, the Group EC focuses on (the control of) the implementation of the Swiss Re Group Strategy, as promulgated and approved by the Board of Directors. In particular, it includes the responsibilities set forth in the SRL Bylaws addressing Group Strategy, including strategic and financial targets for the Business Units; decisions on Group-wide steering and control; allocation of capital and resources to business opportunities; asset and liability management, treasury, Group funding and capital management; finance and risk management, governance, compliance, legal and regulatory affairs; functional issues such as human resources, talent management as well as reputational issues and brand. In particular with respect to the below topics, the Group EC:

### Governance
- has overall responsibility for managing operations, subject to delegation by the Board of Directors; and
- issues guidelines relating to the delegation of decision-making authority within the Group.

### Strategy and structure
- ensures implementation of the Group's strategy; and
- decides on legal, financial and management structures, as delegated by the Board of Directors.

### Planning
- prepares and proposes the Group business plan to the Board of Directors for approval and reviews the Business Units' business plans.

### Financial reporting
- prepares and presents to the Board of Directors the annual and interim financial statements of the Group together with segment reporting on the Business Units.

### Capital management
- establishes principles on financing through capital markets and the allocation of financial resources within the Group; and
- establishes the principles for intra-Group transactions and funding.

### Risk management
- establishes the principles for external retrocession and the balancing of Group-wide catastrophe and accumulated risk; and
- supervises the Group's internal control evaluation and certification process.

### Business transactions
- decides on certain strategic transactions and proposes important strategic transactions to the Board of Directors for discussion and decision.

### Legal, regulatory and compliance
- oversees implementation of Group-wide compliance procedures and monitors remediation of any regulatory and compliance deficiencies.

### People Strategy
- has responsibility for the Group's people management, subject to the authority of the Board of Directors.

### Compensation
- makes proposals for the individual compensation of selected members of senior management; and
- proposes benefit plans to the Compensation Committee for decision.

The Group EC discharges its responsibilities as a joint body, except for responsibilities delegated to the Group CEO and further individual Group EC members as outlined in the SRL Bylaws.

### Board supervision of Executive Management
Swiss Re Ltd's Board of Directors maintains effective and consistent oversight and monitors the execution of responsibilities it has delegated to Executive Management through the following control and information instruments.

### Participation of Board members at Executive Management meetings
The Chairman is invited to all meetings of the Group EC and Business Unit Executive Committees and receives the corresponding documentation and minutes.

### Special investigations
The Board committees are entitled to conduct or authorise special investigations at any time and at their full discretion into any matters within their respective scope of responsibilities, taking into consideration relevant peer group practice and general best practice. The committees are empowered to retain independent counsel, accountants or other experts if deemed necessary.

### Involvement of Executive Management in meetings of the Board of Directors
The Group EC members attend Board meetings as far as deemed appropriate by the Chairman and the other Board members. The presence of the entire Group EC was required for 4 Board meetings in 2018, and selected members were invited to 11 further Board meetings. The Group EC members do not attend the constitutional meeting of the Board of Directors following the Annual General Meeting of shareholders and the Board self-assessment session.

### Involvement of Executive Management in Board committee meetings
As a matter of principle, selected members of the Group EC as well as further senior management members participate in Board committee meetings as advisors. The Charter of the Board committees specifies management participation in committee meetings.

The attendance rate of the Group EC members at Board and Board committee meetings was 95.7% in 2018. A detailed summary of Executive Management participation in Board committee meetings is provided on page 123.

### Periodic reports to Board of Directors and its committees
The Executive Management regularly provides the Board of Directors with different types of reports, in particular the following reports:

#### Executive Report
This comprehensive report gives an update on current business developments, covering the Group Functions and the Business Units, including major business transactions, claims, corporate development and key projects.

#### US GAAP Board Report
The report provides factual financial highlights from an accounting perspective, with a focus on historical development of the business as an informational basis before the publication of results.

#### EVM Board Report
The report provides factual financial highlights from an economic perspective, with a focus on historical value creation.

#### Group Performance Management Report
The report tracks actual performance of the Group and the segments against predefined financial targets, analyses the impact of management actions and provides information on current challenges.

#### Global Outlook for Insurance, Reinsurance and Financial Markets
The report describes trends and provides forecasts regarding the economic environment, the Property & Casualty/ Life & Health (re)insurance markets and the financial markets.

#### Benchmarking of Swiss Re against selected peers
The report provides an analysis of the performance of the Swiss Re Group compared to the performance of selected peers.

#### Swiss Solvency Test Report
The report provides the legally required update on the assessment of the solvency according to the Swiss Solvency Test (SST) of the Swiss Re Group, Swiss Reinsurance Company Ltd, Swiss Re Corporate Solutions Ltd and Swiss Re Life Capital Reinsurance Ltd.

#### Swiss Re Liquidity Report
The report describes the liquidity position of the Swiss Re Group in current and in stressed market conditions.

In addition, reports are submitted to the Board committees, such as:
- Actuarial Report
- Claims Report
- Legal Report
- Compliance Report
- Group Internal Audit Report
- Group Tax Report
- Group Risk Update
- Derivative Use Update
- Report on Capital, Liquidity and Treasury Activities
- Global Regulatory Risk Report
- Financial Risk Management Update
- Own Risk and Solvency Assessment Report

## Risk management

Swiss Re's Risk Management function provides regular risk reports to the Board of Directors, which are discussed in depth by the Finance and Risk Committee. These reports cover Swiss Re's compliance with the Group's risk tolerance criteria, major changes in risk and capital adequacy measures and a description of the Group's main risk issues, including related risk management actions. The Finance and Risk Committee regularly reports to the entire Board of Directors.

## Duty to inform on extraordinary events

As soon as the Group CEO or the Group EC become aware of any significant extraordinary business development or event, they are obliged to inform the Board of Directors immediately. The Board has specific reporting procedures in place.

## Right to obtain information

The Board of Directors has complete and open access to the Group CEO and the other members of the Group EC, the Group CLO, the Chief Compliance Officer and the Head of GIA. Any member of the Board of Directors who wishes to have access to any other officer or employee of the Group will coordinate such access through the Chairman. The chairpersons may approach the Group EC members as well as further key executives directly should they require information supporting the respective Board committee's duties. Any member of the Board of Directors may demand at Board meetings to obtain information on any aspect of the Group's business. Outside Board meetings, any member can direct a request for production of information and business records to the Chairman.

## Group Internal Audit

GIA is an independent assurance function, assisting the Board of Directors and Group EC to protect the assets, reputation and sustainability of the organisation. GIA assesses the adequacy and effectiveness of the Group's internal control system, and adds value through improving the Group's operations.

GIA applies a risk-based approach, performing its own risk assessment as well as making use of risk assessments performed by the Group's Risk Management and other assurance functions (after reviewing the quality of the assurance work performed). Based on the results of the risk assessment, GIA produces an annual audit plan for review and approval by the Audit Committee. The audit plan is updated on a quarterly basis according to the Group's evolving needs. GIA provides formal quarterly updates on its activities to the Audit Committee, which include audit results, the status of management actions required, the appropriateness of the resources and skills of GIA and any changes in the tools and methodologies it uses.

The Head of GIA meets at least once per quarter with the Audit Committee, and immediately reports any issue which could have a potentially material impact on the business of the Group to the Chair of the Audit Committee.

GIA has unrestricted access to any of the Group's property and employees relevant to any function under review. All employees are required to assist GIA in fulfilling its duty. GIA has no direct operational responsibility or authority over any of the activities it reviews.

GIA staff govern themselves by following the Code of Ethics issued by the Institute of Internal Auditors (IIA). The IIA's International Standards for the Professional Practice of Internal Auditing constitute the operating guidance for the department.

## External auditor

For information regarding the external auditors, please refer to page 138.

# Executive Management

## In line with the applicable law, the Articles of Association and the Bylaws, the Board of Directors has delegated the management of Swiss Re Ltd and the Group to the Group Executive Committee.

**From left to right:** **Russell Higginbotham,** CEO Reinsurance EMEA, **Thomas Wellauer,** Group COO, **J. Eric Smith,** CEO Reinsurance Americas, **Edouard Schmid,** Group CUO, **Patrick Raaflaub,** Group CRO, **Christian Mumenthaler,** Group CEO, **John R. Dacey,** Group CFO, **Jayne Plunkett,** CEO Reinsurance Asia, **Guido Fürer,** Group CIO, **Thierry Léger,** CEO Life Capital, **Moses Ojeisekhoba,** CEO Reinsurance, **Agostino Galvagni,** CEO Corporate Solutions

### MEMBERS OF THE GROUP EXECUTIVE COMMITTEE

**The Group Executive Committee (Group EC) consisted of the following members as of 31 December 2018:**

| Name | Nationality | Age | Function |
|---|---|---|---|
| Christian Mumenthaler | Swiss | 49 | Group Chief Executive Officer |
| John R. Dacey | American | 58 | Group Chief Financial Officer |
| Guido Fürer | Swiss | 55 | Group Chief Investment Officer |
| Agostino Galvagni | Italian, Swiss | 58 | CEO Corporate Solutions |
| Russell Higginbotham | British | 51 | CEO Reinsurance Europe, Middle East and Africa (EMEA)/Regional President EMEA |
| Thierry Léger | French, Swiss | 52 | CEO Life Capital |
| Moses Ojeisekhoba | Nigerian, British | 52 | CEO Reinsurance |
| Jayne Plunkett | American | 48 | CEO Reinsurance Asia/Regional President Asia |
| Patrick Raaflaub | Swiss, Italian | 53 | Group Chief Risk Officer |
| Edouard Schmid | Swiss | 54 | Group Chief Underwriting Officer |
| J. Eric Smith | American | 61 | CEO Reinsurance Americas/Regional President Americas |
| Thomas Wellauer | Swiss | 63 | Group Chief Operating Officer |

**Christian Mumenthaler**
Group Chief Executive Officer
Born: 1969
Nationality: Swiss

## Professional experience

Christian Mumenthaler started his career in 1997 as associate with the Boston Consulting Group. He joined Swiss Re in 1999 and was responsible for key company projects. In 2002, he established and headed the Group Retro and Syndication unit. Christian Mumenthaler served as Group Chief Risk Officer between 2005 and 2007 and was Head of Life & Health between 2007 and 2010. In January 2011, he was appointed Chief Marketing Officer Reinsurance and member of the Group Executive Committee, and became Chief Executive Officer Reinsurance that October. In July 2016, Christian Mumenthaler was appointed Group Chief Executive Officer.

## External appointments

- Board member of the Geneva Association, of economiesuisse, of the Swiss American Chamber of Commerce and of the Society for the Promotion of the Institute of Insurance Economics, St.Gallen
- Member of Insurance Europe's Reinsurance Advisory Board, of the Pan-European Insurance Forum, of the IMD Foundation Board, of the Global Reinsurance Forum, of the Steering Board Insurance Development Forum, of the Board of Trustees of Avenir Suisse and of the Board of Trustees of the St.Gallen Foundation for International Studies

## Educational background

- PhD in Physics, Swiss Federal Institute of Technology (ETH), Zurich, Switzerland

**John R. Dacey**
Group Chief Financial Officer
Born: 1960
Nationality: American

## Professional experience

John R. Dacey started his career in 1986 at the Federal Reserve Bank of New York. From 1990 to 1998, he was a consultant and subsequently Partner at McKinsey & Company. He joined Winterthur Insurance in 1998 and was its Chief Financial Officer from 2000 to 2004 as well as member of its Group Executive Board until 2007. From 2005 to 2007, he was Chief Strategy Officer and member of its risk and investment committees. He joined AXA in 2007 as Group Regional Chief Executive Officer and Group Vice Chairman for Asia-Pacific as well as member of their Group Executive Committee. John R. Dacey joined Swiss Re in October 2012 and was appointed Group Chief Strategy Officer and member of the Group Executive Committee as of November 2012. He also served as Chairman Admin Re® from November 2012 to May 2015. He was appointed Group Chief Financial Officer with effect from 1 April 2018.

## Educational background

- Bachelor of Arts in Economics, Washington University, St. Louis, USA
- Master's degree in Public Policy, Harvard University, Cambridge, USA

**Guido Fürer**
Group Chief Investment Officer
Born: 1963
Nationality: Swiss

## Professional experience

Guido Fürer commenced his career at Swiss Bank Corporation/O'Connor & Associates in 1990. During the following seven-year period, he held leading positions in option trading and at its capital market division in Chicago, New York, London and Zurich. Guido Fürer joined Swiss Re in 1997 as Managing Director at Swiss Re New Markets, focusing on alternative risk transfer. From 2001 to 2004, he worked for Swiss Re's Private Equity unit with responsibility for the European strategic participations. In 2004, he joined Asset Management, first taking over responsibility for tactical asset allocation prior to assuming the role of Head of Swiss Re's Chief Investment Officer Office with responsibility for strategic asset allocation and additionally Chief Investment Officer for the Business Units Reinsurance and Corporate Solutions. Guido Fürer has led Swiss Re Group Asset Management since his appointment as Group Chief Investment Officer and member of the Group Executive Committee in November 2012.

## External appointments

- Member of the Board of Directors FWD Group
- Member of the Advisory Board of the Department of Banking and Finance, University of Zurich, and of the Board of Trustees G&B Schwyzer-Winiker Stiftung

## Educational background

- Master's degree in Economics, University of Zurich, Switzerland
- PhD in Financial Risk Management, University of Zurich, Switzerland
- Executive MBA from INSEAD, Fontainebleau, France

**Agostino Galvagni**
Chief Executive Officer Corporate Solutions
Born: 1960
Nationality: Italian and Swiss

**Professional experience**
Agostino Galvagni joined Bavarian Re, a former Swiss Re subsidiary, in 1985 as a trainee in the fields of underwriting and marketing. He joined Swiss Re New Markets in New York in 1998. Agostino Galvagni returned to Bavarian Re in 1999 as a member of the Management Board. In 2001, he joined Swiss Re in Zurich as Head of the Globals Business, and in 2005 he was appointed to the Executive Board to head the Globals & Large Risks Division within Client Markets. In 2009, Agostino Galvagni was appointed Chief Operating Officer and member of the Group Executive Committee. He was made Chief Executive Officer Corporate Solutions in October 2010. Agostino Galvagni stepped down from Swiss Re at the end of 2018.

**Educational background**
- Master's degree in Economics, Bocconi University, Milan, Italy

**Russell Higginbotham**
Chief Executive Officer Reinsurance Europe, Middle East and Africa (EMEA)/ Regional President EMEA
Born: 1967
Nationality: British

**Professional experience**
Russell Higginbotham started his career 1986 with a UK life insurer. From 1991, he worked as a Senior Marketing Analyst for Munich Re. Russell Higginbotham joined Swiss Re in 1995 and served in various roles in the Life & Health Reinsurance development and strategy teams. Between 2002 and 2005, he was Life & Health Country Manager for Japan and subsequently for South Korea. In 2006, he moved to Sydney and served as Chief Executive Officer of Swiss Re's Australia and New Zealand operations. From 2010 to 2015, he assumed the role of Chief Executive Officer Reinsurance UK & Ireland, based in London, and was named Head of Life & Health Products Reinsurance in 2016. On 1 September 2018, he was appointed Chief Executive Officer Reinsurance EMEA, Regional President EMEA and member of the Group Executive Committee.

**Educational background**
- BA (Hons) Business, University of Hertfordshire, United Kingdom
- MBA, Henley Management College, United Kingdom

**Thierry Léger**
Chief Executive Officer Life Capital
Born: 1966
Nationality: French and Swiss

**Professional experience**
Thierry Léger started his career in the civil construction industry before joining Swiss Re as an engineering underwriter in 1997. In 2001, he moved to Swiss Re New Markets, providing non-traditional solutions to insurance clients. Between 2003 and 2005, he was a member of the executive team in France as leader of the sales team. From 2006, Thierry Léger assumed increasing responsibility for Swiss Re's largest clients, ultimately becoming the Head of the newly-created Globals Division in 2010 and a member of the Group Management Board. In 2013, Thierry Léger became Head of Life & Health Products Reinsurance. As of January 2016, he was appointed Chief Executive Officer Life Capital and member of the Group Executive Committee.

**Educational background**
- Master's degree in Civil Engineering, Swiss Federal Institute of Technology (ETH), Zurich, Switzerland
- Executive MBA, University of St.Gallen, Switzerland

**Moses Ojeisekhoba**

Chief Executive Officer Reinsurance

Born: 1966

Nationality: Nigerian and British

**Jayne Plunkett**

Chief Executive Officer Reinsurance Asia / Regional President Asia

Born: 1970

Nationality: American

**Patrick Raaflaub**

Group Chief Risk Officer

Born: 1965

Nationality: Swiss and Italian

### Professional experience

Moses Ojeisekhoba started his career in insurance as a registered representative and agent of The Prudential Insurance Company of America in 1990.
From 1992 to 1996, he was a Risk and Underwriting Manager at Unico American Corporation. He then joined the Chubb Group of Insurance Companies as regional Underwriting Manager and in 1999 became Corporate Product Development Manager in New Jersey and thereafter moved to London as Strategic Marketing Manager for Chubb Europe. In 2002, he was appointed International Field Operations Officer for Chubb Personal Insurance before becoming Head Asia-Pacific in 2009, a position he remained in until he joined Swiss Re. Moses Ojeisekhoba joined Swiss Re in February 2012 and was appointed Chief Executive Officer Reinsurance Asia, Regional President Asia and member of the Group Executive Committee in March 2012. In July 2016, Moses Ojeisekhoba was appointed as Chief Executive Officer Reinsurance.

### Educational background

- Master's degree in Management, London Business School, United Kingdom
- Bachelor of Science in Statistics, University of Ibadan, Nigeria

### Professional experience

Jayne Plunkett started her career at John Deere Insurance Company in 1992, where she held various positions in the Commercial Lines segment in Property and Casualty. In 1999, she joined GE Insurance Solutions, where she served as Insurance Pricing Team Leader, Deputy Chief Reserving Actuary, Head of Casualty Risk Management, and Head of Planning and Analysis. Following the acquisition of GE Insurance Solutions by Swiss Re in 2006, Jayne Plunkett joined Swiss Re as Head of Property & Casualty Underwriting Regional Accounts in the US. From 2008 to 2012, she was based in Hong Kong as Head of Casualty Underwriting for Asia. In 2013, she assumed the global role of Division Head Casualty Reinsurance, also managing the unit handling large and complex transactions for P&C Reinsurance. In July 2016, Jayne Plunkett was appointed Chief Executive Officer Reinsurance Asia, Regional President Asia and member of the Group Executive Committee.
Jayne Plunkett is a fellow of the Casualty Actuarial Society and a member of the American Academy of Actuaries. Additionally, she was named a Young Global Leader of the World Economic Forum in 2010.

### Educational background

- Bachelor of Science in Business Administration, Drake University, USA

### Professional experience

Patrick Raaflaub began his career as an economist at Credit Suisse. He then was a founding member of a consulting start-up and research fellow at the University of St.Gallen. He joined Swiss Re in 1994 and was appointed Chief Financial Officer of Swiss Re Italia SpA in 1997, and then was Divisional Controller Americas Division from 2000. He worked as Head of Finance Zurich from 2003, then Regional Chief Financial Officer Europe and Asia from 2005. From 2006, he was Head of Group Capital Management, where he was responsible for capital management at Group level and global regulatory affairs. In 2008, he joined the Swiss Financial Markets Supervisory Authority FINMA as Chief Executive Officer.
Patrick Raaflaub returned to Swiss Re as Group Chief Risk Officer and member of the Group Executive Committee in September 2014.

### Educational background

- PhD in Political Science, University of St.Gallen, Switzerland

**Edouard Schmid**
Group Chief Underwriting Officer
Born: 1964
Nationality: Swiss

### Professional experience
Edouard Schmid joined Swiss Re in 1991 as a risk analyst, developing catastrophe models and supporting property catastrophe underwriting on a global basis. Since 1996, he was a team leader in the Cat Perils unit, until he became Head Cat Perils & Retrocession in 2002. From 2003 until 2008, he was based in Hong Kong as Chief Underwriter Property & Specialty Asia. He returned to Zurich in 2008 and served as Head Property & Casualty Risk and Actuarial Management, and, concurrently, as Chief Risk Officer Corporate Solutions from 2011. In May 2012, he became Head Property & Specialty Reinsurance. Edouard Schmid was appointed Group Chief Underwriting Officer and member of the Group Executive Committee as of July 2017.

### Educational background
- Master's degree in Physics, Swiss Federal Institute of Technology (ETH), Zurich, Switzerland

**J. Eric Smith**
Chief Executive Officer Reinsurance Americas/Regional President Americas
Born: 1957
Nationality: American

### Professional experience
J. Eric Smith worked in various roles in property and casualty insurance with Country Financial for more than 20 years, then joined Allstate in 2003, where he rose to the rank of President, Financial Services. He moved to USAA in 2010 as President USAA Life Insurance Co. J. Eric Smith joined Swiss Re in July 2011 as Chief Executive Officer Reinsurance Americas and as a member of the Group Management Board. He was appointed Regional President Americas and member of the Group Executive Committee in January 2012.

### Educational background
- Bachelor's degree in Finance, University of Illinois, USA
- MBA, Kellogg School of Management, Northwestern University, USA

**Thomas Wellauer**
Group Chief Operating Officer
Born: 1955
Nationality: Swiss

### Professional experience
Thomas Wellauer started his career with McKinsey & Company, specialising in the financial services and pharmaceutical industry sectors, and was elected Partner in 1991 and Senior Partner in 1996. In 1997, he was named Chief Executive Officer of the Winterthur Insurance Group, which was later acquired by Credit Suisse. At Credit Suisse he was a member of the Group Executive Board, initially responsible for the group's insurance business before becoming Chief Executive Officer of the Financial Services division in 2000. From 2003 to 2006, Thomas Wellauer headed the global turnaround project at Clariant. In 2007, he joined Novartis as Head of Corporate Affairs and became member of the Executive Committee of Novartis. From April 2009 until September 2010, he was a member of the Supervisory Board of Munich Re.

Thomas Wellauer joined Swiss Re in October 2010 as Group Chief Operating Officer and member of the Group Executive Committee.

### External appointments
- Chairman of the Swiss Chapter of the International Chamber of Commerce (ICC)
- Member of the global Executive Board of the International Chamber of Commerce (ICC)
- President of the Board of the University Hospital Zurich Foundation

### Educational background
- PhD in Systems Engineering, Swiss Federal Institute of Technology (ETH), Zurich, Switzerland
- Master's degree in Business Economics, University of Zurich, Switzerland

### Changes in 2018

John R. Dacey, previously Group Chief Strategy Officer, was appointed Group Chief Financial Officer effective 1 April 2018, succeeding David Cole who had decided to step down as Group Chief Financial Officer. With that change, the two roles of Group Chief Financial Officer and Group Chief Strategy Officer were merged.

The Group EC consists of 12 members since 1 April 2018, whereas it was composed of 13 members before.

Russell Higginbotham was appointed CEO Reinsurance EMEA and Regional President EMEA and a member of the Group EC effective 1 September 2018. Russell succeeded Jean-Jacques Henchoz, who had decided to pursue an opportunity outside Swiss Re.

### Changes in 2019

Anette Bronder (previously a member of the Management Board at T-Systems International) was appointed Group Chief Operating Officer and a member of the Group EC with effect from 1 July 2019, succeeding Thomas Wellauer, who will retire on 30 June 2019.

Andreas Berger (former Chief Regions & Markets Officer and Member of the Board of Management of Allianz Global Corporate & Specialty SE) was appointed CEO Corporate Solutions and a member of the Group EC with effect from 1 March 2019. He succeeds Agostino Galvagni, who had decided to step down from Swiss Re at the end of 2018.

### Other mandates, activities and vested interests

In line with Swiss Re Ltd's Articles of Association the members of the Group EC may not hold more than five additional mandates, of which no more than one additional mandate can be with listed companies. Mandates (i) in companies which are controlled by Swiss Re Ltd or which control Swiss Re Ltd, (ii) mandates held at the request of Swiss Re Ltd or companies controlled by Swiss Re Ltd as well as (iii) mandates in associations, charitable organisations, foundations, trusts, employee welfare foundations, investment companies, equity partnerships or limited liability partnerships are not subject to the above limitations. No member of the Group EC may hold more than 5 mandates as set out in (ii) above and not more than 15 mandates as set out in (iii) above. Mandates shall mean mandates in the supreme governing body of a legal entity which is required to be registered in the commercial register or a comparable foreign register. Mandates in different legal entities that are under joint control are deemed one mandate.

All Group EC members comply with the requirements on external mandates set out in the Articles of Association.

Any activities of members of the Group EC in governing and supervisory bodies of important Swiss and foreign organisations, institutions and foundations as well as permanent management and consultancy functions for important Swiss and foreign interest groups and official functions and political posts are stated in each of the Group EC members' biographies on pages 129–132.

### Management contracts

Swiss Re has not entered into any management contracts with any third parties.

### KEY RESPONSIBILITIES OF THE GROUP EXECUTIVE COMMITTEE MEMBERS

The Board of Directors has delegated the management of Swiss Re Ltd and the Swiss Re Group to the Group EC. Such delegated tasks are within the responsibility of the entire Group EC. For an overview of the Group EC's key responsibilities, please see page 125.

The Group EC discharges its responsibilities as a joint body, except for responsibilities delegated to the Group CEO and further individual Group EC members as outlined in the SRL Bylaws. The next page provides an overview of the Group EC members' individual key responsibilities.

## KEY RESPONSIBILITIES OF INDIVIDUAL MEMBERS OF THE GROUP EXECUTIVE COMMITTEE

### Group Chief Executive Officer

The Group CEO is responsible for overseeing the operational management of the Group. This responsibility covers the Group Functions and the three Business Units Reinsurance, Corporate Solutions and Life Capital. He leads and manages the Group EC, its processes, including succession planning and its cost, and is responsible for its performance. He oversees the work of the Group Function heads and the Business Unit CEOs and gives them guidance on the execution of their tasks. He develops the Group Strategy together with the Group EC and submits it to the Board of Directors for approval. Once approved, he focuses on the Group Strategy's implementation and its further development. The Group CEO oversees the Swiss Re Institute, comprising Swiss Re's internal research coordination and external research partnerships.

### Group Chief Financial Officer

The Group CFO is responsible for the Group-wide Finance function, with a focus on steering and achieving the company's financial targets. He provides guidance to the Business Unit CFOs, and gives input on the financial aspects of strategic projects and transactions. The Group CFO provides the Audit Committee and Finance and Risk Committee with regular and ad hoc financial reporting that allow the committees to fulfil their respective authorities as per their Charters. The Group CFO's responsibilities include the Group strategic process and initiating the respective discussions in the Group EC as preparation for submission of strategic content to the Board of Directors for approval. He supports and advises the Board of Directors and the Group EC by developing and articulating a Group strategy in close cooperation with the Business Units and the Group Functions. He augments the Business Units' activities with targeted initiatives as well as systematically monitors and steers the Group Strategy implementation.

### Group Chief Investment Officer

The Group CIO is responsible for the Group-wide Asset Management function and its investment results. He manages the investment portfolio, advises the Business Units on defining their strategic asset allocation (SAA), and implements the Group and Business Units SAAs within the risk limits set by the Group EC. The Group CIO retains responsibility for decisions on investment tactics and also provides financial market advice on strategic projects and transactions. In addition, the Group CIO is responsible for the Asset Management organisation and operational and compliance risks pertinent to his responsibilities.

### Group Chief Operating Officer

The Group COO leads and manages the Group Operations function, its processes, including oversight of human resources and talent management as well as its cost and is responsible for its performance. His responsibility includes being a strategic partner to the Group and the Business Units in all operational matters and providing a high-quality, cost-effective and differentiating operating platform for the whole Group.

### Group Chief Risk Officer

The Group CRO is responsible for providing the Board of Directors and Group EC with independent assurance that all of Swiss Re's risks are being appropriately modelled, governed and managed and that adequate controls are in place. As part of executing these responsibilities, the Group CRO is charged with establishing the Group's Risk Management Framework for all risk categories including but not limited to financial, insurance and operational risk (the latter comprising reporting risks, legal and compliance risks and other operational risks).

### Group Chief Underwriting Officer

The Group CUO is responsible for steering capital to the most attractive areas in underwriting leading themes that are of strategic importance for the Swiss Re Group's underwriting, and providing research and development for selected investment portfolios that improves both capital allocation and risk selection.

### Regional Presidents

The Regional Presidents for the areas Americas, Asia and EMEA are responsible for representing the Swiss Re Group externally and internally, as well as enhancing the Swiss Re brand and safeguarding the Group's reputation in the geographies for which they are responsible. The Regional Presidents also assume responsibility for oversight of the Group's operating platform and coordinate activities across the Business Units in their regions.

### The Business Unit Chief Executive Officers

The BU CEOs are responsible for the management and performance of the respective Business Unit Top-Level company as well as the respective Business Unit. The BU CEOs set the business and corporate agenda of the respective Business Unit, ensuring high-quality and performance-oriented and timely decision-making. They oversee the implementation of the decisions made and ensure the Business Unit Executive Committees fulfil their responsibilities.

# Shareholders' participation rights

Shareholders may have their shares represented at the shareholders meetings by a third person or the Independent Proxy.

### Voting right restrictions, statutory group clauses and exception rules

Swiss Re Ltd does not have any voting right restrictions or statutory group clauses (other than the limitations on nominee registrations, page 109) in place. Therefore, there are no procedures or conditions for cancelling restrictions and no rules on making exceptions to them. Accordingly, no such exceptions were granted in 2018.

### Statutory rules on participating in the General Meeting of shareholders

Owners, usufructuaries or nominees entered in the share register as having voting rights on a specific qualifying day determined by the Board of Directors are entitled to one vote per share held at the General Meeting of shareholders.

Swiss Re Ltd's Articles of Association allow any shareholder with voting rights to have his or her shares represented at any General Meeting of shareholders by another person authorised in writing or by the Independent Proxy. Such representatives need not be shareholders. Business firms, partnerships and corporate bodies may be represented by legal or authorised representatives or other proxies, married persons by their spouses and minors and wards by their guardians, even though such representatives are not shareholders.

The Independent Proxy is elected by the General Meeting of shareholders for a term of office until completion of the next ordinary General Meeting of shareholders. The Independent Proxy whose term of office has expired is immediately eligible for re-election. The duties of the Independent Proxy are determined by applicable laws, rules and regulations. The General Meeting of shareholders may remove the Independent Proxy with effect as per the end of the General Meeting of shareholders.

If the company does not have an Independent Proxy, the Board of Directors shall appoint one for the next General Meeting of shareholders.

AGM 2018

### Statutory quorums

The General Meeting of shareholders may pass resolutions without regard to the number of shareholders present at the meeting or shares represented by proxy.

Resolutions pass by an absolute majority of votes validly cast (excluding blank and invalid ballots), except where the law requires otherwise.

The Chairman of the General Meeting of shareholders determines the voting procedure. Provided that the voting is not done electronically, voting shall take place openly on show of hands or by written ballot.

### Convocation of the General Meeting of shareholders

In accordance with Swiss Re Ltd's Articles of Association, the Board of Directors convenes the General Meeting of shareholders through a notice published in the Swiss Official Gazette of Commerce at least 20 days before the date of the meeting. The notice must state the day, time and place of the General Meeting of shareholders, along with the agenda and proposals which will be submitted by the Board of Directors.

Extraordinary General Meetings of shareholders may be called by a resolution of the General Meeting of shareholders or the Board of Directors, or by one or more shareholders with voting powers whose combined holdings represent at least 10% of the share capital.

### Agenda

The Board of Directors announces the agenda items and the proposals for the General Meeting of shareholders. Shareholders with voting power whose combined holdings represent shares with a nominal value of at least CHF 100 000 may, no later than 45 days before the date of the meeting, request in writing that a particular agenda item, together with the relevant proposals, be included in the agenda.

### Registrations in the share register

In 2018, Swiss Re Ltd recognised the voting rights of shares registered no later than four working days before the Annual General Meeting of shareholders.

# Changes of control and defence measures

Swiss Re Ltd's Articles of Association neither contain an "opting up" nor an "opting out" provision.

### Duty to make an offer

Swiss Re Ltd has not put in place any specific measures to defend against potential unfriendly takeover attempts. The Board of Directors believes that the company's best protection is a fair valuation of its shares, and that the efficiency of a free market is preferable to artificial obstacles, which can have a negative impact on the share price in the long term.

In accordance with the Financial Markets Infrastructure Act (FMIA), whosoever acquires equity securities which added to equity securities already owned exceed the threshold of 33⅓% of Swiss Re Ltd shares with voting rights, either directly, indirectly or in concert with third parties, and regardless of whether these rights are exercisable or not, triggers a mandatory takeover offer for the outstanding Swiss Re Ltd shares owned by all other shareholders.

The FMIA allows companies to include an "opting up" provision in their articles of association, which raises the mandatory takeover offer threshold up to 49%, or an "opting out" provision, which waives the mandatory offer. Swiss Re Ltd's Articles of Association contain neither of these provisions.

### Change of control clauses

Unvested deferred compensation may vest and employee participation plan rules may be amended upon a change of control. In such an event, the rights of members of the Board of Directors and the Group Executive Committee (Group EC) as well as of further members of senior management are identical to those of all other employees.

The Articles of Association provide that the Board of Directors (or to the extent delegated to it, the Compensation Committee) may decide on continuation, acceleration, amendment or removal of any vesting, blocking or exercise conditions for the payment or grant of deferred compensation. The Board of Directors may also decide to replace the award with shares of the entity assuming control.

The mandates and employment contracts of the members of the Board of Directors and of the Group EC do not contain any provisions such as severance payments, notice periods of more than 12 months or additional pension fund contributions that would benefit them in a change of control situation.

# Auditors

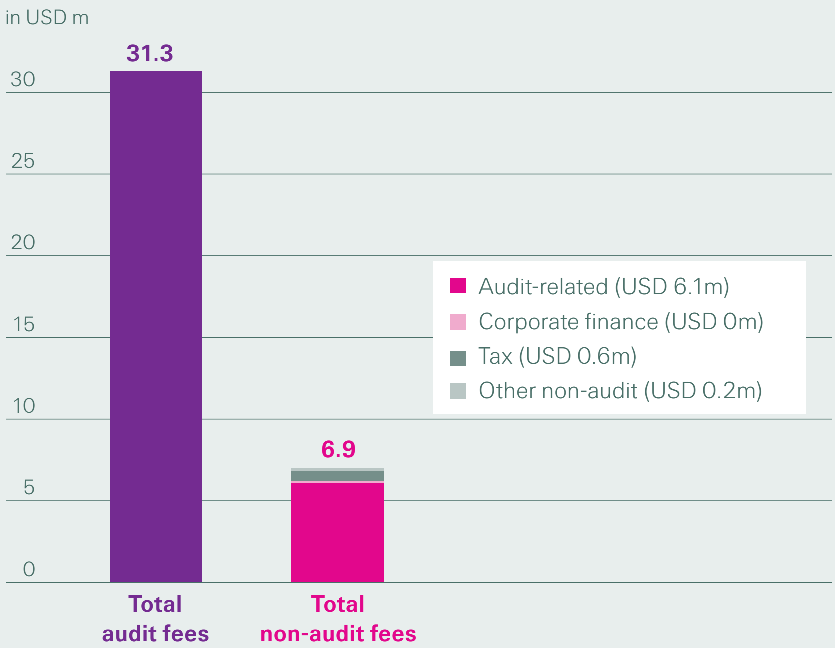
## The General Meeting of shareholders annually elects the external auditor.

**Duration of the mandate and term of office of the lead auditors**
PricewaterhouseCoopers Ltd (PwC) was appointed as the external auditor of Swiss Re Ltd when the company was founded on 2 February 2011. PwC had been elected as the external auditor of the previous parent company of the Group, Swiss Reinsurance Company Ltd, at its Annual General Meeting 1991 and had been re-elected annually since then. The Annual General Meeting 2018, following the proposal of the Board of Directors, based on the recommendation by the Audit Committee, re-elected PwC for a term of one year as external auditors.

Alex Finn became lead auditor responsible for the auditing mandate of the former parent company, Swiss Reinsurance Company Ltd, on 23 September 2011. With Swiss Re Ltd becoming the new holding company of the Group, he also became lead auditor for the Swiss Re Ltd audit mandate. In line with the Swiss Code of Obligations and to foster external auditor independence, the lead audit partner rotates out from his or her role after seven years. Alex Finn therefore handed over to Roy Clark following the election of PwC as external auditors by the Annual General Meeting 2018. The second lead auditor, Bret Griffin, was appointed following the election of PwC as external auditors by the Annual General Meeting 2014. He handed over to Frank Trauschke in May 2018.

**FEES FOR AUDIT AND NON-AUDIT SERVICES**

**Fees (excluding value added taxes) for professional services provided by PwC in 2018 were as follows:**




Audit-related fees included transaction-related support as well as assurance services required by Swiss Re's regulators and by management on a large programme. Tax fees comprised support for the transfer pricing documentation process and advice on a number of tax assignments. Other non-audit fees included permitted advisory services related to various projects.

## Information tools pertaining to the external audit

### Responsibilities

The external auditor is accountable to the Audit Committee, the Board of Directors and ultimately to the shareholders. The Board of Directors reviews the external auditor's professional qualifications and is assisted in its oversight by the Audit Committee.

### Cooperation and flow of information between the auditor and the Audit Committee

The Audit Committee liaises closely with the external auditor. The lead auditors participate as advisors at all Audit Committee meetings. For more information, see page 123.

The external auditor provides the Audit Committee with regular updates on the audit work and related issues as well as with reports on topics requested by the Audit Committee.

The Audit Committee reviews and approves in advance all planned audit services and any non-audit services provided by the external auditor. It discusses the results of annual audits with the external auditor, including reports on the financial statements, necessary changes to the audit plans and critical accounting issues.

The external auditor shares with the Audit Committee its findings on the adequacy of the financial reporting process and the efficacy of the internal controls.

It informs the Audit Committee about any differences of opinion between the external auditor and management encountered during the audits or in connection with the preparation of the financial statements.

### Evaluation of the external auditor

It is the Audit Committee, which is responsible for recommending an audit firm to the Board of Directors for election at the Annual General Meeting of shareholders. As opposed to the European Union (EU), there is no law in Switzerland which provides for a mandatory rotation of the external auditor after a certain number of years. The Audit Committee closely monitors the regulatory developments in the EU and elsewhere on the topic. In order to be able to recommend an audit firm for election by the shareholders and in line with good corporate governance, the Audit Committee annually and thoroughly evaluates the credentials of the current external auditor and presents its findings to the Board of Directors. PwC has proven record of professionalism and efficiency and fully meets the high demands made by Swiss Re as a global re/insurance Group.

The Audit Committee's assessment of the external auditor is based on the external auditor's qualifications, independence and performance. The Audit Committee furthermore evaluates annually the performance of the lead auditors.

#### Qualifications

At least once a year, the external auditor submits a report to the Audit Committee describing the external auditor's own quality control procedures, including any material issues raised by its most recent internal reviews or inquiries or investigations by governmental or professional authorities within the preceding five years, as well as any steps taken to deal with any such issues.

#### Independence

At least once a year, the external auditor provides a formal written statement delineating all relationships with the company that might affect its independence. Any disclosed relationships or services that might interfere with the external auditor's objectivity and independence are reviewed by the Audit Committee, which then recommends appropriate action to be taken by the Board.

#### Performance

This assessment measures the external auditor's performance against a number of criteria, including: understanding of Swiss Re's business; technical knowledge and expertise; comprehensiveness of the audit plans; quality of the working relationship with management and clarity of communication. It is compiled based on the input of key people involved in the financial reporting process and the observations of the Audit Committee members.

### Audit fees

The Audit Committee annually reviews the audit fees as well as any fees paid to the external auditor for non-audit services, based on recommendations by the Group CFO.

**Special Auditor**

Swiss Re Ltd's Articles of Association foresee that the Annual General Meeting may elect a Special Auditor for a term of three years which would be responsible for the special audit reports that are required by Swiss law in connection with changes in capital. Currently there is no Special Auditor elected.

# Information policy

## As a global company, Swiss Re strives to inform its stakeholders openly, consistently and in a transparent manner – beyond the boundaries of legal information requirements.

Swiss Re maintains open lines of communication with stakeholders on matters related to its financial and business performances, strategy and business activities through analyst and media conferences and calls, road-shows, news releases and corporate reports. The latter encompass the company's Annual Report, the Half-Year Report and the Corporate Responsibility Report, which are made available both in print and digitally. Additionally, Swiss Re publishes the Financial Condition Report and key quarterly financial information online.

Find more information on Swiss Re's website by scanning the QR code with the camera of your smartphone.

On the Group's website www.swissre.com, visitors can find a host of news and research, publications, video and podcasts as well as discussion and analysis related to Swiss Re and the broader re/insurance industry. The financial calendar displayed on the next page is also available online, and includes, amongst other, access details to analyst conference calls as well as on-demand video recordings of annual and half-year results' events.

At www. swissre.com/media/contacts, interested parties – internal or external – can subscribe to the Media Relations mailing list to receive ad hoc disclosures and relevant corporate news via email. Contact details are provided on page 342.

The Swiss Official Gazette of Commerce (*Schweizerisches Handelsamtsblatt*) is Swiss Re's official media for prescribed announcements and official information.

The Chairman annually conducts a corporate governance roadshow to visit and have an ongoing dialogue with Swiss Re's largest shareholders. Throughout the year, our Investor Relations team, often joined by executive management, holds regular meetings with institutional investors and analysts, including roadshows, conferences and calls. At the Investors Day in Zurich on 4 April 2018, Swiss Re gave an update on the Group's strategy, presented its underwriting priorities, financial strength and capital generation and provided business updates for each of the three Business Units Reinsurance, Corporate Solutions and Life Capital. The presentations as well as the conference call recordings from this event are available on: www.swissre.com/investors/presentations

In 2019, Swiss Re will host Management Dialogues with investors and analysts in London on 23 May to discuss current topics and will organise an Investors' Day in Zurich on 25 November.

Swiss Re strictly observes close periods around the publication of the Group's financial results. Close periods apply through the preparation of results or key financial data, and include a cooling-off period after their release. During such close periods, Swiss Re employees and members of the Board of Directors are not allowed to trade Swiss Re shares or financial instruments related to such shares.

## IMPORTANT DATES IN 2019

| | |
|---|---|
| **21 February** | 2018 annual results |
| **14 March** | Publication of 2018 Annual Report and 2018 EVM results as well as of AGM 2019 invitation |
| **17 April** | 155th Annual General Meeting |
| **3 May** | Release of first quarter 2019 key financial data |
| **23 May** | Management Dialogues, London |
| **31 July** | Half-year 2019 results |
| **31 October** | Release of nine months 2019 key financial data |
| **25 November** | Investors' Day, Zurich |

## KEY CORPORATE NEWS IN 2018

| Date | News | Method of dissemination |
|---|---|---|
| 23 January | Swiss Re and India's National Insurance Academy signed a Memorandum of Understanding | News release |
| 19 February | Swiss Re completed its share buy-back programme of up to CHF 1.0 billion purchase value, launched on 3 November 2017 | News release |
| 23 February | Swiss Re reports full-year 2017 net income of USD 331 million despite USD 4.7 billion natural-catastrophe losses | News release, press conference |
| 15 March | Swiss Re proposes an increased dividend of CHF 5.00 per share and a new share buy-back programme of up to CHF 1.0 billion | News release |
| 10 April | A Swiss Re *sigma* study reported global insured losses from disaster events of USD 144 billion in 2017, the highest ever recorded | News release, *sigma* study |
| 20 April | Swiss Re shareholders approve all proposals put forward by the Board of Directors at the company's Annual General Meeting | News release |
| 2 May | Swiss Re announced the expansion of its African operations through its newly approved licence for Property & Casualty business in South Africa | News release |
| 4 May | Swiss Re reported first quarter 2018 net income of USD 457 million (ROE of 5.6%), net of USD 280 million due to a change in US GAAP accounting; CHF 1.0 billion share buy-back programme to commence on 7 May 2018 | News release, media conference call |
| 26 June | Swiss Re launches "Responsible Investments – the next steps in our journey" to share its experience one year after implementation of ESG benchmarks | News release, publication |
| 2 July | Swiss Re establishes thermal coal policy to support transition to a low-carbon economy | News release |
| 30 July | Swiss Re's partnership with homeowners insurer expands flood insurance protection in the US | News release |
| 3 August | Swiss Re reports solid half-year 2018 net income of USD 1.0 billion; improved P&C underwriting results and selected premium growth | News release, press conference |
| 16 August | Swiss Re Institute preliminary *sigma* estimates: catastrophes cause global economic losses of USD 36 billion in the first half of 2018 | News release, *sigma* study |
| 22 August | Russell Higginbotham to become new Swiss Re CEO Reinsurance EMEA, Regional President EMEA and Group Executive Committee member; Jean-Jacques Henchoz to leave Swiss Re | News release |
| 23 September | Agostino Galvagni to step down; Andreas Berger to succeed as CEO Corporate Solutions and member of the Group Executive Committee | News release |
| 18 October | Swiss Re estimates third quarter claims burden from large natural catastrophes at USD 1.1 billion; large man-made losses to be additional USD 300 million | News release |
| 1 November | Swiss Re reports USD 1.1 billion net income for the first nine months 2018, after absorbing USD 1.6 billion of large claims | News release, conference call |
| 20 November | Global economic growth is solid but slowing, and emerging Asia will continue to power the insurance market | News release, *sigma* study |
| 18 December | Swiss Re continues exploration of ReAssure IPO, appoints Mark Hodges as new CEO | News release |
| 20 December | Swiss Re agrees further minority investment by MS&AD into ReAssure, increasing its shareholding to 25% | News release |

# Swiss Re is committed to a compensation framework that is balanced and performance-oriented and that aligns the interests of employees and shareholders.

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# Report from the Compensation Committee

**Jacques de Vaucleroy**
Chair Compensation Committee

"During the past year, the Compensation Committee continued to monitor the alignment of Swiss Re's compensation framework with shareholders' interests and with our long-term business and risk strategy."

**Dear shareholders,**
As the Chair of Swiss Re's Compensation Committee, I am pleased to share with you Swiss Re's Compensation Report for the financial year ended 31 December 2018, which has been prepared in accordance with applicable laws, rules and regulations.

Swiss Re's vision "we make the world more resilient" is supported by our mission – to create smarter solutions for our clients through new perspectives, knowledge and capital. The combination of these strengths makes Swiss Re a partner of choice for our clients. At the same time, Swiss Re wants to be an employer of choice for our employees. Its compensation framework is therefore designed to attract, motivate and retain the qualified talent the Group needs to succeed globally while providing superior returns to our shareholders. During the past year, the Compensation Committee continued to monitor:

- The alignment of Swiss Re's compensation framework with shareholders' interests and with our long-term business and risk strategy.
- The effectiveness of the current performance measurement approach (i.e. performance achievements at the business and individual level against the goals set for the year, including behaviour and risk aspects) which determines compensation outcomes.

- The competitiveness of compensation for the Board of Directors, Group Executive Committee (Group EC) and other key executives.
- Legal and regulatory developments, including the continued compliance of the Board of Directors and Group EC compensation with the Ordinance against Excessive Compensation at Public Corporations (the Ordinance).

Furthermore, the Compensation Committee also conducted a self-assessment of its own effectiveness.

On behalf of the Compensation Committee, I would like to acknowledge the strong shareholder support at the Annual General Meeting (AGM) 2018. Swiss Re's shareholders again approved the proposed aggregate compensation of the members of the Board of Directors and the Group EC. Additionally, all proposals for re-election and election to the Compensation Committee were approved and the 2017 Compensation Report again received a positive outcome in the consultative vote.

Through discussions with key investors and proxy advisors, Swiss Re continued to identify potential enhancements to its compensation disclosure. As a result, the 2018 Compensation Report contains additional information, particularly in the area of variable compensation.

**Group business performance 2018**

Key considerations for Swiss Re's annual compensation decisions continue to cover a combination of US GAAP and Economic Value Management (EVM) based business results, qualitative factors and Swiss Re's pay-for-performance approach. Compensation decisions were made considering Swiss Re's performance for the reporting year, in which the Group's US GAAP and economic performance was negatively impacted by higher-than-expected natural catastrophe events and man-made losses.

- The US GAAP and economic results of Property & Casualty Reinsurance reflect large insurance claims in the aftermath of a string of natural catastrophe events.
- Life & Health Reinsurance met its US GAAP return on equity (ROE) target and delivered a strong EVM new business profit, partially offset by a negative EVM investment result.
- The Corporate Solutions US GAAP and economic results were heavily impacted by large natural catastrophe events and man-made losses, resulting in a loss for the year.
- Life Capital generated significant gross cash for the Group. The economic result was impacted by investment underperformance, partially offset by a strong underwriting profit.

**Group Annual Performance Incentive 2018**

In years with relatively benign natural catastrophe experience, variable compensation payouts were positive but not excessive. Conversely, in adverse environments, the negative impact shall be substantive but also proportionate, given the need to carefully manage key talent retention risk and the Group's willingness to underwrite risk. Swiss Re's US GAAP performance was below target, but higher than last year, and would have been even better without the impact of the new US GAAP accounting guidance on equity investments. This backdrop, in conjunction with the qualitative performance assessment, led the Compensation Committee and the Board of Directors to grant variable compensation payouts that are below target levels but higher than last year.

**Compensation framework**

Swiss Re's compensation framework is designed to promote long-term sustainable performance for the Group and its shareholders through a mix of fixed and variable compensation components. It comprises fixed components such as base salary, pension and other benefits, as well as a combination of variable short- and long-term incentives as outlined later in this Compensation Report. The Compensation Committee continues to review and monitor the compensation framework of Swiss Re considering business strategy, targets, risk awareness and corporate values. External factors with respect to regulatory requirements and legal developments, the international context in which we operate and relevant market data are also taken into account.

There were no material changes to our compensation framework in 2018.

**AGM 2019**

The Compensation Committee remains committed to recommending compensation policies and programmes to the Board of Directors that support our business strategy and align the interests of our employees with those of our shareholders. We are therefore keen to maintain regular interactions with shareholders and other key stakeholders.

Consistent with last year and in line with our Articles of Association, shareholders will again be asked to approve the following amounts:

- Maximum aggregate amount of compensation for the members of the Board of Directors for the term of office from the AGM 2019 to the AGM 2020.
- Maximum aggregate amount of fixed compensation and variable long-term compensation for the members of the Group EC for the financial year 2020.
- Aggregate amount of variable short-term compensation for the members of the Group EC for the financial year 2018.

Separately from this and as in the past, shareholders will also be asked to support this Compensation Report in a consultative vote. The Compensation Committee is satisfied that this Compensation Report complies with applicable laws, rules and regulations and provides a comprehensive view of the compensation framework at Swiss Re and the 2018 compensation decisions.

Zurich, 14 March 2019

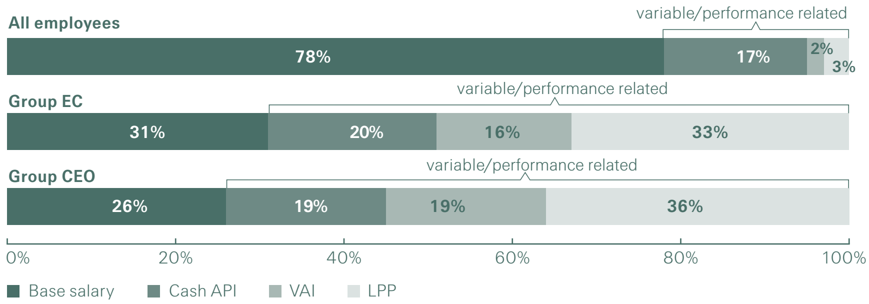
**Jacques de Vaucleroy**
Chair Compensation Committee

# Compensation highlights in 2018

### Pay for performance

The Compensation Committee ensures that Group EC compensation is linked to the business performance of Swiss Re by delivering a substantial portion of compensation in the form of variable and performance-related incentives.

| | Base salary | Variable/performance related | Of which deferred |
|---|---|---|---|
| **All employees** | 78% | 22% | 21% |
| **Group EC** | 31% | 69% | 72% |
| **Group CEO** | 26% | 74% | 74% |




The Compensation Committee monitors how compensation is aligned with specific business metrics, including US GAAP net income and EVM profit.

| USD millions (unless otherwise stated) | 2016 | 2017 | Change | **2018** | Change |
|---|---|---|---|---|---|
| US GAAP net income | 3 558 | 331 | –91% | 421 | 27% |
| EVM profit | 1 399 | –9 | – | –693 | – |
| Regular dividend payments (CHF)[1] | 4.85 | 5.00 | 3% | 5.60 | 12% |
| Financial strength rating (Standard & Poor's) | AA– | AA– | | AA– | |
| Total equity | 35 716 | 34 294 | –4% | 28 727 | –16% |
| Regular staff worldwide | 14 053 | 14 485 | | 14 943 | |
| Aggregate compensation for all employees (CHF millions)[2] | 2 265 | 2 165 | –4% | 2 208 | 2% |
| Group EC members[3] | 14 | 14 | | 14 | |
| Aggregate Group EC compensation (CHF thousands)[2, 3] | 51 430 | 43 159 | –16% | 44 253 | 3% |

[1] Dividend payments are made in April of the following year. For 2018, an ordinary dividend of CHF 5.60 is proposed to the AGM 2019.
[2] Disclosure includes all awards for a reporting year, ie the 2018 aggregated compensation values include the fair value of the Leadership Performance Plan (LPP) granted in April 2018. The Annual Performance Incentive (API) for 2018 for members of the Group EC is subject to approval by the shareholders at the AGM 2019.
[3] Including Group CEO.

## ATTRIBUTION OF GROUP INCOME TO KEY STAKEHOLDERS

| USD millions (unless otherwise stated) | 2016 | % | 2017 | % | **2018** | % |
|---|---|---|---|---|---|---|
| Income before tax and variable compensation | 4 773 | 100% | 814 | 100% | 863 | 100% |
| Variable compensation | 466 | 10% | 351 | 43% | 373 | 43% |
| Income tax expense | 749 | 16% | 132 | 16% | 69 | 8% |
| US GAAP net income attributable to shareholders | 3 558 | | 331 | | 421 | |
| of which paid out as dividend[1] | 1 559 | 33% | 1 592 | 196% | 1 692 | 196% |
| of which share buy-back | 1 006 | 21% | 1 032 | 127% | 1 022[2] | 118% |
| of which added to retained earnings within shareholders' equity | 993 | 20% | –2 293 | | –2 293 | |

[1] FY 2018 is estimated based on average year-to-date CHF/USD FX rates as of February 2019. The dividend is subject to AGM approval and the amount depends on the final number of dividend eligible shares and FX rates upon dividend payout.
[2] Includes shares bought back between 7 May 2018 and 15 February 2019 as part of the buy-back programme authorised at the AGM 2018. The total amount represents an estimate translated at the 2018 average CHF/USD FX rate.

# Compensation framework

## Compensation Policy

Building on the overarching compensation principles included in Swiss Re's Articles of Association, the compensation framework is captured within the Swiss Re Group Compensation Policy (the Compensation Policy). The Compensation Policy governs the compensation structure and processes across all functions and locations at Swiss Re and is reviewed regularly.

The Compensation Committee has also approved an authority matrix that defines the limits to which each level of management can authorise compensation payments. The Group CEO or the Compensation Committee, as applicable, approves all compensation that exceeds the preset limits. The Group CEO is not involved in decision-making concerning his own compensation.

The Human Resources function conducts a regular self-assessment of Swiss Re's compliance with the Compensation Policy. The Compensation Committee reviews this self-assessment and identifies potential areas for improvement. The Compensation Committee receives reports on compensation decisions as appropriate, including a comprehensive review of the effectiveness of the annual compensation review cycle.

Swiss Re is required to assess the Compensation Policy against the requirements of Group regulator FINMA. As part of this process, the Board's Finance and Risk Committee is required to review risks related to the Compensation Policy. A comprehensive risk analysis of the Compensation Policy is therefore conducted on an annual basis.

To reflect best practices, the Compensation Policy prohibits the use of any personal hedging strategies or remuneration and liability-related insurance that could undermine the risk alignment effects and economic exposure embedded in compensation arrangements.

## Guiding principles

Swiss Re's compensation framework is designed to attract, motivate and retain the qualified talent the Group needs to succeed globally and to create a tangible link between performance and pay.

The aim is to provide total compensation that is competitive in local labour markets and to ensure that our employees focus on delivering outstanding results while supporting appropriate and controlled risk-taking. A balanced compensation package is complemented by competitive pension plans and benefits.

This approach adds to the success of the business by:

- Supporting a culture of high performance with a focus on risk-adjusted financial results.
- Ensuring alignment of compensation to business results, individual contribution and recognising what was achieved and how it was achieved.
- Supporting Swiss Re's commitment to attract, motivate and retain key talent.
- Aligning the interests of employees with those of Swiss Re's shareholders.
- Fostering compliance and supporting appropriate and controlled risk-taking.

In addition, Swiss Re seeks to ensure that total compensation is well balanced in terms of fixed versus variable compensation and in terms of short-term versus long-term incentives. This is to encourage sustainable long-term performance and appropriate risk-taking in line with the business and risk strategy.

Swiss Re has several incentive programmes that reflect the long-term nature of the business: both the Value Alignment Incentive (VAI), as the deferred part of the Annual Performance Incentive (API), and the Leadership Performance Plan (LPP) aim to reward sustainable long-term performance rather than short-term results. These programmes support closer alignment of the interests of shareholders and employees.

## OVERVIEW OF KEY COMPENSATION AND BENEFITS COMPONENTS FOR GROUP EC MEMBERS AND OTHER EMPLOYEES

| | Fixed compensation | | Variable compensation | | | Participation plans | |
|---|---|---|---|---|---|---|---|
| | | | (short-term) | | (long-term) | (long-term) | |
| | Base salary | Benefits | Cash API | VAI (deferred API) | LPP | GSPP | ISP*** |
| **Eligibility** | All employees | All employees | All employees | Employees with an API at or above USD 100 000 | Group EC members and other key employees | All employees | All employees |
| **Purpose** | Attract and retain | Risk protection, market competitiveness, connection to Swiss Re values | Pay for performance | Pay for sustained performance | Alignment with future performance and shareholders | Alignment to shareholders | Alignment to shareholders |
| **Plan duration** | | | | 3 years | 5 years for Group EC members and other key executives* and 3 years for remaining participants | 3 years | 1 year |
| **Drivers** | Role and experience | Market practice | Business and individual performance | Business performance | Business performance | | |
| **Settlement** | Cash (immediate) | Pension, insurances, cash | Cash and/or shares (under the ISP***) | Cash (deferred) | Shares | Shares | Shares |
| **Performance KPIs** | | | Business and individual performance | Measurement of the economic impact of profit/loss from previous years' business | ROE<br>Relative TSR | | |
| **Performance period** | | | 1 year | 3 years | 3 years | | |
| **Payout range** | | | 0 to 2 × TAPI (on total API)** | 50% to 150% of deferred API | RSUs: 0% to 100%<br>PSUs: 0% to 200% | | |
| **Share price impact** | No | No | No | No | Yes | Yes | Yes |
| **Forfeiture rules** | No | In certain plans | Yes | Yes | Yes | Yes (on match) | No |
| **Clawback rules** | No | | Yes | Yes | Yes | No | No |

* Certain members of Business Unit Executive Committees (BU ECs) and all Group Managing Directors (GMDs).
** For Group EC members the API payout range is additionally capped at 3 × annual base salary.
*** Has been discontinued from 2019.

**Swiss Re aims for total compensation that is competitive in the market. Swiss Re also seeks to ensure that total compensation is well balanced in terms of fixed versus variable compensation and in terms of short-term versus long-term incentives.**

### Base salary

Base salary is the fixed compensation paid to employees for carrying out their role and is established based on the following factors:

- Scope and responsibilities of the role, and qualifications required to perform the role.
- Market value of the role in the location in which Swiss Re competes for talent.
- Skills and expertise of the individual in the role.

### Benefits

Swiss Re aims to provide a competitive package of employee benefits. Benefits are designed and implemented under a global framework, while appropriately reflecting differing local employment market conditions.

The key objectives of Swiss Re's benefits packages are to:

- Provide a degree of security for employees as it relates to pension, health matters, disability and death.
- Be competitive in the markets where Swiss Re competes for talent.
- Connect with Swiss Re values and enhance engagement.

Additionally, forfeiture provisions apply in certain plans.

### Annual Performance Incentive

#### Purpose

The API is a performance-based, variable component of compensation. Combined with the base salary, it provides competitive total cash compensation when both business and individual performance targets are achieved.

#### Structure

Swiss Re operates a Target API (TAPI) system along with a performance management framework that provides equal weighting to results-oriented and behaviour-related performance criteria for all employees. API is awarded for both objectives achieved and the demonstration of desired behaviours.

A TAPI is set based on multiple factors, but primarily on the role being performed and market benchmarks. Similar to the determination of the base salary, the employee's total compensation and overall pay mix are taken into account when setting the TAPI. The possible payout for the API ranges from 0 to 2 × TAPI.

For Group EC members an additional cap applies which is 3 × annual base salary.

In 2018, for the members of the Group EC including the Group CEO, the total of the aggregate TAPIs amounted to CHF 15.52 million. This is a slight decrease from the prior year, which is due to the number of Group EC members being reduced from 13 to 12 in 2018. For the Group CEO, the TAPI was CHF 2.5 million for the same year. The Group CEO's TAPI has increased by 11% (from CHF 2.25 million) to account for his greater experience in the role.

#### Funding

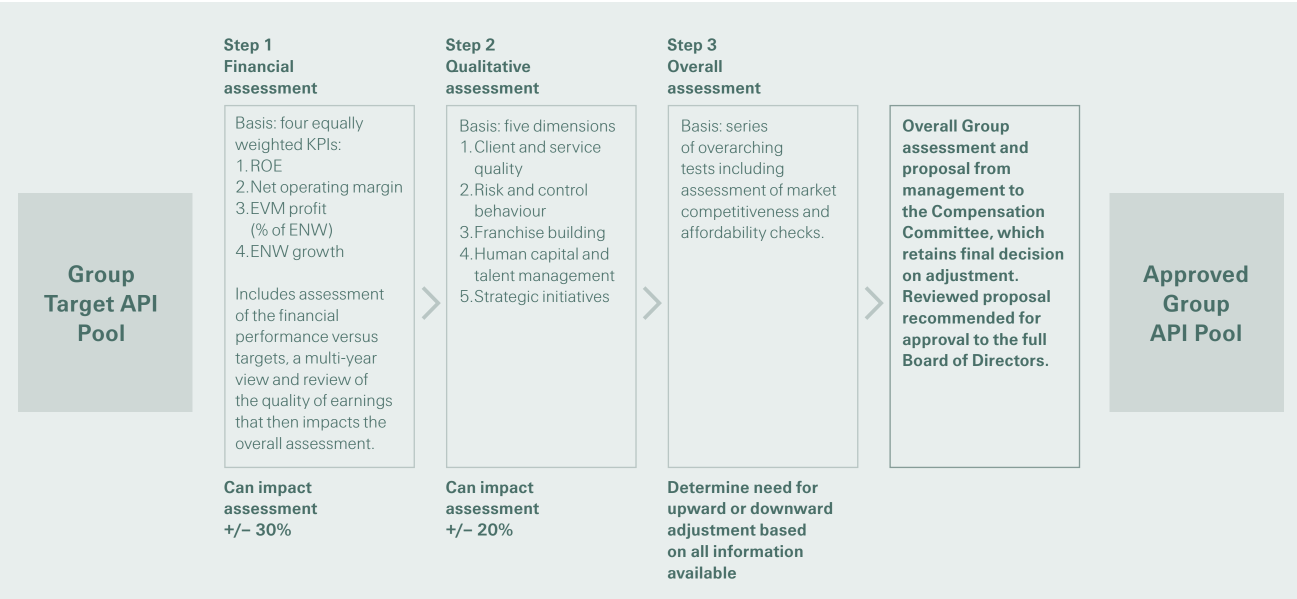
Swiss Re uses a three-step process to assess business performance to help determine the overall Group API pool. The process comprises a financial, a qualitative and an overall assessment. The financial assessment covers four equally weighted performance factors: ROE, net operating margin, EVM profit (% of economic net worth/ENW) and ENW growth measured for both the Group and each Business Unit individually. Also, multi-year comparisons and an assessment of the quality of earnings are considered. The qualitative assessment is based on the achievement of key objectives that aim to reinforce the success of Swiss Re's strategy. For each Business Unit/Group Function, an assessment is made considering five defined dimensions: client and service quality, risk and control behaviour, franchise building, human capital and talent management and strategic initiatives. The preliminary Group API pool is then reviewed considering a number of different perspectives including pay for performance linkage, reasonableness in the market context and proportionality of value sharing among employees and shareholders. The chart below gives more detail on the criteria used to determine the size of the pool.

#### Allocation

The approved Group API pool is further allocated to the Senior Leadership pool and to pools of different Business Units/Group Functions. This allocation is agreed by the Group CEO based on the assessment of financial and qualitative performance factors for the respective business area.

The individual API is determined considering the TAPI, business and individual performance. Individual performance is assessed against the individual's established goals and Swiss Re's behaviour expectations and corporate values.

**GROUP API POOL FUNDING PROCESS**



### Settlement
API is generally settled in cash. When the total API level for an employee exceeds a predefined amount, the award is split into two components: an immediate cash incentive payment (cash API) and a deferred API (VAI).

Forfeiture of unsettled awards and clawback provisions for settled awards apply in a range of events, enabling Swiss Re to seek repayment where appropriate. Examples of such events are acts which can be considered as malfeasance, fraud or misconduct.

## Value Alignment Incentive

### Purpose
The VAI is a mandatory deferral of a portion of the API and introduces a time component to this performance-based, variable compensation. This supports the Group's business model by aligning a portion of variable compensation with sustainable long-term results. The aim is to ensure that the ultimate value of the deferred variable compensation through VAI is affected by the longer-term performance of the relevant Business Unit and the Group.

### Plan duration
The VAI supports a longer-term perspective by linking awards to performance over a three-year period.

### Performance measurement
Starting with the 2015 award, the performance measurement calculation has been simplified to increase transparency. This was achieved by using fewer performance factors (at the Business Unit and Group level) and, where possible, published EVM information, ie EVM profit – previous years' business.

EVM is Swiss Re's proprietary integrated economic valuation and steering framework, consistently measuring performance across all businesses (please refer to the EVM section on pages 56–67 of this Financial Report). The performance factors of the VAI are calculated based on the three-year average of the published EVM previous years' business profit margin.

A higher EVM previous years' business profit margin (for all prior underwriting years) results in a higher performance factor. Conversely, a lower EVM previous years' business profit margin results in a lower performance factor. The performance factor is a linear function whereby payout generally ranges from 50% to 150%.

### Structure
The higher the API granted, the greater the amount of compensation that remains at risk through deferral into the VAI, as shown in the table below.

**PORTION OF API THAT IS DEFERRED**

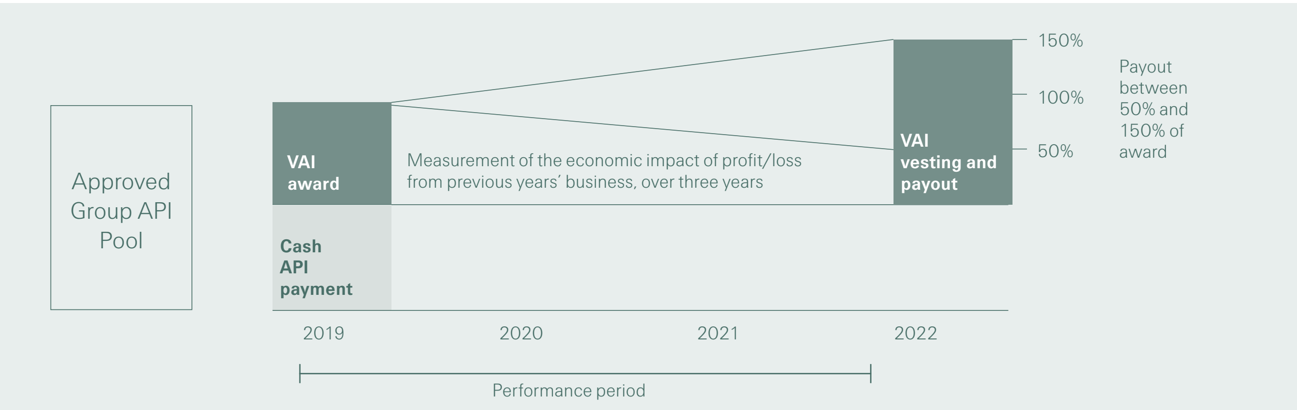
| | Deferral into VAI |
|---|---|
| Group CEO | 50% of API |
| Other Group EC members | 45% of API |
| Other key executives | 40% of API |
| All other employees | 50% of the API amount exceeding USD 100 000 with a minimum deferral amount of USD 5 000 at USD 100 000 and up to a maximum of 40% of API |

### Funding
The VAI is not funded as a separate pool. The Group API pool includes amounts paid in cash and amounts to be deferred into the VAI.

### Settlement
At the end of the deferral period, VAI will be settled in cash. For the full three-year performance measurement period, forfeiture conditions apply.

Additionally, clawback provisions apply in a range of events as defined in the VAI plan rules, enabling Swiss Re to seek repayment of settled awards. Examples of such events are the participant's conduct or acts which can be considered as malfeasance, fraud or misconduct.

For VAI performance outcomes over past years, please refer to page 162.



### Leadership Performance Plan

#### Purpose

The purpose of the LPP is to provide an incentive for Swiss Re's senior management to create sustainable company performance over the long term. The LPP is a forward-looking instrument awarded to participants to incentivise decision-making that is also in the shareholders' interest.

The design of the LPP aims to:

- Focus participants' energies on earnings, capital efficiency and Swiss Re's position against peers, all of which are critical to sustain shareholder value creation.
- Focus participants on long-term goals.
- Attract and retain individuals of exceptional skill.
- Provide competitive compensation that rewards long-term performance.

#### Grant

The amounts disclosed under LPP in the section "Compensation disclosure and shareholdings 2018" reflect the grants made in April 2018. The LPP 2018 will be measured over the period 2018 to 2020 and vests in 2021. Grant levels are determined based on multiple factors including the role being performed and market benchmarks.

The individual grant level for each member of the Group EC is based on a stable CHF amount which in any year cannot exceed 1.5 × annual base salary for each member of the Group EC, excluding the Group CEO, and 2 × annual base salary for the Group CEO. In 2018, the total of the LPP grants awarded to members of the Group EC, including the Group CEO, amounted to CHF 13.2 million. The LPP grant awarded to the Group CEO amounted to CHF 2.0 million.

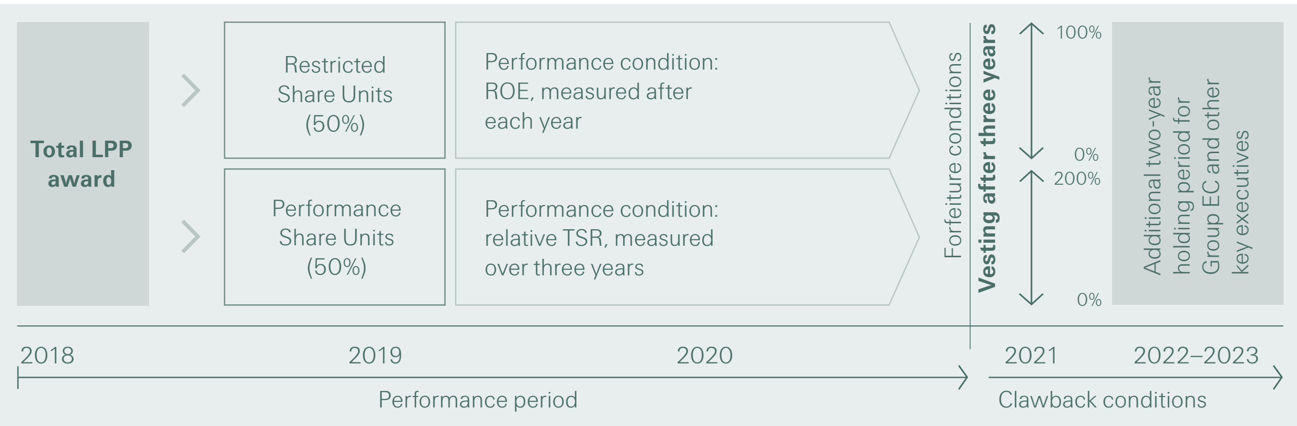
#### Plan duration

The vesting and performance measurement period is three years. For LPP awards granted to Group EC members and other key executives, the duration of the LPP is five years, comprising a three-year vesting and performance measurement period and an additional two-year holding requirement.

#### Structure

At the grant date, the award amount is split equally into two underlying components: Restricted Share Units (RSUs) and Performance Share Units (PSUs). A fair value methodology executed by a third party determines the number of RSUs and PSUs granted.

**LEADERSHIP PERFORMANCE PLAN**



### Restricted Share Units

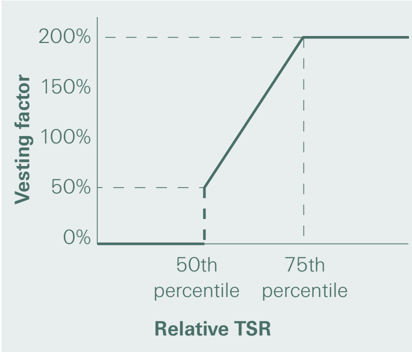
The performance condition for RSUs is ROE with a linear vesting line. Vesting is at 0% for an ROE at the risk-free rate* and at 100% for an ROE at a predefined premium above the risk-free rate. The premium is set at the beginning of the plan period, and for LPP 2018, this premium has been set at 900 basis points above the risk-free rate. At the end of each year, the performance against the ROE condition is assessed and one third of the RSUs are locked in within a range of 0% to 100%. At the end of the three-year period, the total number of units locked in at each measurement period will vest (capped at 100%**).

**RSU VESTING CURVE**


### Performance Share Units

The performance condition for PSUs is relative total shareholder return (TSR) measured over three years. The PSUs vest within a range of 0% to 200%. Vesting starts at the 50th percentile of TSR relative to peers with 50% vesting and is capped at 200%** vesting at the 75th percentile relative to peers. In case of a negative TSR over three years, the Compensation Committee retains the discretion to reduce the level of vesting.

**PSU VESTING CURVE**




Swiss Re's three-year TSR performance is assessed relative to the TSR of the predefined peer group for the same period. This peer group consists of companies that are similar in scale, have a global footprint or a similar business mix to Swiss Re. The peer group, which is set at the beginning of the plan period includes Allianz SE, American International Group Inc, Aviva PLC, AXA SA, Chubb Limited, Everest Re Group Ltd, Hannover Rueck SE, MetLife Inc, Muenchener Rueckversicherungs-Gesellschaft AG, Prudential PLC, QBE Insurance Group Ltd, Reinsurance Group of America Inc, RenaissanceRe Holdings Ltd, SCOR SE, XL Group Ltd[1] and Zurich Insurance Group Ltd.

* The annual risk-free rate is determined as the average of 12 monthly rates for ten-year US Treasury bonds of the corresponding performance year.
** Maximum vesting percentage excludes share price fluctuation until vesting.
[1] XL Group Ltd has now been integrated into AXA SA with effect from 12 September 2018.

### Funding

The LPP pool granted each year is reviewed in the context of sustainable business performance and affordability, and funded as part of the total variable compensation pool.

### Settlement

At the end of the three-year measurement period, both RSUs and PSUs will typically be settled in shares.

Forfeiture and clawback provisions apply in a range of events (the same as outlined in the VAI section) as defined in the LPP plan rules, enabling Swiss Re to seek repayment where appropriate.

Swiss Re also makes it possible for all LPP participants to have shares sold or automatically settled on a net basis as applicable, to cover statutory tax and social security liabilities that may arise at vesting. For LPP performance outcomes over past years, please refer to page 163.

## Global Share Participation Plan

Swiss Re offers its employees an opportunity to directly participate in the long-term success of the Group by purchasing shares (for up to a maximum of CHF 7 000 per year of a plan cycle and capped at 10% of base salary), through the Global Share Participation Plan (GSPP). Swiss Re provides a 30% match on the number of shares held by employees at the end of the three-year plan cycle. The match is subject to forfeiture in case of termination of employment before the end of the plan cycle.

The GSPP has the same core design in all locations.

## Incentive Share Plan

The Incentive Share Plan (ISP) provides employees with an opportunity to purchase shares with some or all of their immediate cash API. The ISP encourages alignment with shareholder interests. Shares are offered with a 10% discount on the fair value and are subject to a one-year blocking period. Full shareholder rights apply during this blocking period.

At the end of the one-year period, the employee assumes full ownership of the shares. The ISP has been discontinued from 2019, given that there is some overlap with the GSPP.

## Supplementary information on Group EC members

### Performance assessment

The Compensation Committee assesses the performance of the Group EC, including the Group CEO, against the same set of quantitative and qualitative objectives. These objectives are agreed at the beginning of the year and are aligned with the Group's strategy.

### Compensation approval

The determination of compensation for the Group EC, including the Group CEO, is ultimately subject to AGM approval, as outlined in the Articles of Association.

### Benchmarking

The external compensation advisor to the Compensation Committee conducts an annual review of the compensation of the Group EC relative to a group of reference companies in the financial services industry to ensure that market competitiveness is maintained. The reference companies are regularly reviewed by the Compensation Committee to ensure their continued relevance. The core peer group consists of the following globally active primary insurance and reinsurance firms: Allianz SE, American International Group Inc, Aviva PLC, AXA SA, Chubb Limited, Hannover Rueck SE, MetLife Inc, Muenchener Rueckversicherungs-Gesellschaft AG, Prudential PLC, QBE Insurance Group Ltd, Reinsurance Group of America Inc, SCOR SE, XL Group Ltd[1] and Zurich Insurance Group Ltd.

### Employment conditions

The Group EC, including the Group CEO, have employment contracts with notice periods of 12 months and no severance clauses. Information on "change of control" clauses is covered in the Corporate Governance section on page 137 of this Financial Report.

Group EC members are covered by the Group's standard defined contribution pension plans.

### Stock Ownership Guidelines

Swiss Re has stock ownership guidelines which articulate the levels of stock ownership expected of the Group EC, including the Group CEO. The guidelines are designed to increase the alignment of the interests of senior management and shareholders.

The guidelines define target ownership by role and the ownership levels required are:

- Group CEO – 3 × annual base salary.
- Group EC members – 2 × annual base salary.

Members have a five-year timeframe to achieve these targets. In case of non-compliance and because Swiss Re believes that a meaningful stock ownership position is essential for alignment with the interests of shareholders, restrictions on the cash portion of the API and/or the vested VAI amounts will apply. These amounts may also be settled in shares.

All vested shares that are owned directly or indirectly by the relevant Group EC member and related parties will be included in the assessment of whether the guidelines have been met or not.

[1] XL Group Ltd has now been integrated into AXA SA with effect from 12 September 2018.

## Compensation framework for the Board of Directors

The objective in compensating members of the Board of Directors is to attract and retain experienced individuals who are highly motivated to perform a critical role in the strategic oversight of Swiss Re and to contribute their individual business experience and expertise. The structure of compensation for members of the Board of Directors must, however, take account of the way their contribution to the success of Swiss Re differs from that of the members of the Group EC.

It is important that the compensation components are structured to achieve a strong alignment with the interests of the shareholders of Swiss Re. In line with best practice, a significant portion (40%) of the compensation for the Board members consists of shares.

The maximum aggregate amount of compensation for the members of the Board of Directors is approved by the AGM in advance of the term of office for which the Board members are elected. The Board members receive no variable or performance-based compensation. The fee level for each Board member, subject to their re-election, is reviewed annually.

### Compensation structure

Fees for the members of the Board of Directors are delivered 60% in cash and 40% in shares. The shares have a four-year blocking period.

### Roles and time commitment

The requirements for memberships of boards of directors of complex, international, listed financial institutions, in terms of qualifications and skills, are constantly increasing. Swiss Re Ltd's Board of Directors has a special skill set including experience in key sectors such as insurance and reinsurance, finance, accounting, capital markets, risk management and regulatory matters as well as leadership and decision-making experience in large, complex financial institutions. The mandate also demands significant commitment, integrity and intercultural communication competence. The prevalence of these qualifications and skills ensures that Swiss Re Ltd has the relevant expertise required for active involvement and supervision of an international listed company. The fees for the members of the Board of Directors reflect different responsibilities and committee memberships. The individual levels of pay therefore vary.

Certain committees, such as the Audit Committee and the Finance and Risk Committee, meet more frequently or hold longer meetings, and hence have higher workloads. The table on page 123 of the Financial Report provides an overview of the meetings of the Board of Directors and its committees held in 2018.

The Chairman of the Board of Directors devotes himself full-time to his role. In defining the position of Chairman as a full-time role, Swiss Re applies best practice for regulated, complex financial institutions. In particular, he leads the Board of Directors, coordinates the work of the Board of Directors and its committees, convenes the Board and committee meetings, establishes the agendas and presides over Board meetings. The Chairman also leads the Chairman's and Governance Committee, which develops and continually adapts Swiss Re's governance to regulatory and corporate requirements. The Chairman presides over General Meetings of Shareholders and represents the Swiss Re Group towards its shareholders in industry associations and in the interaction with other stakeholders such as the media, political and regulatory authorities, government officials and the general public. The Chairman keeps regular contact with our Group regulator FINMA.

The Vice Chairman, who is also the Lead Independent Director, acts as a deputy of the Chairman, if the Chairman is prevented from performing his duties or in potential conflict of interest situations. The Board of Directors may assign further tasks to the Vice Chairman.

### Fee approval

In line with Swiss law, and as outlined in the Articles of Association, the aggregate compensation for the members of the Board of Directors, for the next term of office, is subject to shareholder approval at the AGM.

### Subsidiary boards of directors

The majority of the board members at subsidiary level are Swiss Re executives. They do not receive any additional fee for their services in these roles. The non-executive members of the subsidiary boards receive their fees 100% in cash. When a member of the Board of Directors of Swiss Re Ltd also serves on the board of a subsidiary, the aggregate compensation of the Board of Directors proposed to the AGM for approval also includes any subsidiary board fees.

# Compensation governance

**Authority for decisions related to compensation at the Board and Group EC level are governed by the Articles of Association and the Bylaws of Swiss Re Ltd, including the Charter of the Compensation Committee (Charter). The main responsibilities of the Compensation Committee are summarised in the table on the right.**

**THE ARTICLES OF ASSOCIATION OF SWISS RE LTD INCLUDE RULES ON**

- the annual and binding approval by the AGM of the maximum aggregate amounts of compensation of members of the Board of Directors and of the Group EC (Art. 22);
- the supplementary amount for changes in the Group EC (Art. 23), if the maximum aggregate amount of compensation approved by the AGM is not sufficient to also cover compensation of a new Group EC member;
- the compensation principles for both the members of the Board of Directors and of the Group EC covering short-term and long-term elements, performance-related pay, payment in shares, financial instruments or units, compensation in kind or other types of benefits (Art. 24); and
- the agreements with members of the Board of Directors and the Group EC, external mandates and credits and loans (Arts. 25 to 27).

The Articles of Association are available on the Swiss Re website: www.swissre.com – About us – Corporate governance – Corporate regulations – Articles of Association of Swiss Re Ltd.

Get the PDF to your mobile by scanning the QR code with your smartphone camera.

**ROLES AND RESPONSIBILITIES IN RESPECT OF COMPENSATION**

| Function | Description of roles and responsibilities |
|---|---|
| Board of Directors | ▪ Establishes and periodically reviews Swiss Re's compensation framework, including guidelines and performance criteria.<br>▪ Prepares the proposals to the AGM regarding Board of Directors and Group EC compensation.<br>▪ Further details can be found in the Corporate Governance section on pages 110–127 of this Financial Report. |
| Compensation Committee | ▪ Consists of at least four independent members of the Board of Directors. Each member of the Compensation Committee is elected individually at the AGM for a term of office until completion of the next AGM.<br>▪ Is governed by a Charter approved by the Board of Directors, which defines the purpose, composition and procedural rules of the Compensation Committee, including its responsibilities and authorities for making proposals and decisions related to compensation of the members of the Board of Directors and the Group EC.<br>▪ Assesses the individual performance of the members of the Group EC, including the Group CEO, and periodically reviews the effectiveness of the performance management process.<br>▪ Is responsible for making recommendations to the Board of Directors and overseeing the design and implementation of compensation principles, policy, framework, plans and disclosure.<br>▪ Reviews compensation principles, policies and share-based plans annually to ensure that they remain in line with Swiss Re's objectives and strategy, shareholders' interests and legal and regulatory requirements.<br>▪ Further details can be found in the Corporate Governance section on page 121 of this Financial Report. |
| Management | ▪ The Group CEO, the Group COO and the Chief Human Resource Officer participate in the Compensation Committee meetings.<br>▪ Other members of senior management may attend as deemed appropriate by the Compensation Committee and upon invitation by the Chair of the Compensation Committee.<br>▪ No individual may attend any part of a meeting where their own compensation is discussed. |
| Secretary | ▪ The Head of Reward serves as the Secretary to the Compensation Committee and attends its meetings (apart from the executive sessions). |
| External Advisors | ▪ Mercer provides information about remuneration trends, market benchmarking and advice on executive compensation issues.<br>▪ Niederer Kraft Frey Ltd provides legal advice, mainly about specific aspects of compliance and disclosure matters regarding compensation.<br>▪ These advisors are retained by the Compensation Committee and provide the Compensation Committee with an external perspective. They may also have other mandates with Swiss Re. |

## COMPENSATION APPROVALS

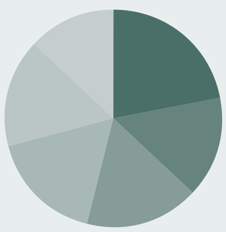
The table below shows the approval processes for key compensation decisions:

| Compensation item | Proposed | Endorsed | Approved |
|---|---|---|---|
| Maximum aggregate amount of compensation for the members of the Board of Directors for the next term of office | Compensation Committee | Chairman of the Board of Directors, Board of Directors | AGM |
| Maximum aggregate amount of fixed compensation and long-term variable compensation for the members of the Group EC | Group CEO | Chairman of the Board of Directors, Board of Directors, Compensation Committee | AGM |
| Aggregate amount of variable short-term compensation for the members of the Group EC | Group CEO | Chairman of the Board of Directors, Board of Directors, Compensation Committee | AGM |
| Compensation for the Chairman of the Board of Directors | Compensation Committee | | Board of Directors[1] |
| Individual compensation for the members of the Board of Directors (excl. Chairman of the Board of Directors) | Compensation Committee | Chairman of the Board of Directors | Board of Directors[1] |
| Variable short-term compensation pools and long-term incentive pools for the Group and Group EC (excl. Group CEO) | Group CEO | Chairman of the Board of Directors, Compensation Committee | Board of Directors[1] |
| Compensation for Group CEO | Chairman of the Board of Directors | Compensation Committee | Board of Directors[2] |
| Variable short-term compensation pools for the Control Functions | Group CEO | Compensation Committee, Chairs of the Audit Committee and the Finance and Risk Committee | Board of Directors |
| Individual compensation for the Heads of the Control Functions | Group CEO | Compensation Committee, Chairs of the Audit Committee and the Finance and Risk Committee | Board of Directors |
| Individual compensation for the members of the Group EC (excl. Group CEO) | Group CEO | Chairman of the Board of Directors | Compensation Committee[2, 3] |

[1] Within the maximum aggregate amount of compensation approved by the AGM.
[2] Within the maximum aggregate amount of compensation approved by the AGM and the additional amount available for changes in the Group EC after the AGM as per the Articles of Association respectively.
[3] Board of Directors is informed.

## COMPENSATION COMMITTEE'S TIME ALLOCATION TO KEY TOPICS IN 2018

- 22% Pay for performance for the Group
- 17% Pay for performance for Group EC members
- 17% Compliance and regulatory
- 16% Executive sessions
- 15% Review of compensation framework
- 13% Other topics



### Compensation Committee activities

The Compensation Committee operates as the Group's global compensation committee and oversees the compensation system applied at all entities of the Swiss Re Group.

The Compensation Committee has an annual agenda to ensure that important reviews take place at the appropriate times throughout the year. The Compensation Committee also commits time to executive sessions and conducts periodic self-assessments to ensure its continued high level of effectiveness. It held six meetings during 2018 and provided an update to the Board of Directors on topics discussed, decisions made and items for approval after each of these meetings. In addition, five items were resolved by circular resolution. A summary of the topics dealt with by the Compensation Committee during the year is shown on page 158.

## HIGH-LEVEL OVERVIEW OF TOPICS DISCUSSED

**Variable compensation for the Group**
At Swiss Re, the compensation cycle begins in December and runs through to April of the following year. The Compensation Committee oversees each stage of the process, starting with deciding on the variable compensation pool for the prior performance year, reviewing this decision, and setting targets for the upcoming year.

Outlined below is an overview of the main topics discussed during 2018:

| Items relating to the past performance cycle | Meeting |
|---|---|
| ■ Performance assessment process and proposal of the variable compensation pool | January and February |
| ■ Approval of performance factors for deferred compensation awards | February and April |
| ■ Review of the decisions made during the prior compensation cycle | April and June |

| Items relating to the upcoming performance cycle | |
|---|---|
| ■ Review and recommendation of the LPP pool for the upcoming year | January and February |
| ■ Setting of the performance targets for variable compensation for the upcoming year | February |

**Compensation and performance of the Group EC**
The review of Group EC compensation follows the same cycle as that for the Group. Again, the Compensation Committee is fully involved through all stages of the process, and all decisions are taken by the Compensation Committee and the Board of Directors.

| | |
|---|---|
| ■ Performance assessment of the prior year | January and February |
| ■ Approval of individual compensation proposals for the Group EC[1] | February |
| ■ Review and confirm reference companies for Group EC compensation benchmarking | April |
| ■ Analysis of Group EC members' compensation relative to external peers | June |

**Compensation of the Board of Directors**
The compensation of the Board of Directors is reviewed annually, and the Compensation Committee formulates proposals for the approval of the Board of Directors accordingly.[2]

| | |
|---|---|
| ■ Fees of the Board of Directors for the following compensation period | April |
| ■ Review and update of the Entity Board Compensation Guidelines | June |
| ■ Analysis of compensation practices for non-executive directors relative to the market | September |

**Compensation principles and plans**

| | |
|---|---|
| ■ Review and update of the API plan rules | April |
| ■ Review of the ISP plan rules[3] | April |
| ■ Annual benefits review | June |
| ■ Review and confirm appropriateness of the LPP in the current market context | June, September and December |
| ■ Review and update of the GSPP plan rules | December |
| ■ Review and update of the VAI and LPP plan rules | December |

**Compliance and regulatory**
The Compensation Committee spends time reviewing materials relating to regulatory or compliance requirements. In addition, the mandate of its advisors is reviewed on an ongoing basis.

| | |
|---|---|
| ■ Review and endorsement of the Compensation Report | December, January and February |
| ■ Compliance and regulatory developments | All meetings |
| ■ Review of the role and mandate of external advisors | September and December |

[1] Within the maximum aggregate amount of compensation approved by the AGM and the additional amount available for changes in the Group EC after the AGM as per the Articles of Association respectively.
[2] Within the maximum aggregate amount of compensation approved by the AGM.
[3] The ISP has been discontinued from 2019.

## The role of the Control Functions in compensation

The role of Swiss Re's Control Functions (defined as Group Risk Management, Compliance and Group Internal Audit) in compensation matters is well established.

### Risk and control-related behaviour assessment of Group and business functions

The focus on risk and control-related behaviours continues. The Control Functions annually perform an independent assessment of risk and control-related behaviours and summarise the outcomes in a consolidated report.

### Risk and control-related behaviour assessment of Key Risk Takers

Swiss Re bears risks in the course of its business activities, including market, credit and liquidity, underwriting, operational (including legal and compliance) and reputational risk. Swiss Re's Key Risk Takers are executives in core risk-taking positions who decide on business and people strategies, approve budgets, and can materially influence financial results or expose Swiss Re to significant operational or reputational risks.

In 2018, Swiss Re identified 181 positions that qualify as Key Risk Takers. This group consists of the members of the Group EC, BU EC members, other key executives and roles with core risk-taking authority. The list of Key Risk Takers is reviewed on a regular basis by Group Risk Management and Human Resources.

### Influence of the behavioural assessment on compensation

The risk and control-related behaviour assessment of Group and business functions provides additional input for helping determine the Group API pool and its allocation to each business function.

The Control Functions assess the risk and control-related behaviour of each Key Risk Taker and deliver a report to key executives, including the Group Chief Risk Officer and the Chief Human Resource Officer on an annual basis. This assessment serves as an additional factor when considering individual performance and compensation outcomes.

### Independence of the Control Functions

In order to ensure the continued independence of Control Functions, their compensation approval processes differ in that key annual compensation decisions for these functions are approved at the Board level.

This includes the approval of the aggregate API pools of the Control Functions, and the approval of the individual compensation for the head of each Control Function by the Board of Directors, including the Chairs of the Audit Committee and the Finance and Risk Committee.

# Performance outcomes 2018

**Key considerations for Swiss Re's annual compensation decisions continue to cover US GAAP and EVM based business results, qualitative factors and Swiss Re's pay for performance approach.**

The outcomes of the financial, qualitative and overall assessment, all part of Swiss Re's three-step funding process (as described on page 149 of this Financial Report), again determined the Group API pool for 2018.

## Financial assessment (Step 1)

**Swiss Re Group and Business Units**
In 2018, the Group's US GAAP performance and EVM results were significantly impacted by large natural catastrophe events and man-made losses: years like this, even in sequence, are not unusual in the context of the business market of Reinsurance. The destructive force of these events was reflected in both the Property & Casualty Reinsurance and Corporate Solutions results. The investment result mirrors challenging financial markets, with credit spread widening and equity market volatility, the latter also negatively impacting US GAAP net income as a result of the new US GAAP guidance on equity investments. Life & Health Reinsurance delivered solid US GAAP and strong economic new business results. Life Capital generated significant gross cash for the Group.

**US GAAP financial performance**
US GAAP net income of Property & Casualty Reinsurance was adversely affected by large natural catastrophe events and man-made losses, partially offset by favourable prior-year development. The solid performance of Life & Health Reinsurance was mainly driven by large transactions and partially offset by unfavourable mortality experience in the US. Gross premiums written increased compared to 2017, mainly driven by growth across all markets.

Corporate Solutions reported a net loss, reflecting the impact of a combination of large natural catastrophe events and man-made losses. Corporate Solutions is focused on its long-term strategy by continuing to invest in its Primary Lead capabilities and extending its global network coverage. Premiums earned increased compared to 2017, primarily attributable to growth in the Primary Lead business.

Life Capital's result reflects the unfavourable UK investment market performance in 2018. This was partially offset by net realised investment gains and favourable underwriting experience. The strong gross cash generation was driven by the proceeds from MS&AD's investment in ReAssure, the underlying surplus on the ReAssure business as well as the favourable finalisation of the 2017 Solvency II position.

For further details and discussion on the US GAAP financial performance, refer to pages 192–305 of this Financial Report.

**EVM financial performance**
The EVM underwriting result of Property & Casualty Reinsurance was mainly driven by previous years' business profit, partially offset by a new business loss due to large natural catastrophe events and man-made losses. The investment loss was primarily due to credit spread widening and mark-to-market losses on equity securities. Life & Health Reinsurance generated a strong new business profit, mainly due to large transactions in Asia and good core business development in the US. Investment activities were impacted by spread widening on credit investments as well as unfavourable interest rate movements on a net long duration position.

Corporate Solutions generated an EVM underwriting loss primarily driven by large natural catastrophe events and man-made losses. A loss on investment activities added to the unfavourable result, driven by the impact of credit spread widening and unfavourable performance from equity investments.

The strong EVM underwriting result of Life Capital was primarily driven by a profit on previous years' business. This was more than offset by a loss on investment activities due to credit spread widening and underperformance from the implied equity exposure arising from unit-linked business. For further details on the EVM financial performance, refer to the EVM chapter on pages 56–67 of this Financial Report.

## Qualitative assessment (Step 2)

In 2018, Swiss Re again performed well on its qualitative dimension: the Group grew transaction volumes, optimised business retention, strengthened the franchise value and provided client solutions.

Technology played an important role, such as i) in Property & Casualty Reinsurance's partnership with BMW when developing a vehicle-specific insurance rating that primary insurers worldwide can use to calculate car insurance premiums, and ii) in Life & Health Reinsurance's market-leading automated underwriting solution, enabling primary insurance clients to automate the assessment and decision-making process, and providing useful data insights. Corporate Solutions extended its global network and now has servicing capabilities in over 120 countries. Life Capital's open book businesses have grown strongly and the increased MS&AD share demonstrates a strong equity story, creating positive momentum for the potential initial public offering of the UK closed life book business ReAssure.

Swiss Re's clients and service quality is assessed on an annual basis through leading external benchmarks. Clients positively perceive Swiss Re's engagement and client advisory beyond the traditional risk transfer. Thought leadership at major industry events (such as the G20 and World Economic Forum) in the field of mitigating climate risk, building societal resilience and driving digital insurance solutions continues to establish Swiss Re as the go-to provider for solving resilience challenges.

Contributing to sustainability (including social development and financial inclusion) throughout the whole value chain remained key: by supporting clients in sustainable underwriting and by investing responsibly. The ESG (Environment, Social, Governance) approach stood out and the global industry dialogue across policymakers and peers continued to advance.

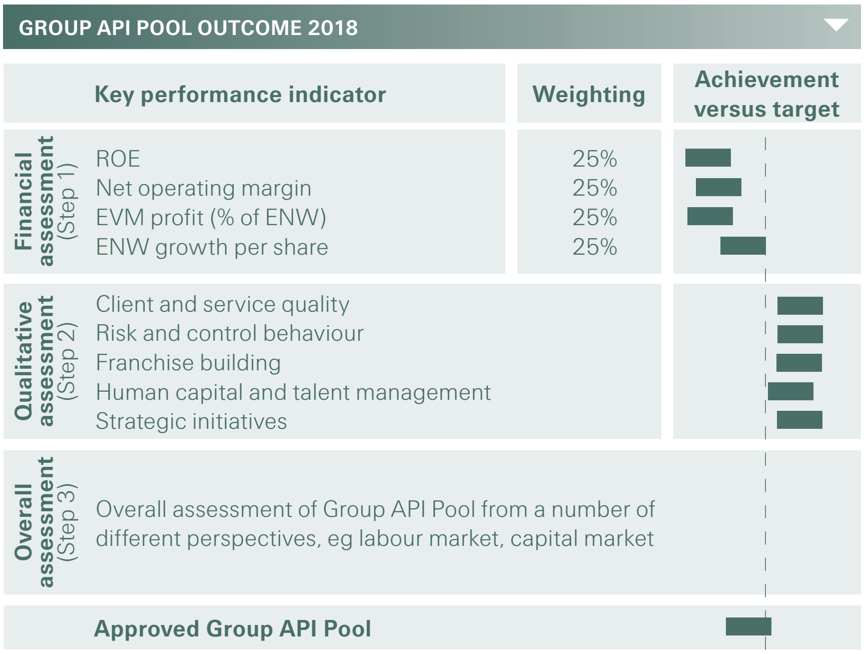
A comprehensive array of innovative solutions was launched, such as the award-winning service helping people back to wellbeing after cancer treatment. New modelling and risk transfer solutions were developed to counter environment-related losses such as from floods and drought. On many occasions, there was close cooperation with Swiss Re's clients, and public and private partners. For example, together Swiss Re i) established the first global mechanism dedicated to supporting famine prevention, response and recovery, ii) designed a new type of insurance to protect the coral reefs and iii) launched the first health coverage for women in Egypt.

Swiss Re's 14 943 talented employees achieved all this. In the global employee engagement survey, staff commended empowerment and autonomy, open and safe dialogue with management, and diversity. The Group's open mind, inclusive of individual differences, was also recognised externally: Swiss Re was rewarded by inclusion in the Bloomberg Gender-Equality index for its focus and transparency on gender-related topics in the workplace.

Reinsurance and risk are intrinsically linked. The continuous assessment by Swiss Re's Assurance functions keeps the Group focused: there is a robust risk governance framework with a clear risk appetite and accountability for managing risk. A strong tone at the top supports an effective culture for risk management activities, such as open discussion and effective challenge within the decision-making process where risk and options are evaluated.

## Overall assessment (Step 3)

The labour market review concluded that Swiss Re is acting in line with the majority of reinsurance organisations, which have projected an increase in their annual incentive pools, though pool levels are still below target levels. The capital market review highlighted that the proportionality of proposed value sharing in terms of revenue sharing with employees is below peers' historical three-year median levels, giving a higher percentage distribution to shareholders.




Performance targets used for the financial assessment are considered to be commercially sensitive to the business, and disclosure of such may provide an unfair advantage to Swiss Re's competitors. However, to further increase transparency on the bonus-setting process, indicative achievements against the targets are disclosed.

### Annual Performance Incentive

Both the Compensation Committee and the full Board of Directors assessed in depth the 2018 performance of Swiss Re Group. The US GAAP performance was below target, but higher than last year, and would have been even better without the impact of the new US GAAP accounting guidance on equity investments. Combined with the Group's strong qualitative performance, this has resulted in variable compensation payouts that are below target levels but higher than last year. This payout decision is supported by our long-standing practice where we have positive but not excessive variable compensation payouts in years with relatively benign natural catastrophe environments, and conversely, lower but proportionate variable compensation payouts in adverse environments. This allows us to carefully manage key talent retention risk.

### Value Alignment Incentive

VAI performance is measured for the Group and each underlying business area. The performance factor for each participant is determined based on the business area that the participant worked on 31 December of the year preceding the award (see page 150 for a detailed description of the VAI). The VAI 2015 (awarded 2016) performance factor of 100.0% for the Swiss Re Group is based on the three-year average previous years' business performance for years 2016, 2017 and 2018. The main drivers were previous years' business profits in Property & Casualty Reinsurance offset by previous years' business losses in Life & Health Reinsurance and Corporate Solutions.

| VAI plan year | Performance period remaining as of 31 December 2018 | Swiss Re Group performance factor |
|---|---|---|
| 2011 (awarded 2012) | Closed | 103.0% |
| 2012 (awarded 2013) | Closed | 101.5% |
| 2013 (awarded 2014) | Closed | 100.3% |
| 2014 (awarded 2015) | Closed | 99.9% |
| 2015 (awarded 2016) | – | 100.0% |
| 2016 (awarded 2017) | 1 year | to be determined |
| 2017 (awarded 2018) | 2 years | to be determined |

**Leadership Performance Plan**

The LPP award is consistently linked to the Group's future achievement of multi-year performance conditions (ROE and relative TSR), keeping the focus on the long-term success of the Group. Swiss Re made LPP grants in 2018 consistent with this rationale. The LPP is generally part of total compensation (see pages 151–153 for a detailed description of the LPP).

The RSU component is measured against an ROE performance condition. At the end of each year, the performance is assessed and one third of the RSUs are locked in within a range of 0% to 100%. At the end of the three-year period, the total number of units locked in vests. For the LPP 2015 and LPP 2016, the average performance factor for the RSUs was 66.7% and 32.3% respectively for the three-year period.

The PSU component is based on relative TSR, measured against a predefined basket of peers, and vests within a range of 0% to 200%. For both the LPP 2015 and LPP 2016, the performance factor for the PSUs was 0% for the three-year period. The table below gives an overview of the RSU and PSU performance achievement for the previous LPP plan years:

| LPP plan year | Performance period remaining as of 31 December 2018 | RSU average performance factor for the three-year period | PSU performance factor for the three-year period |
|---|---|---|---|
| 2012 | Closed | 99.7% | 200.0% |
| 2013 | Closed | 99.7% | 60.0% |
| 2014 | Closed | 99.7% | 81.0% |
| 2015 | Closed | 66.7% | 0.0% |
| 2016 | – | 32.3% | 0.0% |
| 2017 | 1 year | to be determined | to be determined |
| 2018 | 2 years | to be determined | to be determined |

# Compensation disclosure and shareholdings 2018

## Aggregate compensation of the Swiss Re Group

The aggregate compensation for the performance years 2017 and 2018 for all employees was as follows:

| Category | Type of plan | Performance year 2017 Number of employees[1] | Performance year 2017 Values (in CHF millions) | Performance year 2018 Number of employees[1] | Performance year 2018 Values (in CHF millions) |
|---|---|---|---|---|---|
| Fixed compensation | Base salaries | 14 485 | 1 330 | 14 943 | 1 351 |
| | Pensions, social security and benefits | 14 485 | 467 | 14 943 | 443 |
| Annual Performance Incentive | Cash Annual Performance Incentive[2] | 13 277 | 261 | 13 877 | 300 |
| | Value Alignment Incentive[2] | 429 | 27 | 529 | 32 |
| Long-term variable compensation | Leadership Performance Plan | 377 | 50 | 404 | 50 |
| Other payments | Severance payments[2, 3] | 320 | 25 | 439 | 28 |
| | Sign-on payments | 121 | 5 | 94 | 4 |
| **Total** | | | 2 165 | | **2 208** |

[1] Regular staff.
[2] The number of employees receiving cash API, VAI and severance payments in 2017 has been restated.
[3] Severance payments in the table above include (i) payments under standard severance packages, (ii) other payments that are over and above what is contractually or legally required, and (iii) voluntary supplementary departure payments, but exclude similar legally permitted payments or garden leave which are aligned with local market practice for comparable positions in respect of amount, nature or duration. No severance payments were made to members of the Group EC.

As of 31 December 2018, the Group had 14 943 employees worldwide, compared to 14 485 employees at the end of 2017.

The total compensation of the Group for 2018 amounted to CHF 2 208 million (compared to CHF 2 165 million in 2017), whereof CHF 2 156 million has been or will be paid in cash (compared to CHF 2 112 million in 2017) and CHF 52 million has been granted in share-based awards (compared to CHF 53 million in 2017).

The value of all outstanding deferred compensation (determined for VAI at grant and for LPP using the fair value at grant) for all employees at 31 December 2018 amounted to CHF 270 million (compared to CHF 293 million in 2017) whereof CHF 132 million will be payable in cash (compared to CHF 155 million in 2017) and CHF 138 million in shares (compared to CHF 138 million in 2017).

In 2018 and 2017, a reduction of expenses amounting to CHF 3 million and CHF 5 million respectively, was recognised for compensation in previous financial years.

## Aggregate compensation for Key Risk Takers

The aggregate compensation of the individuals that held a key risk-taking position during the performance years 2017 and 2018 was as follows:

| Category | Type of plan | Performance year 2017 Number of employees | Performance year 2017 Values (in CHF millions) | Performance year 2018 Number of employees | Performance year 2018 Values (in CHF millions) |
|---|---|---|---|---|---|
| Fixed compensation | Base salaries | 180 | 67 | 181 | 67 |
| | Pensions, social security and benefits | 180 | 29 | 181 | 24 |
| Annual Performance Incentive | Cash Annual Performance Incentive | 178 | 36 | 171 | 39 |
| | Value Alignment Incentive | 164 | 19 | 160 | 21 |
| Long-term variable compensation | Leadership Performance Plan | 152 | 37 | 164 | 38 |
| Other payments | Severance payments[1] | 1 | 1 | 3 | 0 |
| | Sign-on payments | 9 | 1 | 9 | 1 |
| **Total** | | | 190 | | **190** |

[1] Severance payments in the table above include (i) payments under standard severance packages, (ii) other payments that are over and above what is contractually or legally required, and (iii) voluntary supplementary departure payments, but exclude similar legally permitted payments or garden leave which are aligned with local market practice for comparable positions in respect of amount, nature or duration. No severance payments were made to members of the Group EC.

COMPENSATION MIX
FOR GROUP EC

**2018**

- 31% Base salary
- 20% Cash API
- 16% VAI (paid after 3 years)
- 33% LPP (paid after 5 years)

**2017**

- 33% Base salary
- 18% Cash API
- 15% VAI (paid after 3 years)
- 34% LPP (paid after 5 years)

## Compensation decisions for members of governing bodies

The section below is in line with Swiss law and specifically with Arts. 14 to 16 of the Ordinance against Excessive Compensation at Public Corporations (the Ordinance) which requires disclosure of compensation granted to members of the Board of Directors and the Group EC. Compensation to members of the Board of Directors and the highest-paid member of the Group EC is shown separately.

At the AGMs 2017 and 2018, the shareholders approved the maximum aggregate compensation amounts for the Board of Directors and Group EC for the prospective periods. For the reconciliation of these aggregate amounts to what was awarded, please refer to page 170.

### Compensation decisions for the Group EC

The following table covers payments to 14 members of the Group EC for 2018, of whom 11 were active for the full year. The 2017 payments also cover 14 members of the Group EC, of whom 12 were active for the full year.

| CHF thousands | 14 members 2017 | 14 members **2018** |
|---|---|---|
| Base salaries | 12 995 | 12 265 |
| Allowances[1] | 861 | 1 159 |
| Funding of pension benefits | 2 132 | 1 928 |
| **Total fixed compensation** | 15 988 | **15 352** |
| Cash Annual Performance Incentive[2] | 7 069 | 7 781 |
| Value Alignment Incentive[2] | 5 931 | 6 559 |
| Leadership Performance Plan[3] | 13 450 | 13 150 |
| *Granted in RSU (50%)* | *6 725* | *6 575* |
| *Granted in PSU (50%)* | *6 725* | *6 575* |
| **Total variable compensation** | 26 450 | **27 490** |
| **Total fixed and variable compensation[4]** | 42 438 | **42 842** |
| Compensation due to members leaving[5] | 721 | 1 411 |
| **Total compensation[6]** | 43 159 | **44 253** |

[1] Benefits or allowances paid in cash. Consists of housing, schooling, lump sum expenses, relocation expenses/taxes, and child and similar allowances.
[2] For 2018, subject to shareholder approval at the AGM 2019. For 2017, based on shareholders' approval at the AGM 2018 of the aggregate amount of short-term variable compensation.
[3] Disclosure reflects all awards for a reporting year, ie the 2017 value reflects the fair value of LPP awards granted in April 2017 and the 2018 value reflects the fair value of LPP awards granted in April 2018.
[4] Covers payments reflecting the time in the role as Group EC members.
[5] For Group EC members leaving during the reporting period, this only covers legally or contractually required payments for the period when the member was no longer in the role (eg base salary when on garden leave).
[6] Amounts are gross before deduction of employee social security contributions. Additional and not included are company contributions to social security systems paid by Swiss Re in line with applicable laws which amounted to CHF 2 984 097 (restated) in 2017 and CHF 2 109 031 in 2018.

The proposed total API amount for 2018 for the Group EC (including the Group CEO) is CHF 14.3 million, which represents a 10.0% increase when compared to 2017 (CHF 13.0 million). This increase should be seen in the context of a very substantial API decrease of circa 29% in 2017 for the Group EC (again including the Group CEO) compared to the previous year. The Compensation Committee and the Board of Directors carefully considered the performance of the Group EC in 2018 and concluded that, given the overall business environment context for the Swiss Re Group and the significant qualitative achievements, a modest API increase compared to last year is warranted. Nevertheless, this amount overall still remains below target levels.

**Compensation decisions for the highest-paid member of the Group EC**
The table below shows the compensation paid to Christian Mumenthaler, Group CEO (in the role since 1 July 2016):

| CHF thousands | 2017 | **2018** |
|---|---|---|
| Base salary | 1 400 | 1 475 |
| Allowances[1] | 35 | 35 |
| Funding of pension benefits | 178 | 178 |
| **Total fixed compensation** | 1 613 | **1 688** |
| Cash Annual Performance Incentive[2] | 810 | 1 063 |
| Value Alignment Incentive[2] | 810 | 1 063 |
| Leadership Performance Plan[3] | 2 000 | 2 000 |
| *Granted in RSU (50%)* | *1 000* | *1 000* |
| *Granted in PSU (50%)* | *1 000* | *1 000* |
| **Total variable compensation** | 3 620 | **4 126** |
| **Total compensation[4]** | 5 233 | **5 814** |

[1] Benefits or allowances paid in cash. Includes health care and accident insurance benefits, lump sum expenses, transportation, and child and similar allowances.
[2] For 2018, subject to shareholders approval at the AGM 2019. For 2017, as part of the aggregate amount of short-term variable compensation approved by the shareholders at the AGM 2018.
[3] Disclosure reflects all awards for a reporting year, ie the 2017 value reflects the fair value of the LPP award granted in April 2017 and the 2018 value reflects the fair value of the LPP award granted in April 2018.
[4] Amounts are gross before deduction of employee social security contributions. Additional and not included are company contributions to social security systems paid by Swiss Re in line with applicable laws, which amounted to CHF 300 767 in 2017 and CHF 230 930 in 2018.

The performance of the Group CEO is evaluated against both quantitative targets (as defined in the Group Plan approved by the Board of Directors) and qualitative goals agreed between the Board of Directors and the Group CEO, designed to support long-term business strategy and to drive sustainable performance across the Swiss Re Group. The quantitative results of the Group have been discussed in detail on pages 160 to 161.

The Board was very satisfied with the achievement of the Group CEO on qualitative goals. These include, amongst several others, a constructive relationship with regulators worldwide, strong credit ratings and stable credit spreads, successfully representing the Group to our global client base, developing long-term initiatives to build a strong franchise far into the future (such as the ESG investment strategies, the Swiss Re Institute and employee engagement/diversity) and, in particular, leading the decision-making process in large possible, but discontinued corporate transactions.

Overall, the Board of Directors is very satisfied with how effectively the Group CEO is steering the Group despite very challenging conditions.

**Additional information on compensation decisions**
For US GAAP and statutory reporting purposes, VAI and LPP awards are accrued over the period during which they are earned. For the purpose of the disclosure required in this Compensation Report, the value of awards granted is included as compensation in the year of performance for the years 2017 and 2018 respectively.

Each member of the Group EC, including the Group CEO, participates in a defined contribution pension scheme. The funding of pension benefits shown in the previous two tables reflects the actual employer contributions.

**Other payments to members of the Group EC**
During 2018, no payments (or waivers of claims) other than those set out in the section "Compensation disclosure and shareholdings in 2018" were made to current members of the Group EC or persons closely related.

### Shares held by members of the Group EC

The following table reflects Swiss Re share ownership by members of the Group EC as of 31 December:

| Members of the Group EC | 2017 | 2018 |
|---|---|---|
| Christian Mumenthaler, Group CEO | 68 775 | 71 733 |
| David Cole, former Group Chief Financial Officer[1] | 82 982 | n/a |
| John R. Dacey, Group Chief Financial Officer | 23 671 | 27 124 |
| Guido Fürer, Group Chief Investment Officer | 61 077 | 66 007 |
| Agostino Galvagni, CEO Corporate Solutions | 94 591 | 99 521 |
| Jean-Jacques Henchoz, former CEO Reinsurance EMEA[2] | 49 020 | n/a |
| Russell Higginbotham, CEO Reinsurance EMEA | n/a | 3 918 |
| Thierry Léger, CEO Life Capital | 49 841 | 53 785 |
| Moses Ojeisekhoba, CEO Reinsurance | 36 194 | 38 998 |
| Jayne Plunkett, CEO Reinsurance Asia | 34 288 | 36 264 |
| Patrick Raaflaub, Group Chief Risk Officer | – | 3 944 |
| Edouard Schmid, Group Chief Underwriting Officer | 29 161 | 30 936 |
| J. Eric Smith, CEO Reinsurance Americas | 21 400 | 24 004 |
| Thomas Wellauer, Group Chief Operating Officer | 105 390 | 110 520 |
| **Total** | 656 390 | **566 754** |

[1] The number of shares held on 31 March 2018 when David Cole stepped down from the Group EC was 82 982.
[2] The number of shared held on 22 August 2018 when Jean-Jacques Henchoz stepped down from the Group EC was 53 168.

### Leadership Performance Plan units held by members of the Group EC

The following table reflects total unvested LPP units (RSUs and PSUs) held by members of the Group EC as of 31 December:

| Members of the Group EC | 2017 | 2018 |
|---|---|---|
| Christian Mumenthaler, Group CEO | 108 779 | 119 029 |
| David Cole, former Group Chief Financial Officer | 57 825 | n/a |
| John R. Dacey, Group Chief Financial Officer | 57 825 | 55 178 |
| Guido Fürer, Group Chief Investment Officer | 68 394 | 68 971 |
| Agostino Galvagni, CEO Corporate Solutions | 57 825 | 55 178 |
| Jean-Jacques Henchoz, former CEO Reinsurance EMEA | 46 259 | n/a |
| Russell Higginbotham, CEO Reinsurance EMEA | n/a | 26 277 |
| Thierry Léger, CEO Life Capital | 54 715 | 55 178 |
| Moses Ojeisekhoba, CEO Reinsurance | 54 715 | 55 178 |
| Jayne Plunkett, CEO Reinsurance Asia | 43 149 | 44 142 |
| Patrick Raaflaub, Group Chief Risk Officer | 54 715 | 55 178 |
| Edouard Schmid, Group Chief Underwriting Officer | 39 678 | 41 962 |
| J. Eric Smith, CEO Reinsurance Americas | 46 259 | 44 142 |
| Thomas Wellauer, Group Chief Operating Officer | 57 825 | 55 178 |
| **Total** | 747 963 | **675 591** |

### Loans to members of the Group EC

As per Article 27 of the Articles of Association, credits and loans to members of the Group EC may be granted at employee conditions applicable for the Swiss Re Group, with a cap on the total amount of such credits and loans outstanding per member.

In general, credit is secured against real estate or pledged shares. The terms and conditions of loans and mortgages are typically the same as those available to all employees of the Swiss Re Group in their particular locations to the extent possible.

Swiss-based variable-rate mortgages have no agreed maturity dates. The basic preferential interest rates equal the corresponding interest rates applied by the Zurich Cantonal Bank minus one percentage point. Where fixed or floating interest rates are preferential, the value of this benefit has been included under "allowances" in the tables covering compensation decisions for Group EC members.

The following table reflects total mortgages and loans for members of the Group EC as of 31 December:

| CHF thousands | 2017 | 2018 |
|---|---|---|
| Total mortgages and loans to members of the Group EC | 914 | **900** |
| Highest mortgage or loan to an individual member of the Group EC: | | |
| Edouard Schmid, Group Chief Underwriting Officer | 914 | 900 |
| Total mortgages and loans not at market conditions to former members of the Group EC | 4 300 | **4 300** |

## Compensation for members of the Board of Directors

The following two tables illustrate (1) the individual compensation for the members of the Board of Directors for the reported financial years 2017 and 2018 and (2) the individual compensation for the members of the Board of Directors paid or payable for the term of office from AGM 2018 to AGM 2019.

### (1) Individual Board compensation for the reported financial years 2017 and 2018 (figures in CHF thousands)

| Members of the Board of Directors | Total 2017 | Fees and allowances in cash | Fees in blocked shares | **Total 2018** |
|---|---|---|---|---|
| Walter B. Kielholz, Chairman | 4166 | 2328 | 1547 | 3875 |
| Renato Fassbind, Vice Chairman, Chair Audit Committee[1] | 825 | 496 | 330 | 826 |
| Raymond K.F. Ch'ien, Member[2] | 316 | 309 | 130 | 439 |
| Mary Francis, former Member[3] | 375 | 70 | 47 | 117 |
| Karen Gavan, Member[4, 5] | n/a | 204 | 80 | 284 |
| Rajna Gibson Brandon, former Member[3] | 317 | 66 | 43 | 109 |
| C. Robert Henrikson, former Chair Compensation Committee[3] | 462 | 95 | 63 | 158 |
| Trevor Manuel, Member | 341 | 211 | 140 | 351 |
| Jay Ralph, Member | 184 | 166 | 110 | 276 |
| Joerg Reinhardt, Member | 184 | 166 | 110 | 276 |
| Carlos E. Represas, former Member[6] | 197 | 0 | 0 | 0 |
| Eileen Rominger, Member[4] | n/a | 110 | 74 | 184 |
| Philip K. Ryan, Chair Finance and Risk Committee[5] | 878 | 654 | 240 | 894 |
| Sir Paul Tucker, Member | 315 | 195 | 130 | 325 |
| Jacques de Vaucleroy, Chair Compensation Committee[7] | 377 | 470 | 163 | 633 |
| Susan L. Wagner, Chair Investment Committee | 558 | 345 | 230 | 575 |
| Larry Zimpleman, Member[4] | n/a | 110 | 74 | 184 |
| **Total compensation for the reported financial years[8, 9]** | 9495 | **5995** | **3511** | **9506** |

[1] Acting as the Lead Independent Director.
[2] Includes fees for duties on the board of Singapore Group companies.
[3] Term of office expired after the completion of the AGM of 20 April 2018 and did not stand for re-election.
[4] Elected to Swiss Re's Board of Directors at the AGM of 20 April 2018.
[5] Includes fees received for duties on the board of US Group companies.
[6] Term of office expired after the completion of the AGM of 21 April 2017 and did not stand for re-election.
[7] Includes fees for duties on the board of Luxembourg Group companies.
[8] Compensation for the members of the Board of Directors includes fixed fees (cash and shares) and minimal allowances. No sign-on or severance payments have been made.
[9] Amounts are gross and include social security contributions of the Board member. Additionally and not included are company contributions to social security systems paid by Swiss Re in line with applicable laws which amounted to CHF 706 811 in 2017 and CHF 414 704 in 2018. For Board members domiciled outside of Switzerland, company social security contributions are refunded, if bilateral social security agreements between Switzerland and the country of domicile apply and provide for such refund.

### (2) Individual Board compensation for the term of office between AGM 2018 and AGM 2019 (figures in CHF thousands)

The table below provides more detailed information on the compensation paid or payable to each Board member against the maximum aggregate amount of CHF 9 900 000 as approved by the AGM 2018:

| Members of the Board of Directors | Base fees | Audit Committee fees | Compensation Committee fees | Finance and Risk Committee fees | Investment Committee fees | Additional fees[1] | **Total[2]** |
|---|---|---|---|---|---|---|---|
| Walter B. Kielholz, Chairman | | | | | | | 3800 |
| Renato Fassbind, Vice Chairman Chair Audit Committee | 225 | 425 | 50 | | | 125 | 825 |
| Raymond K.F. Ch'ien, Member[3] | 225 | | 50 | | 50 | 112 | 437 |
| Karen Gavan, Member | 225 | 75 | | | | 112 | 412 |
| Trevor Manuel, Member | 225 | 75 | | | 50 | | 350 |
| Jay Ralph, Member | 225 | | | 50 | | | 275 |
| Joerg Reinhardt, Member | 225 | | 50 | | | | 275 |
| Eileen Rominger, Member | 225 | | | | 50 | | 275 |
| Philip K. Ryan, Member Chair Finance and Risk Committee | 225 | 75 | | 300 | | 294 | 894 |
| Sir Paul Tucker, Member | 225 | | | 50 | 50 | | 325 |
| Jacques de Vaucleroy, Member Chair Compensation Committee | 225 | | 200 | | 50 | 227 | 702 |
| Susan L. Wagner, Member Chair Investment Committee | 225 | | | 50 | 300 | | 575 |
| Larry Zimpleman, Member | 225 | | | 50 | | | 275 |
| **Total compensation for the term of office from AGM 2018 to AGM 2019[4]** | | | | | | | **9435** |

[1] Including Vice Chairman or subsidiary fees.
[2] Excluding company contributions to social security systems paid by Swiss Re in line with applicable laws.
[3] Received subsidiary fees for the period from AGM 2017 to AGM 2018 in the equivalent of CHF 34 121, which were not included in the 2017 Compensation Report.
[4] Including an amount of approximately CHF 15 000 for minimal benefits.

### Shares held by members of the Board of Directors

The number of shares held by members of the Board of Directors as of 31 December were:

| Members of the Board of Directors | 2017 | **2018** |
|---|---|---|
| Walter B. Kielholz, Chairman | 399 987 | 407 523 |
| Renato Fassbind, Vice Chairman, Chair Audit Committee | 23 854 | 27 593 |
| Raymond K.F. Ch'ien, Member | 21 472 | 22 946 |
| Mary Francis, former Member[1] | 6 509 | n/a |
| Karen Gavan, Member[2, 3] | n/a | 1 512 |
| Rajna Gibson Brandon, former Member[1] | 23 194 | n/a |
| C. Robert Henrikson, former Chair Compensation Committee[1] | 13 248 | n/a |
| Trevor Manuel, Member | 3 972 | 5 558 |
| Jay Ralph, Member | 868 | 2 115 |
| Joerg Reinhardt, Member | 1 168 | 14 415 |
| Eileen Rominger, Member[2] | n/a | 813 |
| Philip K. Ryan, Chair Finance and Risk Committee | 8 892 | 11 611 |
| Sir Paul Tucker, Member | 2 530 | 4 004 |
| Jacques de Vaucleroy, Chair Compensation Committee | 868 | 2 706 |
| Susan L. Wagner, Chair Investment Committee | 8 754 | 11 360 |
| Larry Zimpleman, Member[2] | n/a | 813 |
| **Total** | 515 316 | **512 969** |

[1] Term of office expired after the completion of the AGM of 20 April 2018 and did not stand for re-election.
[2] Elected to Swiss Re's Board of Directors at the AGM of 20 April 2018.
[3] Shareholdings for 2018 include 2 500 American Depository Receipts (ADRs), equivalent to 625 shares.

### Loans to members of the Board of Directors

No loans were granted to current or former members of the Board in 2018 and no loans were outstanding as of 31 December 2018.

### Related parties transactions

Disclosure on compensation decisions in 2018 covers members of the Board of Directors and the Group EC as indicated, and for both includes related parties to the extent applicable. Such related parties cover spouses, partners, children and other dependents or closely linked persons. In 2018, no compensation was paid to any related party.

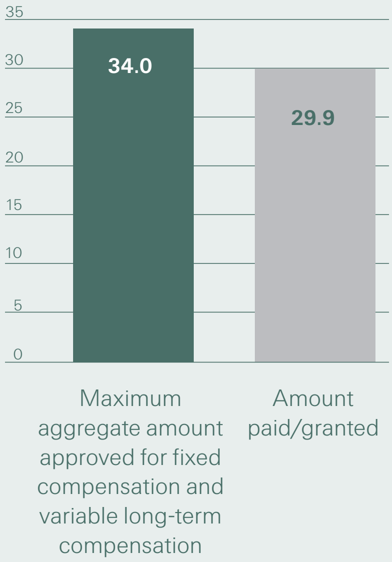
### Compensation for former members of governing bodies

During 2018, payments in the total amount of CHF 0.2 million were made to five former members of the Group EC. This amount is made up of company contributions payable by Swiss Re to governmental social security systems in line with applicable laws, benefits in the context of the outstanding mortgages and loans not at market rates, risk benefits and company commitments for tax-related services.

**RECONCILIATION OF AGM RESOLUTIONS**

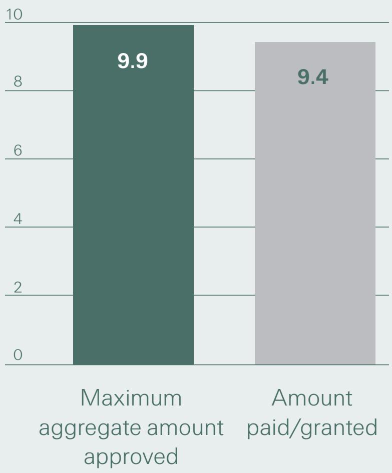
**Group EC compensation**
Financial year 2018

**CHF millions**




**Board of Directors**
Term of office:
AGM 2018–AGM 2019

**CHF millions**




**Shareholder compensation resolutions and awarded compensation**
The following explanations give an overview of the applicable framework of Swiss Re Ltd's Articles of Association based on the Ordinance, the approvals by the shareholders in the AGM 2018 of the respective motions proposed by the Board of Directors and the reconciliation of the shareholders' resolutions with the compensation awarded in the reporting year 2018.

Framework of the Articles of Association
In accordance with Article 22 of the Articles of Association, the Shareholders' meeting shall approve annually and with binding effect the proposals of the Board of Directors in relation to:
a) The maximum aggregate amount of compensation of the Board of Directors for the next term of office.
b) The maximum aggregate amount of fixed compensation and variable long-term compensation of the Group EC for the following financial year.
c) The aggregate amount of short-term compensation of the Group EC for the preceding completed financial year.

AGM 2018 voting results
At the AGM on 20 April 2018, shareholders approved for the fourth time the maximum aggregate prospective compensation of the members of the Board of Directors (88.2% approval). Shareholders also approved for the Group EC (i) the maximum aggregate prospective fixed compensation and variable long-term compensation and (ii) the aggregate retrospective variable short-term compensation. The outcomes were 87.2% and 88.6% approval respectively. As in previous years, the 2017 Compensation Report was subject to a consultative vote and was approved by 85.9% of the shareholder votes.

Reconciliation of AGM 2017 resolutions for Group EC compensation[1]
At the AGM 2017, shareholders approved a prospective maximum aggregate amount of CHF 34.0 million for fixed compensation and variable long-term compensation for the financial year 2018 for the 13 members of the Group EC known at the time of the AGM 2017 to hold such position in 2018.

The amount of fixed compensation and variable long-term compensation effectively granted to the 14 members of the Group EC during the financial year 2018 amounted to CHF 29.9 million and included the adjustment in the compensation of an existing member of the Group EC as a result of his appointment as per 1 April 2018 to Group Chief Financial Officer and contractual payments due to leaving members of the Group EC. It also included compensation and related costs to Russell Higginbotham who was promoted to the Group EC as Regional President and Chief Executive Officer Reinsurance EMEA as from 1 September 2018 (this appointment was not known at the time of the AGM 2017).

Reconciliation of AGM 2018 resolution for Board of Director's compensation[1]
At the AGM 2018, the shareholders approved a maximum aggregate amount of compensation of CHF 9.9 million for the 13 members of the Board of Directors for the term of office from the AGM 2018 to the AGM 2019.

As shown on page 168, the compensation paid to the 13 members of the Board of Directors for their term of office from the AGM 2018 to the AGM 2019 was CHF 9.4 million and therefore within the approved amount.

AGM 2019 motion for variable short-term compensation for the Group EC for the financial year 2018
At the AGM 2019, the Board of Directors will propose to the shareholders to approve an aggregate amount of variable short-term compensation for the 14 members of the Group EC for the completed financial year 2018 of CHF 14 339 563. This amount has been included in the items "Cash Annual Performance Incentive" and "Value Alignment Incentive" in the table for the Group EC compensation on page 165.

[1] Reconciliations calculated using December 2018 FX rates where applicable.

# Report of the statutory auditor

Report of the statutory auditor
to the General Meeting of Swiss Re Ltd
on the Compensation Report 2018

We have audited the accompanying Compensation Report included in this 2018 Financial Report of Swiss Re Ltd (the Company) for the year ended 31 December 2018. The audit was limited to the information according to Articles 14 to 16 of the Ordinance against Excessive Compensation at Public Corporations (the Ordinance) contained in the tables on pages 165 to 170 of the Compensation Report.

**Board of Directors' responsibility**
The Board of Directors is responsible for the preparation and overall fair presentation of the Compensation Report in accordance with Swiss law and the Ordinance. The Board of Directors is also responsible for designing the compensation framework and defining individual compensation packages.

**Auditor's responsibility**
Our responsibility is to express an opinion on the accompanying Compensation Report. We conducted our audit in accordance with Swiss Auditing Standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the Compensation Report complies with Swiss law and Articles 14 to 16 of the Ordinance.

An audit involves performing procedures to obtain audit evidence on the disclosures made in the Compensation Report with regard to compensation, loans and credits in accordance with Articles 14 to 16 of the Ordinance. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatements in the Compensation Report, whether due to fraud or error. This audit also includes evaluating the reasonableness of the methods applied to value components of compensation, as well as assessing the overall presentation of the Compensation Report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

**Opinion**
In our opinion, the Compensation Report included in the 2018 Financial Report of the Company for the year ended 31 December 2018 complies with Swiss law and Articles 14 to 16 of the Ordinance.

PricewaterhouseCoopers Ltd

Roy Clark Frank Trauschke

**Roy Clark**
Audit expert
Auditor in charge

**Frank Trauschke**

Zurich, 13 March 2019

# Our actions are guided by sustainable, long-term value creation and have a tangible link to our financial performance.

## Contents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# Climate-related financial disclosures (TCFD)

These disclosures provide a foundation to improve investors' and other stakeholders' ability to appropriately assess and price climate-related risk and opportunities.

Swiss Re has a long-standing commitment to being a responsible company. A key element in our understanding of what this means is the desire to contribute to sustainable, long-term value creation. Based on our values, doing business the Swiss Re way includes:

"Taking the long-term view and playing our part in enabling sustainable progress – for stakeholders and society in general."

This approach is also in our own best interest: it strengthens our capabilities to identify, and address, both risks and opportunities manifesting themselves in the longer run and, as a consequence, to retain our licence to operate.

**Climate-related financial disclosures**
Among issues that may threaten sustainable progress, climate change represents a key concern for the re/insurance business. This is why we play an active part in a task force set up by the Financial Stability Board to develop climate-related financial disclosures (TCFD, www.fsb-tcfd.org).

Starting from the premise that climate change creates physical, liability and transition risks, the TCFD's aim is to offer consistent and effective financial disclosures that allow investors and other stakeholders to properly assess the climate risks faced by companies and to take appropriate action.

We began to implement the recommended TCFD in our 2016 Financial Report and have significantly expanded them since, devoting the whole "Corporate responsibility" chapter to this important topic. The table on the right provides an overview of the core elements of the disclosures, which are covered on the following pages.

To learn more about our overarching commitment as a responsible company and for a full account of our recent actions and achievements, we invite you to read our stand-alone 2018 Corporate Responsibility Report at reports.swissre.com/corporate-responsibility-report/2018/

# Climate governance

Swiss Re's governance around climate-related risks and opportunities.

At Swiss Re's highest governance level, three Board of Directors (BoD) committees are in charge of overseeing implementation of Swiss Re's climate change strategy. The Chairman's and Governance Committee, steered by the Chairman, has the overall task of monitoring the Group's strategic priorities on enabling sustainable progress, including initiatives and actions specifically addressing climate change.

The Investment Committee reviews Swiss Re's Asset Management related activities and, as part of this, receives regular updates on Group Asset Management's responsible investing strategy and approach.

The Finance and Risk Committee defines the Group Risk Policy, reviews risk capacity limits, monitors adherence to risk tolerance, and reviews all top risk issues and exposures, including those with a specific climate dimension.

Regarding the development and adoption of sustainability policies and strategies, the role of the Board of Directors is to review and endorse them, while the Group Executive Committee approves them.

Group Risk Management is responsible for maintaining a suitable risk policy framework, and the Business Units drive strategic implementation within their respective areas. Group Asset Management is in charge of developing and implementing Swiss Re's responsible investing strategy, including specific considerations on climate change, under consideration of the Group-wide sustainability principles.

You can read more about our sustainability governance in our 2018 Corporate Responsibility Report, page 10.

**CLIMATE-RELATED FINANCIAL DISCLOSURES OF THE FINANCIAL STABILITY BOARD**

| Governance | Strategy | Risk management | Metrics and targets |
|---|---|---|---|
| A) Board oversight | A) Climate-related risks and opportunities | A) Processes for identifying and assessing climate-related risks | A) Metrics to assess climate-related risks and opportunities |
| B) Management's role | B) Impact of climate-related risks and opportunities | B) Process for managing climate-related risks | B) Scope 1, 2 and 3 greenhouse gas emissions |
| | C) Potential impact of different scenarios | C) Integration into overall risk management | C) Targets |

# Climate strategy

We regularly assess the actual and potential impacts of climate-related risks and opportunities on our business, strategy and financial planning.

There is clear empirical evidence that the global climate has been changing, and a far-reaching scientific consensus that this change has been due to human activity, primarily the burning of fossil fuels and agriculture. Swiss Re recognises that climate change, if left unmitigated, will potentially have disastrous effects on society and the global economy. In view of this, we are committed to playing an active role in the transition towards a low-carbon economy and to supporting our private- and public-sector clients in this transition.

Natural catastrophes are a key risk in our Property & Casualty (P&C) businesses. The damage caused by storms, floods, droughts and other natural catastrophe perils (including earthquakes) can affect millions of lives and the economies of entire countries. In 2018, we received USD 2.3 billion of P&C Reinsurance premiums from our clients for all natural catastrophe covers (for losses larger than USD 20 million). This represents approximately 14% of total premiums in this business segment, which shows the value our clients place on getting re/insurance protection against natural catastrophe risks.

On average, insured losses due to natural catastrophes have increased steadily over the past 20 years. The key reasons have been economic development, population growth, urbanisation and a higher concentration of assets in exposed areas. At the same time, the protection gap, ie the difference between insured and total economic losses, has remained substantial in all regions (see graph on page 185).

In view of the high potential relevance of climate change for our P&C businesses, we have addressed the issue with a strategy combining four pillars:

- Advancing our knowledge and understanding of climate change risks, quantifying and integrating them into our risk management and underwriting frameworks where relevant;
- Developing products and services to mitigate – or adapt to – climate risk;
- Raising awareness about climate change risks through dialogue with clients, employees and the public, and advocacy of a worldwide policy framework for climate change;
- Tackling our own carbon footprint and ensuring transparent annual emissions reporting.

Furthermore, climate change remains the focus of two of our Corporate Responsibility (CR) Topics: "Managing climate and natural disaster risk" and "Advancing sustainable energy solutions". You can find out more about these and our other CR Topics in the 2018 Corporate Responsibility Report, pages 11–15. As our climate strategy shows, understanding the risks posed by climate change and spotting the potential to create suitable products and services have both been priorities for Swiss Re.

## Climate-related risks

### Physical risks

Physical risks posed by climate change could potentially affect four areas of our business:

- Reduction/disruption of our own operations
- Modelling and pricing of weather-related natural perils
- Impact on the economic viability of re/insurance for risks exposed to extreme weather events
- Impact on real assets exposed to weather-related natural perils

**Our own operations**

According to our in-house catastrophe loss models, severe weather risks are potentially of importance for some of our operations, mainly in Florida and on the northeastern coast of the US. However, even assuming an extreme climate change scenario, we do not expect any of these locations to be exposed to risk levels that would question their economic viability. In 2012, Hurricane Sandy in New York showed that some of Swiss Re's offices are already exposed to severe weather risks today. In response, we have sharpened the Group's business continuity management to minimise property losses and business interruption. Thanks to these investments, we are able to swiftly transfer work tasks to unaffected areas if required and to keep potential financial impacts minimal.

**Modelling and pricing of weather-related perils**

Based on our proprietary loss modelling, we calculate the annual expected losses (AEL) and loss-frequency distributions of the major weather-related natural catastrophes; the four perils with the largest AEL at present are disclosed on page 184 (North Atlantic hurricane, US tornado, European windstorm, Japanese tropical cyclone). Our models show that with the current climate, the dominant factor is natural variability affecting both the frequency and severity of extreme weather events in all regions. We expect this to remain the case both in the short and medium term (ie 2025 and 2030), in line with the latest scientific findings (see the IPCC Fifth Assessment Report, chapter 11, and the IPCC Special Report 15).

In addition, we expect weather risk to remain assessable by scientific methods, meaning we can continue to update our loss models in the future to assure adequate costing of extreme weather events. Since most of the re/insurance contracts with our clients have a duration of one year, we can thus adequately price natural catastrophe risks by updating our models to reflect the current climate.

Regarding the long-term time horizon (2040), we expect a substantial need to adjust some of our weather risk models, based on current scientific knowledge. We are confident, however, that future research will continue to give us sufficient guidance on the magnitude and direction of these adjustments. The potential impact of climate change, including natural variability, is already being assessed and integrated into our risk view today, eg through regular updates of tropical cyclone frequencies. In addition, we conduct internal research and collaborate with academia to study the impact on extreme weather events in the near and medium term.

**Impact on the economic viability of re/insurance protection**

An increase in the frequency and severity of extreme weather events can restrict the affordability of re/insurance in certain regions, especially in coastal areas, by requiring a rise in premiums. While climate projections are associated with a large range of uncertainty, especially when it comes to storms making landfall, increases in the frequency and severity of tropical storms are likely. Natural variability is expected to remain the dominant factor in the short and medium term (2025 and 2030). In the longer term (2040), though, sea level rise will lead to non-linear increases in the storm surge risk for coastal areas. Additionally, warmer temperatures will lead to more extreme rainfall events that may increase flood risk.

If rises in re/insurance premiums necessitated by increasing extreme weather risks remain modest, ie re/insurance protection remains economically viable for our clients, the overall premium volume will actually grow. Larger increases, however, will reverse this effect eventually by pushing re/insurance prices for certain exposed risks beyond the limits of economic viability. This is particularly relevant for areas with inadequate construction planning and development. In addition, timing is also of crucial importance: if measures to exclude a particular risk are taken too early and without broader market support, we can offer our clients less insurance protection and may lose significant market share; if measures are taken too late, we may end up with increased loss potential. Finally, the overall size of the re/insurance market will depend on future economic growth rates.

In line with independent external studies, we have shown through a series of scenario assessments (Economics of Climate Adaptation studies, ECA) that in many regions, climate adaptation measures need to be taken to limit expected increases in natural catastrophe damages and thus to ensure the economic viability of re/insurance in the future. This is a key reason why Swiss Re actively engages with the United Nations, the public sector, clients, industry peers and employees to advocate cost-effective adaptation to climate change.

**Impact on real assets exposed to weather-related perils**

Real assets such as real estate are exposed to natural perils, eg hurricanes, tropical cyclones and floods. In addition to considering physical risk when acquiring new properties, we analyse these exposures across the portfolio based on Swiss Re's proprietary modelling capabilities used for our re/insurance underwriting. This analysis has been extended and refined recently, and results suggest a very low exposure to natural perils in general and to climate-related perils, in particular.

**Conclusion:** Although the physical risks arising from climate change will have significant economic consequences over time, especially from a wider societal perspective, they represent a limited and manageable risk for Swiss Re.

## Transition risks in our re/insurance business

Transition risks may arise as a result of the extensive policy, legal, technology and market changes that are required to make the transition to a low-carbon economy. We have carefully assessed the two transition risks that may potentially affect our business:

- Climate-related litigation risks
- Risks from technological and market shifts

### Climate-related litigation risks

We assessed potential climate-related litigation risks several years ago through our own research. After years of decline, climate change litigation activities against large greenhouse gas emitters have increased recently. However, associated insurance coverage disputes have remained stable.

As a result, Swiss Re has not faced any claims from climate-related litigations in recent years and the results of the litigations, which have remained in favour of the defendants, suggest that this trend will continue.

### Technological and market shifts

The re/insurance sector is likely to experience the technological transition in two ways. Firstly, new technologies by definition do not have loss histories and thus may be challenging to cost accurately. Thus, research and development is required to develop possible loss scenarios and the related expenses. Once these are developed and tested, though, new technologies are likely to present the sector with an opportunity to offer new solutions (see "Climate-related opportunities", page 180).

Secondly, the new green energy technologies are likely to gradually displace traditional, fossil-based ones. This will alter the energy market and, as a result, gradually change the nature of re/insured assets.

This transition does not automatically translate into a financial risk for Swiss Re, though. To illustrate, motor insurance is the most important business line of the re/insurance sector, globally: According to Swiss Re's *sigma* database, it currently represents 44% of all non-life gross premiums of the total property and casualty insurance market and is expected to grow by a further 6% until 2027.

Driven by intensifying efforts to curb climate change, the global vehicle inventory will shift from combustion to electric engines. A recent Swiss Re study on the Casualty Risk Trends in Automotive Industry notes that "the move from conventional (pure combustion engine) cars to a more electrically based mobility is an elementary transition process in the automotive industry. This development is a continuum to implement a variety of new technologies, from new lightweight materials to advanced battery systems."

Thus, while the automotive industry as a whole is undergoing significant change, the impact on insurance portfolios is expected to be gradual. As motor insurance contracts are renewed annually, re/insurers will be able to develop the appropriate underwriting experience, loss adjustment and claims handling.

To address the residual risk, we have recently started to develop a carbon risk steering mechanism. Its key component will be a carbon risk model designed to measure our carbon intensity and associated risks embedded in our re/insurance business.

As a first step, in 2018 we introduced a thermal coal policy for our underwriting, pledging not to provide re/insurance to businesses with more than 30% exposure to thermal coal utilities or mining. The policy is fully integrated into our Sustainability Risk Framework. It applies to both old and new thermal coal projects and across all lines of business (direct, facultative and treaty). While it is easier to implement this policy in some parts of our business, for others the transition will take some time and require a continued and constructive dialogue with our clients.

**Conclusion:** Overall, the transition to a low-carbon economy does not present a significant financial risk for Swiss Re. Mainly due to the annual renewal of contracts, the associated risks can be managed effectively.

### Transition risks in our investments

Climate-related risks can also impact the value of our investments. A key risk for asset owners is that a changing environment for a particular company or industry sector may lead to stranded assets in investment portfolios, eg the devaluation of investments due to unfavourable changes, such as regulations or taxes. With regard to climate change, the market environment could shift to address mitigation and adaptation requirements to limit global warming to 2°C or less.

Governments and regulators have started to develop proposals to steer and transition climate change related market activities to more sustainable alternatives. The European Commission's action plan on financing sustainable growth or the UK regulators' supervisory statement, which sets out expectations regarding firms' approaches to managing the financial risks from climate change, are just two examples.

Based on these market developments, we continue to focus on policy and legal as well as technology risks, as we mainly expect changes within these two dimensions that impact the asset values. In this way, we aim to capture those industries and groups of companies that are most exposed to these risks in a positive or negative way and may therefore require adjustments in the near to medium term.

Industries and companies that are particularly exposed to changes in policy and legal as well as technological developments show elevated risk exposures either in the production process, in raw materials, in transportation/logistics or distribution and store operations due to high carbon footprints in these areas. Furthermore, the industries and companies may face increased costs due to higher or more volatile energy prices, compliance costs in the production and distribution process, and cost from product demand substitution. All these changes may cause increased price volatility of the underlying assets.

Based on Swiss Re's commitment to support the transition to a low-carbon environment, we started to measure the weighted average carbon intensity[1] of our listed equities and credit portfolio from the end of 2015. Measurement results are presented in the "Metrics and targets" section (pages 184–189). Since then, we have also stopped investing in companies that generate 30% or more of their revenues from thermal coal mining or that use at least 30% thermal coal for power generation and divested from related holdings. As from 2018, we also exclude tar sands companies that generate 20% or more of their revenues from such operations from the investment universe.

[1] Weighted average carbon intensity = (company $CO_2$/company revenue) * (investment/portfolio)

### Climate-related opportunities

Climate change does not just create risks, it also presents companies with new opportunities. Developing such products and services has long formed one of the four pillars of our climate strategy. With these offerings we pursue two different but complementary objectives: mitigation of climate change and adaptation to some of its effects.

### Opportunities related to physical risks in our re/insurance business

Since most of our re/insurance contracts are renewed on an annual basis, we can offer our clients effective natural catastrophe protection that helps them cope with current climate risks. The same applies to our weather insurance solutions.

In addition, we undertake special efforts to help expand re/insurance protection, by focusing on non-traditional clients (in particular from the public sector), underdeveloped markets and innovative risk transfer instruments. You can read about some innovative transactions we have recently completed in our 2018 Corporate Responsibility Report, pages 20–23.

### Opportunities related to transition risks in our re/insurance business

While Swiss Re is active in all types of renewable energy re/insurance, we have recently become recognised as a lead market for offshore wind risks. Swiss Re Corporate Solutions has continuously built up and refined the technical expertise required to understand and manage these risks and, in 2015, opened a Centre of Competence for Wind Power in Copenhagen. Over the next decade, we expect many new development opportunities to arise, which will create demand for re/insurance protection in numerous business lines (credit, engineering, property, liability, etc).

You can read about our involvement in some new offshore wind farm projects as well as a pioneering solar revenue put in our 2018 Corporate Responsibility Report, pages 24–25.

### Opportunities for our investments

The consistent and broad-based integration of environmental, social and governance (ESG) factors in the investment process is expected to improve the risk/return relationship particularly over the longer term. We consider sustainability risks, such as climate change, in our investment process to make the portfolio more resilient against financial market shocks. This is all the more important as such risk factors are not yet considered as fully reflected in current market valuations.

The transition to a low-carbon economy also creates opportunities for specific asset classes:

#### Green bonds

Green bond proceeds are used to exclusively finance environmentally sustainable projects that address key areas of concern including climate change, but also natural resources depletion, loss of biodiversity and/or pollution control. With the movement towards a low-carbon economy, the green bond market saw an impressive increase from about USD 11 billion in 2013 to USD 167 billion in 2018[2]. Currently, the market shows an annual growth rate of more than 70%, with a growing variety of issuers besides supranationals, sovereigns and agencies (SSA). In 2018, we achieved our target of having a green bond portfolio worth at least USD 1.5 billion.

#### Infrastructure renewables

For our infrastructure loan mandates, we work with best-in-class managers to gain access to and invest in renewable energy projects that reflect our risk appetite, provide attractive long-term returns and help build a more sustainable energy supply for the future. Renewables make up approximately 20% of our infrastructure portfolio, whereof 65% are in solar panels and 35% in wind farms.

#### Real estate

For investment real estate in Switzerland, we apply the following sustainability criteria: analysis of energy sources as a percentage of market value and MINERGIE® certifications. MINERGIE® is a Swiss sustainability label for new and refurbished buildings. By the end of 2018, the combined value of our MINERGIE®-certified buildings reached USD 0.4 billion, or 23% of our Swiss portfolio of direct real estate investments by value, which corresponds to a gross floor area of 82 497 m².

In the US, our approach to sustainability includes some of the most recognised certificates and guidelines, such as "GreenGuide: Sustainable Property Operations", a best-practice guideline for sustainable and efficient real estate operations; and the LEED certification of the US Green Building Council (USGBC).

[2] "The Green Bond Chartbook", UniCredit, 1 February 2019.

## Swiss Re's climate resilience under different scenarios

The TCFD requests companies to describe the resilience of their strategy taking into account different climate-related scenarios, including one of a 2°C increase or less. In principle, it would be possible for us to compute the potential long-term effects caused by climate change on AEL based on today's re/insurance book. However, we do not consider this to be meaningful, for the following reasons.

Looking at climate effects in isolation would mean ignoring all the other factors that will shape Swiss Re's future re/insurance book and thus also our future AEL. These include the company's strategy and risk appetite, market conditions, capital costs, insurance penetration, storm hardening and other climate adaptation measures. Since our re/insurance book and current AEL are the result of a complex interaction between all these factors, any future scenario would have to consider all of them, in the process obliterating the effect of climate change on the resulting AEL.

Moreover, the future AEL for Swiss Re's weather-related re/insurance book can be seen as a compound assessment of the company's future market share and scenario projections of overall future business volume and profitability. Independent studies have shown a wide uncertainty range for future market volumes, though (see eg Kunreuther et. al., 2012)[3].

On a societal level, our Economics of Climate Adaptation (ECA) studies have shown that climate change can lead to an increase of economic losses due to weather risks of up to 30% within the next 25 years. More importantly, though, economic development, urbanisation, higher population densities and asset concentrations in flood plains are expected to be the dominant factors in increasing weather-related economic losses. As they continue to rise, our models will gradually factor in this trend, since they are updated and refined at regular intervals.

To summarise, we do not consider climate change to be a single factor posing a fundamental threat to the resilience of our business. It is one of many equally important factors we will need to take into account in shaping our future business strategy. A key precondition for our ability to continue acting as ultimate risk-taker is diversification, with regard to regions, business lines, sectors and clients. In a world of strong or unmitigated climate change, however, the proportion of weather-related risks we could re/insure would decline and the protection gap would likely increase further.

[3] Kunreuther, Howard; Michel-Kerjan, Erwann; and Ranger, Nicola, "Insuring Future Climate Catastrophes" (2012). *Published Articles & Papers*. Paper 171.

# Climate risk management

## The processes we use to identify, assess and manage climate-related risks are integrated into our risk management, underwriting and asset management.

Sound risk management, underwriting and asset management lie at the core of the re/insurance business. This enables us to use our existing processes and instruments to address climate-related risks.

### Physical risks

To assess our P&C businesses accurately and to structure sound risk transfer solutions, we need to clearly understand the economic impact of natural catastrophes and the potential effect of climate change on their frequency and severity.

Natural catastrophes constitute one of the core risks modelled in Swiss Re's risk landscape. Specifically, they are one of three categories in which we classify and model our P&C re/insurance risks (the other two being man-made and geopolitical risks). These risks arise from the coverage we provide to our clients for property, liability, motor, accident plus specialty risks.

We have an internal property risk modelling team that builds, maintains and updates sophisticated models for all relevant natural catastrophe risks (flood, tropical cyclones, wind storms, earthquakes). The models are based on current scientific knowledge and are regularly updated to include new scientific findings – including from our research collaborations with academic institutions –, and to make use of advances in computing capabilities. Using statistical data spanning 100 years, our models are capable of simulating probabilistic "daughter" events that may have never occurred in reality but that may occur in the future.

Swiss Re's full, proprietary integrated risk model is an important tool for managing the business: we use it to determine the economic capital required to support the risks on our books as well as to allocate risk-taking capacity to the different lines of business.

### Transition risks in our re/insurance business

To ensure appropriate management of transition risks, we have set up an annual monitoring system that combines expertise in risk management, casualty underwriting and relevant legislation to understand the developments in the US market, in particular, and to assess any potential impacts on our business. An underwriting guideline regulates the limits and triggers for the more exposed types of risks. Any deviation from the guideline must be discussed and documented in the underwriting file.

For the other types of transition risks described on page 180 we also have risk management systems in place. Technological developments are monitored through Swiss Re's respective underwriting units and pricing of associated covers is reviewed on an annual basis.

**General sustainability risks in our re/insurance business**

We consistently use our Sustainability Risk Framework to identify and address potential sustainability risks in all our underwriting and investment transactions (see 2018 Corporate Responsibility Report, pages 27–31). This framework continuously evolves to reflect scientific knowledge and internal standards. With respect to climate change, this framework prevents us from offering any re/insurance cover to offshore drilling activities in the Arctic and using predefined quality criteria to screen transactions in the areas of oil sands, fracking and shale oil.

In 2018, we integrated a thermal coal policy for our underwriting in our Sustainability Risk Framework, pledging not to provide re/insurance to businesses with more than 30% exposure to thermal coal utilities or mining. The policy applies to both old and new thermal coal projects and across all lines of business (direct, facultative and treaty). Its introduction marks the first step towards the development of a carbon risk steering mechanism, to measure our carbon intensity and associated risks embedded in our re/insurance business.

**Investments**

Swiss Re is a long-term investor. Therefore, it is important that we also take a long-term view on the risk factors that may have an adverse impact on our portfolio, such as climate change. Hence, sustainability and climate change are essential topics for our Asset Management. Our Sustainability Risk Framework enables us to identify and address environmental and human rights concerns throughout our business. Its criteria are fully applied to our investments. For further details, see above and our 2018 Corporate Responsibility Report, pages 27–31.

Swiss Re is committed to investing its assets responsibly via a controlled and structured investment process, integrating ESG criteria. As part of our continuous improvement, in 2017 we switched to benchmarks composed of higher ESG-rated companies for our active listed equity and credit portfolios. For more information about our approach to ESG integration, see our publication "Responsible investments – The next steps in our journey", launched in 2018 and available at swissre.com (www.swissre.com/our-business/managing-our-assets/responsible-investments-next-steps-in-our-journey.html).

For our dedicated approach towards climate risk management, we review our credit and listed equity portfolio along the development of our carbon footprint on an ongoing basis. We also monitor our portfolio on coal and tar sands related investments that are below the set thresholds. As part of our active risk management, we stopped investing in coal and tar sands related companies that are above the thresholds (for details, see page 179).

Further actions to support the transition to a low-carbon economy are described in the section "Opportunities for our investments" on page 180.

# Climate metrics and targets

We use a number of metrics and targets to assess and manage relevant climate-related risks and opportunities.

We assess and manage climate-related risks and opportunities in our re/insurance business (the liability side), our own operations and our investments.

## Re/insurance

### Annual expected losses (AEL)

AEL for weather-related natural perils can be used as an indicator for our average current climate-related risk exposure, while they do not capture the potential losses in years with intense natural catastrophe activity like 2018 and 2017 (on page 91 you can see our risk exposures to four major natural catastrophe scenarios, ie single-event losses with a 200-year return period). The figures are the compound result of the expected weather activities, the vulnerability of insured objects, their values and the volume and structure of our insurance products. Changes in the AEL figures will show the evolution of our climate risk exposure. This could be due to climate change, but also due to changes in the vulnerability of insured objects, their values or changes in our business strategy. AEL figures are updated on an annual basis.

As per the end of 2018, the four weather-related perils with the highest gross annual expected loss for our whole business were:

**WEATHER-RELATED PERILS: ANNUAL EXPECTED LOSSES, SWISS RE GROUP**

| As of 31 December 2018 | In USD millions |
|---|---|
| North Atlantic hurricane | 500 |
| US tornado | 230 |
| European windstorm | 150 |
| Japanese tropical cyclone | 130 |

### Weather-related catastrophes: insured vs uninsured losses

There is a substantial protection gap between total economic losses from weather-related catastrophes and insured losses in all regions. These data do not represent a company-specific metric but are an important overall risk indicator (see table on the upper right).

### Climate protection offered to (sub-)sovereigns

Cover against natural catastrophes accounts for approximately 14% of premiums in our P&C Reinsurance business. As we regularly update our risk models to reflect any changes in the underlying parameters and renew contracts annually, we are in a position to offer our clients effective re/insurance protection against current climate-related risks.

Reflecting our efforts to help expand re/insurance protection by working with public-sector clients, we made this commitment to the United Nations: to advise up to 50 sovereigns and sub-sovereigns on climate risk resilience and to offer them USD 10 billion against this risk by 2020. You can see the progress we have made against this goal in the middle table on the right.

### Aligning our carbon intensity

We have recently started to develop a carbon business steering mechanism. This will help us to steer the overall carbon footprint embedded in our re/insurance business and align it to the Paris Climate Agreement and related Nationally Determined Contributions (NDCs), set with a view to limiting global warming to 1.5–2°C above pre-industrial levels.

## INSURED VS UNINSURED WEATHER-RELATED CATASTROPHE LOSSES, PER REGION


Source: Swiss Re Institute

## CLIMATE PROTECTION OFFERED TO (SUB-)SOVEREIGNS

| | 2016 | 2017 | 2018 |
|---|---|---|---|
| Number of (sub-)sovereigns advised | 26 | 66 | 96 |
| Amount of climate protection offered (in USD) | 3.9 billion | 5.3 billion | 8.2 billion |

### Scope 1, 2 and 3 greenhouse gas emissions

Reducing our carbon footprint is one of the four pillars of our climate strategy. As part of our Greenhouse Neutral Programme, we have publicly reported on our Scope 1 and 2 greenhouse gas emissions plus a major source of Scope 3 emissions (business travel) since its launch in 2003. From 2013, we have expanded our reporting to include further Scope 3 emissions (see table below).

You can find out more about the Greenhouse Neutral Programme in our 2018 Corporate Responsibility Report, pages 47–51.

## $CO_2$ EMISSIONS PER EMPLOYEE (FULL-TIME EQUIVALENT, FTE), SWISS RE GROUP

| | | 2013 kg/FTE | 2017 kg/FTE | **2018 kg/FTE** | Change in % since 2017 | Change in % since 2013 |
|---|---|---|---|---|---|---|
| Scope 1 | Heating | 378 | 264 | **244** | –7.6 | –35.4 |
| Scope 2 | Power[1] | 824 | 651 | **584** | –10.3 | –29.1 |
| Scope 3 | Business travel | 3 713 | 4 126 | **3 892** | –5.7 | 4.8 |
| | Copy paper | 40 | 17 | **16** | –5.9 | –60.0 |
| | Waste | 50 | 34 | **33** | –2.9 | –34.0 |
| | Water | 12 | 12 | **11** | –8.3 | –8.3 |
| | Technical gases | 27 | 21 | **6** | –71.4 | –77.8 |
| | Commuting[2] | 1 250 | 1 050 | **1 000** | –4.8 | –20.0 |
| **Total** | | 6 294 | 6 175 | **5 786** | –6.3 | –8.1 |

[1] Calculation based on a market-based approach taking into account the purchase of renewable energy instruments, with the exception of the UK, where the government requires companies to report an average grid factor.
[2] Commuting data are gathered biannually by means of a survey. The figures are rounded and fraught with considerable uncertainty.

## Investments

We measure and monitor the level of integration of our climate-related investment activities.

### Green bonds

Green bonds, whose proceeds are used to finance environmentally sustainable projects facilitating the transition towards a low-carbon economy. In the near term, we have committed to building a portfolio of at least USD 1.5 billion, which we reached by 2018.

### Physical risk assessment of real estate

In addition to considering physical risk when acquiring new properties, the physical risks of properties in the Real Estate investment portfolio have been analysed both for an "as is" climate scenario and for a future climate change scenario. This analysis was carried out leveraging in-house know-how and catastrophe loss models developed for the Reinsurance side. Results suggest a very low estimated financial impact from all perils, in particular climate-related perils.

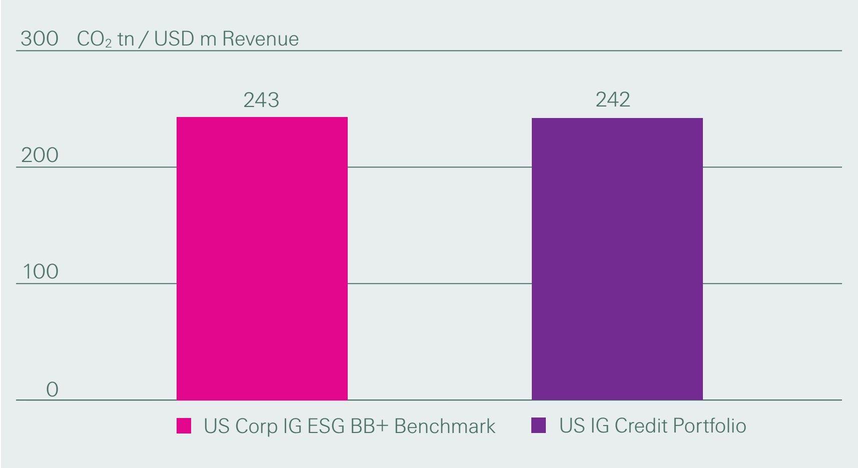
### Tar sands exposures

Tar sands assets are particularly carbon-intensive and susceptible to stranded asset risk given the long life of these assets, as well as the evolving regulations on carbon emissions. For that reason we decided to limit investments to issuers with less than 20% revenues from tar sands business in 2018.

### Carbon footprint of our investment portfolio

In line with TCFD guidelines, we monitor the carbon footprint of our corporate credit and listed equity portfolio on an ongoing basis as we have extended our internal tools to allow for interactive day-to-day analysis. We also evaluated the size of our private equity investments in coal-related activities. For the carbon footprint, we use the metric "Weighted average carbon intensity", which defines the portfolio carbon intensity based on relative investment share.

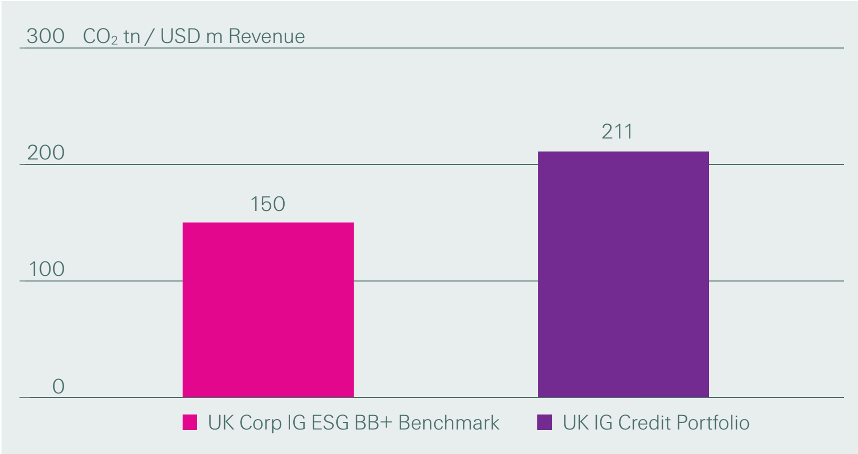
**WEIGHTED AVERAGE CARBON INTENSITY COMPARISON OF THE US CREDIT PORTFOLIO VERSUS CORRESPONDING BENCHMARK PER END OF 2018**




The US credit portfolio was closely aligned with the corresponding benchmark in terms of weighted average carbon intensity.

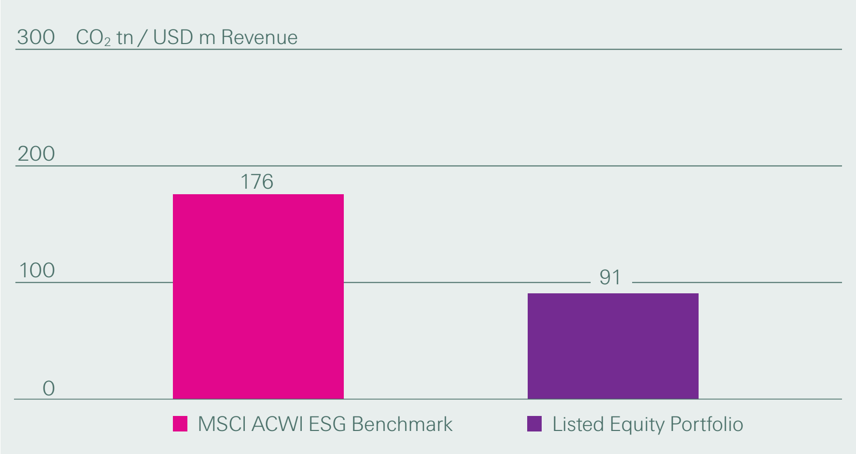
The weighted average carbon intensity of the UK credit portfolio was lower than that of the US portfolio, but above its corresponding ESG benchmark at the end of 2018.

**WEIGHTED AVERAGE CARBON INTENSITY COMPARISON OF THE UK CREDIT PORTFOLIO VERSUS CORRESPONDING BENCHMARKS PER END OF 2018**



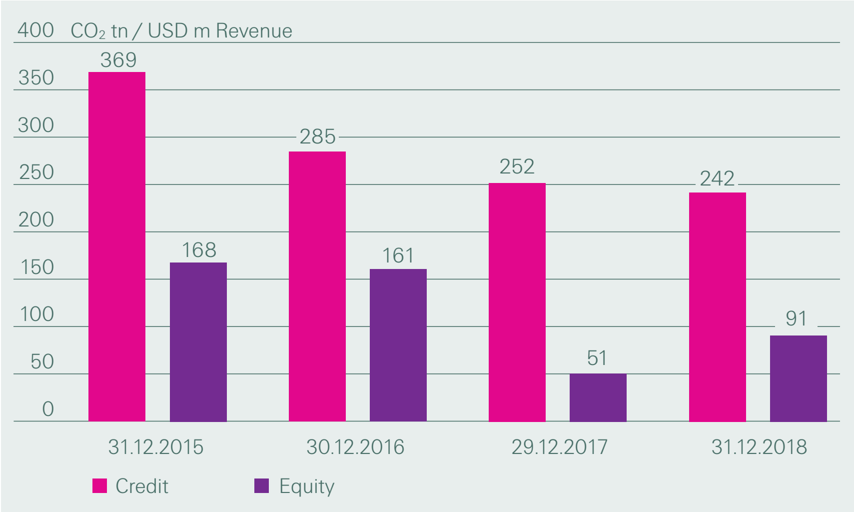

Since the previous year, the UK portfolio carbon intensity decreased by 20 units, while the corresponding index reduced by more than 130 units. The reduction in the index carbon intensity was mainly caused by a constituent update towards more sustainable issuers in the utility sector.

**WEIGHTED AVERAGE CARBON INTENSITY COMPARISON OF THE LISTED EQUITY PORTFOLIO VERSUS CORRESPONDING BENCHMARK PER END OF 2018**




Listed equities in Swiss Re's portfolio continued to be much less carbon-intensive compared to their corresponding benchmark due to the active reduction of companies that exceeded the threshold of 30% in coal-related revenues and the single name selection of less carbon-intensive names across industries. In 2018, investments in emerging market equities partly offset prior reductions.

**WEIGHTED AVERAGE CARBON INTENSITY COMPARISON OF CREDIT AND LISTED EQUITIES PORTFOLIOS SINCE MEASUREMENT INCEPTION**




Since the end of 2015, carbon intensities in both the credit and the listed equity portfolio decreased substantially as part of our thermal coal divestment of more than USD 1.3 billion. In the second half of 2018, investments in emerging market equities led to a modest increase in the weighted average carbon intensity of our listed equity portfolio.

**Forward-looking carbon indicators**

Companies may mitigate exposure to climate risk through adaptation to market forces or adherence to new and evolving requirements. We therefore undertook efforts to get a better understanding of the details behind carbon intensities and to further improve our monitoring based on that. For that reason we started to review the listed equities and corporate credit portfolios using forward-looking indicators related to carbon emissions. The analysis focused on the more carbon-intense sectors, responsible for the vast majority of the portfolio carbon intensity.

The forward-looking indicators allow to analyse particularly climate risk exposed industries down to issuer level and add an important piece to the carbon intensity analysis.

The results are encouraging in the sense that most issuers held in carbon-intense sectors have set a carbon reduction target and work actively towards lowering energy consumption, while improving operational efficiencies. This newly developed toolset will allow us to continuously improve our understanding of the carbon emissions we invest in and with that support our monitoring of involved stranded asset risks.

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# Income statement

### For the years ended 31 December

| USD millions | Note | 2017 | 2018 |
|---|---|---|---|
| **Revenues** | | | |
| Gross premiums written | 4 | 34 775 | **36 406** |
| Net premiums written | 4 | 32 316 | **34 042** |
| Change in unearned premiums | | 803 | **–167** |
| **Premiums earned** | 3 | 33 119 | **33 875** |
| Fee income from policyholders | 3 | 586 | **586** |
| Net investment income – non-participating business[1] | 7 | 3 708 | **4 075** |
| Net realised investment gains/losses – non-participating business[2] | 7 | 1 727 | **65** |
| Net investment result – unit-linked and with-profit business | 7 | 3 315 | **–1 593** |
| Other revenues | | 32 | **39** |
| **Total revenues** | | 42 487 | **37 047** |
| | | | |
| **Expenses** | | | |
| Claims and claim adjustment expenses | 3 | –16 730 | **–14 855** |
| Life and health benefits | 3 | –11 083 | **–11 769** |
| Return credited to policyholders | | –3 298 | **1 033** |
| Acquisition costs | 3 | –6 977 | **–6 919** |
| Operating expenses | | –3 308 | **–3 432** |
| **Total expenses before interest expenses** | | –41 396 | **–35 942** |
| | | | |
| **Income before interest and income tax expense** | | 1 091 | **1 105** |
| Interest expenses | | –566 | **–555** |
| **Income before income tax expense** | | 525 | **550** |
| Income tax expense | 13 | –132 | **–69** |
| **Net income before attribution of non-controlling interests** | | 393 | **481** |
| | | | |
| Income/loss attributable to non-controlling interests | | 5 | **–19** |
| **Net income after attribution of non-controlling interests** | | 398 | **462** |
| | | | |
| Interest on contingent capital instruments, net of tax | | –67 | **–41** |
| **Net income attributable to common shareholders** | | 331 | **421** |
| | | | |
| **Earnings per share in USD** | | | |
| Basic | 12 | 1.03 | **1.37** |
| Diluted | 12 | 1.03 | **1.37** |
| **Earnings per share in CHF[3]** | | | |
| Basic | 12 | 1.02 | **1.34** |
| Diluted | 12 | 1.01 | **1.34** |

[1] Total impairments for the years ended 31 December of USD 46 million in 2017 and nil in 2018, respectively, were fully recognised in earnings.
[2] Total impairments for the years ended 31 December of USD 57 million in 2017 and USD 16 million 2018, respectively, were fully recognised in earnings.
[3] The translation from USD to CHF is shown for informational purposes only and has been calculated using the Group's average exchange rates.

The accompanying notes are an integral part of the Group financial statements.

# Statement of comprehensive income

**For the years ended 31 December**

| USD millions | 2017 | 2018 |
|---|---|---|
| Net income before attribution of non-controlling interests | 393 | **481** |
| Other comprehensive income, net of tax: | | |
| Change in net unrealised investment gains/losses | 287 | **–2 389** |
| Change in other-than-temporary impairment | 3 | **–1** |
| Change in cash flow hedges | –3 | **15** |
| Change in foreign currency translation | 526 | **–408** |
| Change in adjustment for pension benefits | 315 | **–4** |
| Impact of sale to non-controlling shareholder | | **–259** |
| Other comprehensive income attributable to non-controlling interests | | **72** |
| **Total comprehensive income before attribution of non-controlling interests** | 1 521 | **–2 493** |
| | | |
| Interest on contingent capital instruments, net of tax | –67 | **–41** |
| Comprehensive income attributable to non-controlling interests | 5 | **–91** |
| **Total comprehensive income attributable to common shareholders** | 1 459 | **–2 625** |

The accompanying notes are an integral part of the Group financial statements.

## RECLASSIFICATION OUT OF ACCUMULATED OTHER COMPREHENSIVE INCOME

### For the years ended 31 December

| 2017<br>USD millions | Net unrealised investment gains/losses[1] | Other-than-temporary impairment[1] | Cash flow hedges[1] | Foreign currency translation[1, 2] | Adjustment for pension benefits[3] | Credit risk of financial liabilities at fair value option | Accumulated other comprehensive income |
|---|---|---|---|---|---|---|---|
| Balance as of 1 January | 4 459 | –5 | –7 | –6 074 | –1 135 | 0 | –2 762 |
| Change during the period | 2 755 | 4 | 30 | 347 | 348 | | 3 484 |
| Amounts reclassified out of accumulated other comprehensive income | –2 372 | 1 | –33 | –17 | 43 | | –2 378 |
| Tax | –96 | –2 | | 196 | –76 | | 22 |
| **Balance as of period end** | 4 746 | –2 | –10 | –5 548 | –820 | 0 | –1 634 |

| **2018**<br>USD millions | Net unrealised investment gains/losses[1] | Other-than-temporary impairment[1] | Cash flow hedges[1] | Foreign currency translation[1, 2] | Adjustment for pension benefits[3] | Credit risk of financial liabilities at fair value option | **Accumulated other comprehensive income** |
|---|---|---|---|---|---|---|---|
| Balance as of 1 January | 4 746 | –2 | –10 | –5 548 | –820 | 0 | **–1 634** |
| Impact of sale to non-controlling shareholder | –325 | | 1 | 52 | 13 | | **–259** |
| Impact of Accounting Standards Updates[4] | –127 | | | | –17 | 5 | **–139** |
| Change during the period | –3 129 | –1 | 25 | –303 | –75 | | **–3 483** |
| Amounts reclassified out of accumulated other comprehensive income | 154 | | –10 | 8 | 68 | | **220** |
| Tax | 586 | | | –113 | 3 | | **476** |
| **Balance as of period end** | **1 905** | **–3** | **6** | **–5 904** | **–828** | **5** | **–4 819** |

[1] Reclassification adjustment included in net income is presented in "Net realised investment gains/losses – non-participating business".
[2] Reclassification adjustment is limited to translation gains and losses realised upon sale or upon complete or substantially complete liquidation of an investment in a foreign entity.
[3] Reclassification adjustment included in net income is presented in "Operating expenses".
[4] Impact of ASU 2018-02, ASU 2016-16 and ASU 2016-01. Please refer to Note 1 for more details.

The accompanying notes are an integral part of the Group financial statements.

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# Balance sheet

## ASSETS

**As of 31 December**

| USD millions | Note | 2017 | 2018 |
|---|---|---|---|
| **Investments** | 7, 8, 9 | | |
| Fixed income securities: | | | |
| Available-for-sale (including 12 969 in 2017 and 11 502 in 2018 subject to securities lending and repurchase agreements) (amortised cost: 2017: 93 278; 2018: 89 673) | | 99 248 | **92 538** |
| Trading (including 1 761 in 2017 and 2 599 in 2018 subject to securities lending and repurchase agreements) | | 2 538 | **3 414** |
| Equity securities: | | | |
| Available-for-sale (including 277 in 2017 subject to securities lending and repurchase agreements) (cost: 2017: 3 544)[1] | | 3 862 | |
| Trading[1] | | 3 | |
| At fair value through earnings (including 480 in 2018 subject to securities lending and repurchase agreements)[1] | | | **3 036** |
| Policy loans, mortgages and other loans | | 4 110 | **4 542** |
| Investment real estate | | 2 220 | **2 411** |
| Short-term investments (including 411 in 2017 and 552 in 2018 subject to securities lending and repurchase agreements) | | 4 846 | **5 417** |
| Other invested assets | | 9 904 | **6 398** |
| Investments for unit-linked and with-profit business (including fixed income securities trading: 5 209 in 2017 and 4 938 in 2018, equity securities trading: 28 783 in 2017, equity securities at fair value through earnings: 23 123 in 2018) | | 35 166 | **29 546** |
| **Total investments** | | 161 897 | **147 302** |
| Cash and cash equivalents (including 322 in 2017 and 717 in 2018 subject to securities lending, and 1 878 in 2017 and 1 175 in 2018 backing unit-linked and with-profit contracts) | | 6 806 | **5 985** |
| Accrued investment income | | 1 095 | **1 052** |
| Premiums and other receivables | | 13 834 | **13 789** |
| Reinsurance recoverable on unpaid claims and policy benefits | | 7 942 | **7 058** |
| Funds held by ceding companies | | 9 155 | **9 009** |
| Deferred acquisition costs | 6 | 6 871 | **8 217** |
| Acquired present value of future profits | 6 | 1 989 | **1 818** |
| Goodwill | | 4 172 | **4 071** |
| Income taxes recoverable | | 378 | **526** |
| Deferred tax assets | 13 | 4 817 | **5 411** |
| Other assets | | 3 570 | **3 332** |
| **Total assets** | | 222 526 | **207 570** |

[1] Change due to ASU 2016-01. Please refer to Note 1 for more details.

The accompanying notes are an integral part of the Group financial statements.

## LIABILITIES AND EQUITY

| USD millions | Note | 2017 | 2018 |
|---|---|---|---|
| **Liabilities** | | | |
| Unpaid claims and claim adjustment expenses | 5 | 66 795 | **67 446** |
| Liabilities for life and health policy benefits | 8 | 42 561 | **39 593** |
| Policyholder account balances | | 37 537 | **31 938** |
| Unearned premiums | | 11 769 | **11 721** |
| Funds held under reinsurance treaties | | 3 109 | **3 224** |
| Reinsurance balances payable | | 1 036 | **920** |
| Income taxes payable | | 679 | **597** |
| Deferred and other non-current tax liabilities | 13 | 6 975 | **6 471** |
| Short-term debt | 11 | 433 | **1 633** |
| Accrued expenses and other liabilities | 7 | 7 190 | **6 798** |
| Long-term debt | 11 | 10 148 | **8 502** |
| **Total liabilities** | | 188 232 | **178 843** |
| | | | |
| **Equity** | | | |
| Contingent capital instruments | | 750 | |
| Common shares, CHF 0.10 par value | | | |
| 2017: 349 452 281; 2018: 338 619 465 shares authorised and issued | | 33 | **32** |
| Additional paid-in capital | | 368 | **496** |
| Treasury shares, net of tax | | –1 842 | **–2 291** |
| Accumulated other comprehensive income: | | | |
| Net unrealised investment gains/losses, net of tax | | 4 746 | **1 905** |
| Other-than-temporary impairment, net of tax | | –2 | **–3** |
| Cash flow hedges, net of tax | | –10 | **6** |
| Foreign currency translation, net of tax | | –5 548 | **–5 904** |
| Adjustment for pension and other post-retirement benefits, net of tax | | –820 | **–828** |
| Credit risk of financial liabilities at fair value option, net of tax | | | **5** |
| Total accumulated other comprehensive income | | –1 634 | **–4 819** |
| | | | |
| Retained earnings | | 36 449 | **34 512** |
| **Shareholders' equity** | | 34 124 | **27 930** |
| | | | |
| Non-controlling interests | | 170 | **797** |
| **Total equity** | | 34 294 | **28 727** |
| | | | |
| **Total liabilities and equity** | | 222 526 | **207 570** |

The accompanying notes are an integral part of the Group financial statements.

# Statement of shareholders' equity

For the years ended 31 December

| USD millions | 2017 | 2018 |
|---|---|---|
| **Contingent capital instruments** | | |
| Balance as of 1 January | 1 102 | **750** |
| Changes during the period | –352 | **–750** |
| Balance as of period end | 750 | **0** |
| **Common shares** | | |
| Balance as of 1 January | 34 | **33** |
| Cancellation of shares bought back | –1 | **–1** |
| Balance as of period end | 33 | **32** |
| **Additional paid-in capital** | | |
| Balance as of 1 January | 341 | **368** |
| Impact of sale to non-controlling shareholder[1] | 34 | **123** |
| Contingent capital instrument issuance costs | 8 | **11** |
| Cancellation of shares bought back | | **–85** |
| Share-based compensation | –14 | **–6** |
| Realised gains/losses on treasury shares[2] | –1 | **85** |
| Balance as of period end | 368 | **496** |
| **Treasury shares, net of tax** | | |
| Balance as of 1 January | –1 763 | **–1 842** |
| Purchase of treasury shares | –1 161 | **–1 454** |
| Cancellation of shares bought back | 1 006 | **1 032** |
| Issuance of treasury shares, including share-based compensation to employees[2] | 76 | **–27** |
| Balance as of period end | –1 842 | **–2 291** |
| **Net unrealised investment gains/losses, net of tax** | | |
| Balance as of 1 January | 4 459 | **4 746** |
| Impact of sale to non-controlling shareholder[1] | | **–325** |
| Impact of ASU 2018-02[3] | | **176** |
| Impact of ASU 2016-16[3] | | **44** |
| Impact of ASU 2016-01[3] | | **–347** |
| Changes during the period | 287 | **–2 389** |
| Balance as of period end | 4 746 | **1 905** |
| **Other-than-temporary impairment, net of tax** | | |
| Balance as of 1 January | –5 | **–2** |
| Changes during the period | 3 | **–1** |
| Balance as of period end | –2 | **–3** |
| **Cash flow hedges, net of tax** | | |
| Balance as of 1 January | –7 | **–10** |
| Impact of sale to non-controlling shareholder[1] | | **1** |
| Changes during the period | –3 | **15** |
| Balance as of period end | –10 | **6** |

The accompanying notes are an integral part of the Group financial statements.

| USD millions | 2017 | 2018 |
|---|---|---|
| **Foreign currency translation, net of tax** | | |
| Balance as of 1 January | –6 074 | **–5 548** |
| Impact of sale to non-controlling shareholder[1] | | **52** |
| Changes during the period | 526 | **–408** |
| Balance as of period end | –5 548 | **–5 904** |
| **Adjustment for pension and other post-retirement benefits, net of tax** | | |
| Balance as of 1 January | –1 135 | **–820** |
| Impact of sale to non-controlling shareholder[1] | | **13** |
| Impact of ASU 2018-02[3] | | **–17** |
| Changes during the period | 315 | **–4** |
| Balance as of period end | –820 | **–828** |
| **Credit risk of financial liabilities at fair value option, net of tax** | | |
| Balance as of 1 January | 0 | **0** |
| Impact of ASU 2016-01[3] | | **5** |
| Balance as of period end | 0 | **5** |
| **Retained earnings** | | |
| Balance as of 1 January | 38 682 | **36 449** |
| Net income after attribution of non-controlling interests | 398 | **462** |
| Interest on contingent capital instruments, net of tax | –67 | **–41** |
| Dividends on common shares | –1 559 | **–1 592** |
| Cancellation of shares bought back | –1 005 | **–946** |
| Impact of ASU 2018-02[3] | | **–159** |
| Impact of ASU 2016-16[3] | | **–3** |
| Impact of ASU 2016-01[3] | | **342** |
| Balance as of period end | 36 449 | **34 512** |
| **Shareholders' equity** | 34 124 | **27 930** |
| | | |
| **Non-controlling interests** | | |
| Balance as of 1 January | 82 | **170** |
| Transactions with non-controlling interests | 93 | **688** |
| Income/loss attributable to non-controlling interests | –5 | **19** |
| Other comprehensive income attributable to non-controlling interests | | |
| Change in net unrealised investment gains/losses | | **191** |
| Change in foreign currency translation | | **–109** |
| Other | | **–10** |
| Dividends to non-controlling interests | | **–152** |
| Balance as of period end | 170 | **797** |
| **Total equity** | 34 294 | **28 727** |

[1] In 2018, MS&AD Insurance Group Holdings Inc (MS&AD) acquired a 15% non-controlling interest in ReAssure, a subsidiary of the Group.
[2] In 2018, the Group performed a review of the carrying values of treasury shares, resulting in an increase of USD 65 million in treasury shares and a corresponding increase of the same amount in additional paid-in capital. The reclassification has no impact on net income or net equity of the Group.
[3] Impact of Accounting Standards Update. Please refer to Note 1 for more details.

The accompanying notes are an integral part of the Group financial statements.

# Statement of cash flows

**For the years ended 31 December**

| USD millions | 2017 | 2018 |
|---|---|---|
| **Cash flows from operating activities** | | |
| Net income attributable to common shareholders | 331 | **421** |
| Add net income/loss attributable to non-controlling interests | –5 | **19** |
| Adjustments to reconcile net income to net cash provided/used by operating activities: | | |
| Depreciation, amortisation and other non-cash items | 542 | **331** |
| Net realised investment gains/losses | –4 048 | **2 530** |
| Income from equity-accounted investees, net of dividends received | 70 | **4** |
| Change in: | | |
| Technical provisions and other reinsurance assets and liabilities, net | 5 739 | **–1 796** |
| Funds held by ceding companies and under reinsurance treaties | –276 | **212** |
| Reinsurance recoverable on unpaid claims and policy benefits | 61 | **656** |
| Other assets and liabilities, net | –386 | **–421** |
| Income taxes payable/recoverable | –606 | **–682** |
| Trading positions, net | –119 | **298** |
| **Net cash provided/used by operating activities** | 1 303 | **1 572** |
| | | |
| **Cash flows from investing activities** | | |
| Fixed income securities: | | |
| Sales | 43 904 | **44 679** |
| Maturities | 5 537 | **5 159** |
| Purchases | –52 696 | **–49 816** |
| Net purchases/sales/maturities of short-term investments | 6 459 | **–761** |
| Equity securities: | | |
| Sales | 7 421 | **1 908** |
| Purchases | –7 113 | **–1 578** |
| Securities purchased/sold under agreement to resell/repurchase, net | –1 042 | **3 464** |
| Cash paid/received for acquisitions/disposals and reinsurance transactions, net | 36 | **–11** |
| Net purchases/sales/maturities of other investments | –2 103 | **–869** |
| Net purchases/sales/maturities of investments held for unit-linked and with-profit business | 2 356 | **1 288** |
| **Net cash provided/used by investing activities** | 2 759 | **3 463** |
| | | |
| **Cash flows from financing activities** | | |
| Policyholder account balances, unit-linked and with-profit business: | | |
| Deposits | 565 | **557** |
| Withdrawals | –2 821 | **–2 939** |
| Issuance/repayment of long-term debt | –270 | **346** |
| Issuance/repayment of short-term debt | –1 221 | **–428** |
| Issuance/repayment of contingent capital instrument | –352 | **–750** |
| Purchase/sale of treasury shares | –1 142 | **–1 446** |
| Dividends paid to shareholders | –1 559 | **–1 592** |
| Dividends paid to non-controlling interests | | **–152** |
| Transactions with non-controlling interests | | **811** |
| **Net cash provided/used by financing activities** | –6 800 | **–5 593** |

The accompanying notes are an integral part of the Group financial statements.

| USD millions | 2017 | 2018 |
|---|---|---|
| **Total net cash provided/used** | –2 738 | **–558** |
| Effect of foreign currency translation | 533 | **–263** |
| **Change in cash and cash equivalents** | –2 205 | **–821** |
| Cash and cash equivalents as of 1 January | 9 011 | **6 806** |
| **Cash and cash equivalents as of 31 December** | 6 806 | **5 985** |

Interest paid was USD 655 million and USD 631 million (thereof USD 49 million and USD 43 million for letter of credit fees) for 2017 and 2018, respectively. Tax paid was USD 720 million and USD 740 million for 2017 and 2018, respectively.

Cash and cash equivalents include restricted cash and restricted cash equivalents, for instance pledged cash and cash equivalents (please refer to Note 7, "Investments").

The accompanying notes are an integral part of the Group financial statements.

# Notes to the Group financial statements

## 1 Organisation and summary of significant accounting policies

### Nature of operations
The Swiss Re Group, which is headquartered in Zurich, Switzerland, comprises Swiss Re Ltd (the parent company) and its subsidiaries (collectively, the "Swiss Re Group" or the "Group"). The Swiss Re Group is a wholesale provider of reinsurance, insurance and other insurance-based forms of risk transfer. Working through brokers and a network of offices around the globe, the Group serves a client base made up of insurance companies, mid- to large-sized corporations and public-sector clients.

### Basis of presentation
The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (US GAAP) and comply with Swiss law. All significant intra-group transactions and balances have been eliminated on consolidation.

In the half-year 2018 report, the impact of the Accounting Standard Updates (ASUs) 2016-01, 2016-16 and 2018-02 was reflected in the Group's statement of comprehensive income. In the year-end 2018 report, the Group revised the presentation and presented the statement of comprehensive income without the impact of these ASUs totalling USD –139 million. The revision had no impact on the Group's financial position, net income and cash flow. Please refer to the subsection "Adoption of new accounting standards" for more details about the ASUs.

### Principles of consolidation
The Group's financial statements include the consolidated financial statements of Swiss Re Ltd and its subsidiaries. Voting entities which Swiss Re Ltd directly or indirectly controls through holding a majority of the voting rights are consolidated in the Group's accounts. Variable interest entities (VIEs) are consolidated when the Swiss Re Group is the primary beneficiary. The Group is the primary beneficiary when it has power over the activities that impact the VIE's economic performance and at the same time has the obligation to absorb losses or the right to receive benefits that could potentially be significant to the VIE. Companies which the Group does not control, but over which it directly or indirectly exercises significant influence, are accounted for using the equity method or the fair value option and are included in other invested assets. The Swiss Re Group's share of net profit or loss in investments accounted for under the equity method is included in net investment income. Equity and net income of these companies are adjusted as necessary to be in line with the Group's accounting policies. The results of consolidated subsidiaries and investments accounted for using the equity method are included in the financial statements for the period commencing from the date of acquisition.

### Use of estimates in the preparation of financial statements
The preparation of financial statements requires management to make significant estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses as well as the related disclosure, including contingent assets and liabilities. The Swiss Re Group's liabilities for unpaid claims and claim adjustment expenses and policy benefits for life and health include estimates for premium, claim and benefit data not received from ceding companies at the date of the financial statements. In addition, the Group uses certain financial instruments and invests in securities of certain entities for which exchange trading does not exist. The Group determines these estimates based on historical information, actuarial analyses, financial modelling and other analytical techniques. Actual results could differ significantly from the estimates described above.

### Foreign currency remeasurement and translation
Transactions denominated in foreign currencies are remeasured to the respective subsidiary's functional currency at average exchange rates. Monetary assets and liabilities are remeasured to the functional currency at closing exchange rates, whereas non-monetary assets and liabilities are remeasured to the functional currency at historical rates. Remeasurement gains and losses on monetary assets and liabilities and trading securities are reported in earnings. Remeasurement gains and losses on available-for-sale securities, investments in consolidated subsidiaries and investments accounted for using the equity method are reported in shareholders' equity.

For consolidation purposes, assets and liabilities of subsidiaries with functional currencies other than US dollars are translated from the functional currency to US dollars at closing rates. Revenues and expenses are translated at average exchange rates. Translation adjustments are reported in shareholders' equity.

**Valuation of financial assets**

The fair value of the majority of the Group's financial instruments is based on quoted prices in active markets or observable inputs. These instruments include government and agency securities, commercial paper, most investment-grade corporate debt, most high-yield debt securities, exchange-traded derivative instruments, most mortgage- and asset-backed securities and listed equity securities. In markets with reduced or no liquidity, spreads between bid and offer prices are normally wider compared to spreads in highly liquid markets. Such market conditions affect the valuation of certain asset classes of the Group, such as some asset-backed securities as well as certain derivative structures referencing such asset classes.

The Group considers both the credit risk of its counterparties and own risk of non-performance in the valuation of derivative instruments and other over-the-counter financial assets. In determining the fair value of these financial instruments, the assessment of the Group's exposure to the credit risk of its counterparties incorporates consideration of existing collateral and netting arrangements entered into with each counterparty. The measure of the counterparty credit risk is estimated with incorporation of the observable credit spreads, where available, or credit spread estimates derived based on the benchmarking techniques where market data is not available. The impact of the Group's own risk of non-performance is analysed in the manner consistent with the aforementioned approach, with consideration of the Group's observable credit spreads. The value representing such risk is incorporated into the fair value of the financial instruments (primarily derivatives), in a liability position as of the measurement date. The change in this adjustment from period to period is reflected in realised gains and losses in the income statement.

For assets or derivative structures at fair value, the Group uses market prices or inputs derived from market prices. A separate internal price verification process, independent of the trading function, provides an additional control over the market prices or market input used to determine the fair values of such assets. Although management considers that appropriate values have been ascribed to such assets, there is always a level of uncertainty and judgement over these valuations. Subsequent valuations could differ significantly from the results of the process described above. The Group may become aware of counterparty valuations, either directly through the exchange of information or indirectly, for example through collateral demands. Any implied differences are considered in the independent price verification process and may result in adjustments to initially indicated valuations. As of 31 December 2018, the Group had not provided any collateral on financial instruments in excess of its own market value estimates.

**Investments**

The Group's investments in fixed income securities are classified as available-for-sale (AFS) or trading. Fixed income securities AFS are carried at fair value, based on quoted market prices, with the difference between the applicable measure of cost and fair value being recognised in shareholders' equity. Trading fixed income securities are carried at fair value with unrealised gains and losses recognised in earnings. A trading classification is used for securities that are bought and held principally for the purpose of selling them in the near term.

For fixed income securities AFS that are other-than-temporary impaired and for which there is not an intention to sell, the impairment is separated into (i) the estimated amount relating to credit loss, and (ii) the amount relating to all other factors. The estimated credit loss amount is recognised in earnings, with the remainder of the loss amount recognised in other comprehensive income. In cases where there is an intention or requirement to sell and the fair value is lower than cost expressed in functional currency terms, the cost of fixed income securities AFS is reduced to fair value, with a corresponding charge to realised investment losses. Subsequent recoveries are not recognised in earnings.

Equity investments are carried at fair value with unrealised gains and losses recognised in earnings, with the exception of equity method investments and investments that result in consolidation.

Interest on fixed income securities is recorded in net investment income when earned and is adjusted for the amortisation of any purchase premium or discount. Dividends on equity securities are recognised as investment income on the ex-dividend date. Realised gains and losses on sales are included in earnings and are calculated using the specific identification method.

Policy loans, mortgages and other loans are carried at amortised cost. Interest income is recognised in accordance with the effective yield method.

Investment in real estate that the Group intends to hold for the production of income is carried at depreciated cost, net of any write-downs for impairment in value. Depreciation on buildings is recognised on a straight-line basis over the estimated useful life of the asset. Land is recognised at cost and not depreciated. Impairment in value is recognised if the sum of the estimated future undiscounted cash flows from the use of the real estate is lower than its carrying value. The impairment loss is measured as the amount by which the asset's carrying amount exceeds its fair value and is recognised in realised investment losses. Depreciation and other related charges or credits are included in net investment income. Investment in real estate held for sale is carried at the lower of cost or fair value, less estimated selling costs, and is not depreciated. Reductions in the carrying value of real estate held for sale are included in realised investment losses.

Short-term investments are measured at fair value with changes in fair value recognised in net income. The Group considers highly liquid investments with a remaining maturity at the date of acquisition of one year or less, but greater than three months, to be short-term investments.

Other invested assets include affiliated companies, equity accounted companies, derivative financial instruments, collateral receivables, securities purchased under agreement to resell, deposits and time deposits, and investments without readily determinable fair value (including limited partnership investments). Investments in limited partnerships where the Group's interest equals or exceeds 3% are accounted for using the equity method. Investments in limited partnerships where the Group's interest is below 3% and equity investments in corporate entities which are not publicly traded are accounted for at estimated fair value with changes in fair value recognised in earnings.

The Group enters into securities lending arrangements under which it loans certain securities in exchange for collateral and receives securities lending fees. The Group's policy is to require collateral, consisting of cash or securities, equal to at least 102% of the carrying value of the securities loaned. In certain arrangements, the Group may accept collateral of less than 102% if the structure of the overall transaction offers an equivalent level of security. Cash received as collateral is recognised along with an obligation to return the cash. Securities received as collateral that can be sold or repledged are also recognised along with an obligation to return those securities. Securities lending fees are recognised over the term of the related loans.

**Derivative financial instruments and hedge accounting**

The Group uses a variety of derivative financial instruments including swaps, options, forwards and exchange-traded financial futures for the Group's trading and hedging strategy in line with the overall risk management strategy. Derivative financial instruments are primarily used as a means of managing exposure to price, foreign currency and/or interest rate risk on planned or anticipated investment purchases, existing assets or existing liabilities and also to lock in attractive investment conditions for funds which become available in the future. The Group recognises all of its derivative instruments on the balance sheet at fair value. Changes in fair value on derivatives that are not designated as hedging instruments are recorded in income.

If the derivative is designated as a hedge of the fair value of assets or liabilities, changes in the fair value of the derivative are recognised in earnings, together with changes in the fair value of the related hedged item. If the derivative is designated as a hedge of the variability in expected future cash flows related to a particular risk, changes in the fair value of the derivative are reported in other comprehensive income until the hedged item is recognised in earnings. The ineffective portion of the hedge is recognised in earnings. When hedge accounting is discontinued on a cash flow hedge, the net gain or loss remains in accumulated other comprehensive income and is reclassified to earnings in the period in which the formerly hedged transaction is reported in earnings. When the Group discontinues hedge accounting because it is no longer probable that a forecasted transaction will occur within the required time period, the derivative continues to be carried on the balance sheet at fair value, and gains and losses that were previously recorded in accumulated other comprehensive income are recognised in earnings.

The Group recognises separately derivatives that are embedded within other host instruments if the economic characteristics and risks are not clearly and closely related to the economic characteristics and risks of the host contract and if it meets the definition of a derivative if it were a free-standing contract.

Derivative financial instrument assets are generally included in other invested assets and derivative financial instrument liabilities are generally included in accrued expenses and other liabilities.

The Group also designates non-derivative and derivative monetary financial instruments as hedges of the foreign currency exposure of its net investment in certain foreign operations. From the inception of the hedging relationship, remeasurement gains and losses on the designated non-derivative and derivative monetary financial instruments and translation gains and losses on the hedged net investment are reported as translation gains and losses in shareholders' equity.

**Cash and cash equivalents**

Cash and cash equivalents include cash on hand, short-term deposits, certain short-term investments in money market funds and highly liquid debt instruments with a remaining maturity at the date of acquisition of three months or less.

**Deferred acquisition costs**

The Group incurs costs in connection with acquiring new and renewal reinsurance and insurance business. Some of these costs, which consist primarily of commissions, are deferred as they are directly related to the successful acquisition of such business.

Deferred acquisition costs for short-duration contracts are amortised in proportion to premiums earned. Future investment income is considered in determining the recoverability of deferred acquisition costs for short-duration contracts. Deferred acquisition costs for long-duration contracts are amortised over the life of underlying contracts. Deferred acquisition costs for universal-life and similar products are amortised based on the present value of estimated gross profits. Estimated gross profits are updated quarterly.

### Modifications of insurance and reinsurance contracts

The Group accounts for modifications of insurance and reinsurance contracts that result in a substantially unchanged contract as a continuation of the replaced contract. The associated deferred acquisition costs and present value of future profits (PVFP) will continue to be amortised. The Group accounts for modifications of insurance and reinsurance contracts that result in a substantially changed contract as an extinguishment of the replaced contract. The associated deferred acquisition costs or PVFP are written off immediately through income and any new deferrable costs associated with the replacement contract are deferred.

### Business combinations

The Group applies the acquisition method of accounting for business combinations. This method allocates the cost of the acquired entity to the assets and liabilities assumed based on their estimated fair values at the date of acquisition.

Life Capital closed blocks of business can be acquired in different legal forms, either through an acquisition of an entity's share capital or through a reinsurance transaction. The Group's policy is to treat these transactions consistently regardless of the legal form of the acquisition. Accordingly, the Group records the acquired assets and liabilities directly to the balance sheet. Premiums, life and health benefits and other income statement items are not recorded in the income statement on the date of the acquisition.

The underlying assets and liabilities acquired are subsequently accounted for according to the relevant US GAAP guidance. This includes specific requirements applicable to subsequent accounting for assets and liabilities recognised as part of the acquisition method of accounting, including present value of future profits, goodwill and other intangible assets.

### Acquired present value of future profits

The acquired present value of future profits (PVFP) of business in force is recorded in connection with the acquisition of life and health business. The initial value is calculated as the difference between established reserves, which are set up in line with US GAAP accounting policies and assumptions of the Group, and their fair value at the acquisition date. The resulting PVFP, which could be positive or negative, is amortised on a constant yield basis over the expected revenue recognition period of the business acquired, generally over periods ranging up to 30 years, with the accrual of interest added to the unamortised balance at the earned rate. Amortisation and accrual of interest are recognised in acquisition costs. The earned rate corresponds to either the current earned rate or the original earned rate depending on the business written. The rate is consistently applied for the entire life of the applicable business. For universal-life and similar products, PVFP is amortised in line with estimated gross profits, which are updated quarterly. The carrying value of PVFP is reviewed periodically for indicators of impairment in value. Adjustments to PVFP reflecting impairment in value are recognised in acquisition costs during the period in which the determination of impairment is made, or in other comprehensive income for shadow loss recognition.

### Goodwill

The excess of the purchase price of acquired businesses over the estimated fair value of net assets acquired is recorded as goodwill, which is reviewed periodically for indicators of impairment in value. Adjustments to reflect impairment in value are recognised in earnings in the period in which the determination of impairment is made.

### Other assets

Other assets include deferred expenses on retroactive reinsurance, prepaid reinsurance premiums, receivables related to investing activities, real estate for own use, other classes of property, plant and equipment, accrued income, certain intangible assets and prepaid assets.

The excess of estimated liabilities for claims and claim adjustment expenses payable over consideration received in respect of retroactive property and casualty reinsurance contracts is recorded as a deferred expense. The deferred expense on retroactive reinsurance contracts is amortised through earnings over the expected claims-paying period.

Real estate for own use as well as other classes of property, plant and equipment are carried at depreciated cost. Depreciation on buildings is recognised on a straight-line basis over the estimated useful life. Land is recognised at cost and not depreciated.

### Capitalised software costs

External direct costs of materials and services incurred to develop or obtain software for internal use, payroll and payroll-related costs for employees directly associated with software development and interest cost incurred while developing software for internal use are capitalised and amortised on a straight-line basis through earnings over the estimated useful life.

### Income taxes

Deferred income tax assets and liabilities are recognised based on the difference between financial statement carrying amounts and the corresponding income tax bases of assets and liabilities using enacted income tax rates and laws. A valuation allowance is recorded against deferred tax assets when it is deemed more likely than not that some or all of the deferred tax assets may not be realised.

The Group recognises the effect of income tax positions only if sustaining those positions is more likely than not. Changes in recognition or measurement are reflected in the period in which a change in judgement occurs.

The Group releases stranded tax effects for unrealised gains/losses on AFS securities to earnings on a straight-line basis over the average duration of the relevant AFS portfolio as an approximation of when the individual securities within the portfolio are sold or mature. For adjustment for pension and other post-retirement benefits, stranded tax effects are released to earnings when the relevant pension plan is terminated. For foreign currency translation, stranded tax effects are released to earnings in line with the recycling of the underlying foreign currency translation amounts.

### Unpaid claims and claim adjustment expenses

Liabilities for unpaid claims and claim adjustment expenses for property and casualty and life and health insurance and reinsurance contracts are accrued when insured events occur and are based on the estimated ultimate cost of settling the claims, using reports and individual case estimates received from ceding companies. A provision is also included for claims incurred but not reported, which is developed on the basis of past experience adjusted for current trends and other factors that modify past experience. The establishment of the appropriate level of reserves is an inherently uncertain process involving estimates and judgements made by management, and therefore there can be no assurance that ultimate claims and claim adjustment expenses will not exceed the loss reserves currently established. These estimates are regularly reviewed, and adjustments for differences between estimates and actual payments for claims and for changes in estimates are reflected in income in the period in which the estimates are changed or payments are made.

The Group does not discount liabilities arising from prospective property and casualty insurance and reinsurance contracts, including liabilities which are discounted for US statutory reporting purposes. Liabilities arising from property and casualty insurance and reinsurance contracts acquired in a business combination are initially recognised at fair value in accordance with the acquisition method of accounting.

The Group does not discount life and health claim reserves except for disability income claims in payment and mortality claims paid out in the form of an annuity. These claims are recognised at the estimated present value of the remaining ultimate net costs of the incurred claims.

Experience features which are directly linked to a reinsurance asset or liability are classified in a manner that is consistent with the presentation of that asset or liability.

### Liabilities for life and health policy benefits

Liabilities for life and health policy benefits from reinsurance business are generally calculated using the net level premium method, based on assumptions as to investment yields, mortality, withdrawals, lapses and policyholder dividends. Assumptions are set at the time the contract is issued or, in the case of contracts acquired by purchase, at the purchase date. The assumptions are based on projections from past experience, making allowance for possible adverse deviation. Interest rate assumptions for life and health (re)insurance benefit liabilities are based on estimates of expected investment yields. Assumed mortality rates are generally based on experience multiples applied to the actuarial select and ultimate tables based on industry experience.

Liabilities for life and health policy benefits are increased with a charge to earnings if it is determined that future cash flows, including investment income, are insufficient to cover future benefits and expenses. Where assets backing liabilities for policy benefits are held as AFS, these liabilities for policyholder benefits are increased by a shadow adjustment, with a charge to other comprehensive income, where future cash flows at market rates are insufficient to cover future benefits and expenses.

### Policyholder account balances

Policyholder account balances relate to universal-life-type contracts and investment contracts.

Universal-life-type contracts are long-duration insurance contracts, providing either death or annuity benefits, with terms that are not fixed and guaranteed.

Investment contracts are long-duration contracts that do not incorporate significant insurance risk, ie there is no mortality and morbidity risk, or the mortality and morbidity risk associated with the insurance benefit features offered in the contract is of insignificant amount or remote probability. Amounts received as payment for investment contracts are reported as policyholder account balances. Related assets are included in general account assets except for investments for unit-linked and with-profit business, which are presented in a separate line item on the face of the balance sheet.

Amounts assessed against policyholders for mortality, administration and surrender are shown as fee income. Amounts credited to policyholders are shown as interest credited to policyholders. Investment income and realised investment gains and losses allocable to policyholders are included in net investment income and net realised investment gains/losses except for unit-linked and with-profit business, which is presented in a separate line item on the face of the income statement.

Unit-linked and with-profit business are presented together as they are similar in nature. For unit-linked contracts, the investment risk is borne by the policyholder. For with-profit contracts, the majority of the investment risk is also borne by the policyholder, although there are certain guarantees that limit the downside risk for the policyholder, and a certain proportion of the returns may be retained by Swiss Re Group (typically 10%). Additional disclosures are provided in Note 7.

### Funds held assets and liabilities

On the asset side, funds held by ceding companies consist mainly of amounts retained by the ceding company for business written on a funds withheld basis. In addition, the account also includes amounts arising from the application of the deposit method of accounting to ceded retrocession or reinsurance contracts.

On the liability side, funds held under reinsurance treaties consist mainly of amounts arising from the application of the deposit method of accounting to inward insurance and reinsurance contracts. In addition, the account also includes amounts retained from ceded business written on a funds withheld basis.

Funds withheld assets are assets that would normally be paid to the Group but are withheld by the cedent to reduce a potential credit risk or to retain control over investments. In case of funds withheld liabilities, it is the Group that withholds assets related to ceded business in order to reduce its credit risk or retain control over the investments.

The deposit method of accounting is applied to insurance and reinsurance contracts that do not indemnify the ceding company or the Group against loss or liability relating to insurance risk. Under the deposit method of accounting, the deposit asset or liability is initially measured based on the consideration paid or received. For contracts that transfer neither significant timing nor underwriting risk, and contracts that transfer only significant timing risk, changes in estimates of the timing or amounts of cash flows are accounted for by recalculating the effective yield. The deposit is then adjusted to the amount that would have existed had the new effective yield been applied since the inception of the contract. The revenue and expense recorded for such contracts is included in net investment income. For contracts that transfer only significant underwriting risk, once a loss is incurred, the deposit is adjusted by the present value of the incurred loss. At each subsequent balance sheet date, the portion of the deposit attributable to the incurred loss is recalculated by discounting the estimated future cash flows. The resulting changes in the carrying amount of the deposit are recognised in claims and claim adjustment expenses.

Funds withheld balances are presented together with assets and liabilities arising from the application of the deposit method because of their common deposit-type character.

### Shadow adjustments

Shadow adjustments are recognised in other comprehensive income reflecting the offset of adjustments to deferred acquisition costs and PVFP, typically related to universal-life-type contracts, and policyholder liabilities. The purpose is to reflect the fact that certain amounts recorded as unrealised investment gains and losses within shareholders' equity will ultimately accrue to policyholders and not shareholders.

Shadow loss recognition testing becomes relevant in low interest rate environments. The test considers whether the hypothetical sale of AFS securities and the reinvestment of proceeds at lower yields would lead to negative operational earnings in future periods, thereby causing a loss recognition event. For shadow loss recognition testing, the Group uses current market yields to determine best estimate US GAAP reserves rather than using locked-in or current book yields. If the unlocked best estimate US GAAP reserves based on current market rates are in excess of reserves based on locked-in or current book yields, a shadow loss recognition reserve is set up. These reserves are recognised in other comprehensive income and do not impact net income. In addition, shadow loss recognition reserves can reverse up to the amount of losses recognised due to past loss events.

### Premiums

Property and casualty reinsurance premiums are recorded when written and include an estimate for written premiums receivable at period end. Premiums earned are generally recognised in income over the contract period in proportion to the amount of reinsurance provided. Unearned premiums consist of the unexpired portion of reinsurance provided. Life reinsurance premiums are earned when due. Related policy benefits are recorded in relation to the associated premium or gross profits so that profits are recognised over the expected lives of the contracts.

Life and health reinsurance premiums for group coverages are generally earned over the term of the coverage. For group contracts that allow experience adjustments to premiums, such premiums are recognised as the related experience emerges.

Reinstatement premiums are due where coverage limits for the remaining life of the contract are reinstated under pre-defined contract terms. The recognition of reinstatement premiums as written depends on individual contract features. Reinstatement premiums are either recognised as written at the time a loss event occurs or in line with the recognition pattern of premiums written of the underlying contract. The accrual of reinstatement premiums is based on actuarial estimates of ultimate losses. Reinstatement premiums are generally earned in proportion to the amount of reinsurance provided.

### Insurance and reinsurance ceded
The Group uses retrocession arrangements to increase its aggregate underwriting capacity, to diversify its risk and to reduce the risk of catastrophic loss on reinsurance assumed. The ceding of risks to retrocessionaires does not relieve the Group of its obligations to its ceding companies. The Group regularly evaluates the financial condition of its retrocessionaires and monitors the concentration of credit risk to minimise its exposure to financial loss from retrocessionaires' insolvency. Premiums and losses ceded under retrocession contracts are reported as reductions of premiums earned and claims and claim adjustment expenses. Amounts recoverable for ceded short- and long-duration contracts, including universal-life-type and investment contracts, are reported as assets in the accompanying consolidated balance sheet.

The Group provides reserves for uncollectible amounts on reinsurance balances ceded, based on management's assessment of the collectability of the outstanding balances.

### Receivables
Premium and claims receivables which have been invoiced are accounted for at face value. Together with assets arising from the application of the deposit method of accounting that meet the definition of financing receivables they are regularly assessed for impairment. Evidence of impairment is the age of the receivable and/or any financial difficulties of the counterparty. Allowances are set up on the net balance, meaning all balances related to the same counterparty are considered. The amount of the allowance is set up in relation to the time a receivable has been due and any financial difficulties of the debtor, and can be as high as the outstanding net balance.

### Pensions and other post-retirement benefits
The Group accounts for its pension and other post-retirement benefit costs using the accrual method of accounting. Amounts charged to expense are based on periodic actuarial determinations.

### Share-based payment transactions
As of 31 December 2018, the Group has a Leadership Performance Plan, restricted shares and a Global Share Participation Plan. These plans are described in more detail in Note 15. The Group accounts for share-based payment transactions with employees using the fair value method. Under the fair value method, the fair value of the awards is recognised in earnings over the vesting period.

For share-based compensation plans which are settled in cash, compensation costs are recognised as liabilities, whereas for equity-settled plans, compensation costs are recognised as an accrual to additional paid-in capital within shareholders' equity.

### Treasury shares
Treasury shares are reported at cost in shareholders' equity.

### Earnings per common share
Basic earnings per common share are determined by dividing net income available to shareholders by the weighted average number of common shares entitled to dividends during the year. Diluted earnings per common share reflect the effect on earnings and average common shares outstanding associated with dilutive securities.

### Subsequent events
Subsequent events for the current reporting period have been evaluated up to 13 March 2019. This is the date on which the financial statements are available to be issued.

### Adoption of new accounting standards
In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2014-09, "Revenue from Contracts with Customers", which creates topic 606, "Revenue from Contracts with Customers". ASU 2014-09 outlines the principles that an entity should follow to provide useful information about the amount, timing and uncertainty of revenue and cash flows arising from contracts with its customers. The standard requires an entity to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. Insurance contracts and financial instruments are not in the scope of the new standard. The Group adopted ASU 2014-09 on 1 January 2018 together with the following ASUs related to topic 606: ASU 2016-08 "Principal versus Agent Considerations (Reporting Revenue Gross versus Net)", ASU 2016-10 "Identifying Performance Obligations and Licensing", ASU 2016-12 "Narrow-Scope Improvements and Practical Expedients" and ASU 2016-20 "Technical Corrections and Improvements to Topic 606". The retrospective adoption of ASU 2014-09 and related ASUs did not have a material impact on the Group's financial statements.

In January 2016, the FASB issued ASU 2016-01, "Recognition and Measurement of Financial Assets and Financial Liabilities", an update to subtopic 825-10, "Financial Instruments – Overall". The ASU requires the Group to carry investments in equity securities, including partnerships, unincorporated joint ventures and limited liability companies at fair value through earnings, with the exception of equity method investments, investments that result in consolidation or investments for which the measurement alternative has been elected. The Group did not elect the measurement alternative for any of its investments. For financial liabilities to which the fair value option has been applied, the ASU requires an entity to separately present the change in fair value attributable to instrument-specific credit risk in other comprehensive income (OCI) rather than in net income. In addition, the ASU requires an entity to assess whether a valuation allowance is needed on a deferred tax asset (DTA) related to fixed income securities available-for-sale in combination with the entity's other DTAs rather than separately from other DTAs. The Group adopted ASU 2016-01 on 1 January 2018 together with ASU 2018-03, "Technical Corrections and Improvements to Financial Instruments – Overall (Subtopic 825-10)". The opening balance sheet impact from the adoption was a reclassification within shareholders' equity from net unrealised investment gains, net of tax, to retained earnings of USD 347 million. In addition, USD 5 million were reclassified from retained earnings to credit risk of financial liabilities at fair value option, net of tax. These reclassifications can be found in the statement of shareholders' equity. The impact on pre-tax earnings in 2018 due to the adoption of ASU 2016-01 was an estimated net realised investment loss of USD 599 million.

In August 2016, the FASB issued ASU 2016-15, "Classification of Certain Cash Receipts and Cash Payments", a consensus of the FASB Emerging Issues Task Force (EITF) to topic 230, "Statement of Cash Flows". ASU 2016-15 provides guidance on eight issues related to the presentation and classification of cash receipts and cash payments in the statement of cash flows with the objective of reducing existing diversity in practice. The Group adopted ASU 2016-15 retrospectively on 1 January 2018. The adoption did not have a material impact on the Group's statement of cash flows.

In October 2016, the FASB issued ASU 2016-16, "Intra-Entity Transfers of Assets Other Than Inventory", an update to topic 740, "Income Taxes". This ASU amends the former guidance which prohibited the recognition of current and deferred income taxes for an intra-entity asset transfer until the asset had been sold to an outside party. This new standard requires that an entity recognises the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. The Group adopted ASU 2016-16 on 1 January 2018 on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings as of the adoption date. The adoption resulted in an increase of net unrealised investment gains/losses, net of tax, of USD 44 million against a reduction of deferred tax of USD 41 million and retained earnings of USD 3 million. The movements in equity related to the adoption of ASU 2016-16 can be found in the statement of shareholders' equity. The impact on earnings in 2018 due to the adoption of ASU 2016-16 was a tax benefit of USD 68 million.

In November 2016, the FASB issued ASU 2016-18, "Restricted Cash", a consensus of the FASB EITF to topic 230, "Statement of Cash Flows". The update requires that the statement of cash flows explains the change during the period in the total of cash, cash equivalents and restricted cash and restricted cash equivalents. Restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. The Group adopted ASU 2016-18 retrospectively on 1 January 2018. The adoption did not have a material impact on the Group's financial statements.

In February 2017, the FASB issued ASU 2017-05, "Clarifying the Scope of Asset Derecognition Guidance and Accounting for Partial Sales of Nonfinancial Assets", an update to subtopic 610-20, "Other Income – Gains and Losses from the Derecognition of Nonfinancial Assets". This update clarifies and provides guidance on the scope of subtopic 610-20 including financial assets meeting the definition of an in-substance non-financial asset. The Group adopted ASU 2017-05 retrospectively on 1 January 2018. The adoption did not have an impact on the Group's financial statements.

In March 2017, the FASB issued ASU 2017-07, "Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost", an update to topic 715, "Compensation – Retirement Benefits". The amendments in this update require that an employer separates other components of net benefit cost from the service cost component and presents these components outside a subtotal of income from operations, if one is presented. Further, the ASU only allows the service cost component of net benefit cost to be capitalised. The Group adopted ASU 2017-07 retrospectively on 1 January 2018. The adoption did not have a material impact on the Group's financial statements.

In May 2017, the FASB issued ASU 2017-09, "Scope of Modification Accounting", an update to topic 718, "Compensation – Stock Compensation". The amendments in this update provide guidance about which changes to the terms or conditions of a share-based payment award require to apply modification accounting under topic 718. The Group adopted ASU 2017-09 on 1 January 2018. The adoption did not have an impact on the Group's financial statements.

In February 2018, the FASB issued ASU 2018-02, "Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income", an update to topic 220, "Income Statement – Reporting Comprehensive Income". The ASU allows a reclassification from accumulated other comprehensive income to retained earnings of stranded tax effects resulting from the Tax Cuts and Jobs Act. The Group early adopted ASU 2018-02 on 1 January 2018. The adoption resulted in a reclassification within shareholders' equity of USD 159 million of stranded tax charges from accumulated other comprehensive income to retained earnings. The reclassification can be found in the statement of shareholders' equity.

**Future adoption of new accounting standards**

In February 2016, the FASB issued ASU 2016-02 "Leases", which creates topic 842, "Leases". The core principle of topic 842 is that a lessee should recognise the assets and liabilities that arise from leases. A lessee should recognise in the statement of financial position a liability to make lease payments (the lease liability) and a right-of-use asset representing the right to use the underlying asset for the lease term. This accounting treatment applies to finance leases and operating leases. The accounting applied by a lessor is largely unchanged from that applied under the current guidance. The Group will adopt this ASU on 1 January 2019. The expected impact from the adoption is a net balance sheet gross-up of approximately USD 0.5 billion. Further, deferred gains carried on the balance sheet and amortised over time under the existing sale-leaseback guidance (estimated to be approximately USD 97 million as of 1 January 2019) will be released as a cumulative-effect adjustment to opening retained earnings as of 1 January 2019.

In June 2016, the FASB issued ASU 2016-13, "Measurement of Credit Losses", an update to topic 326, "Financial Instruments – Credit Losses". ASU 2016-13 replaces the incurred loss impairment methodology in current US GAAP with a methodology that reflects expected credit losses. For financial instruments that are measured at amortised cost and available-for-sale debt securities, the standard requires that an entity recognises its estimate of expected credit losses as an allowance. The ASU is effective for annual and interim periods beginning after 15 December 2020. Early adoption is permitted. The Group is currently assessing the impact of the new requirements.

In January 2017, the FASB issued ASU 2017-04, "Simplifying the Test for Goodwill Impairment", an update to topic 350, "Intangibles – Goodwill and Other". This ASU simplifies the subsequent measurement of goodwill and eliminates Step 2 from the goodwill impairment test. In computing the implied fair value of goodwill under Step 2, an entity has to perform procedures to determine the fair value at the impairment testing date of its assets and liabilities (including unrecognised assets and liabilities) following the procedure that would be required in determining the fair value of assets acquired and liabilities assumed in a business combination. Instead, under the amendments in this update, an entity should perform its regular goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount. An entity should recognise an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value; however, the loss recognised should not exceed the total amount of goodwill allocated to that reporting unit. The new requirements are effective for goodwill impairment tests in annual and interim periods beginning after 15 December 2020. Early adoption of the ASU is permitted. The Group is currently assessing the impact of the new requirements.

In August 2018, the FASB issued ASU 2018-12, "Targeted Improvements to the Accounting for Long-Duration Contracts", an update to topic 944, "Financial Services—Insurance". This ASU requires that the cash flows and net premium ratio will be updated for changes in insurance assumptions (eg mortality, morbidity, terminations) when measuring the liability for future policy benefits for non-participating traditional and limited-payment insurance and reinsurance contracts. The effect of updating cash flow assumptions will be measured on a retrospective catch-up basis and presented separately from the ongoing policyholder benefit expense in the statement of operations in the period the update is made. There will no longer be a provision for adverse deviation. In addition, the discount rate used to reflect the time value of money in the calculation of the liability for future policy benefits will be standardised. An upper-medium-grade fixed-income instrument yield will be required, which differs from the current requirement to use a discount rate reflecting expected investment yields. Further, a locked-in rate will be used in the periodic calculation of the net premium ratio and accretion of interest on the liability for income statement purposes. For balance sheet remeasurement purposes, the discount rate will be updated at each reporting date, with the effect of discount rate changes on the liability recorded immediately in OCI. The ASU requires deferred acquisition costs (DAC) relating to most long-duration contracts to be amortised on a constant basis over the expected term of the contract, and the resulting amortisation amount should not be a function of revenue or profit. The new standard also introduces a new category called market risk benefits, which are features that protect the contract holder from capital market risk and expose the insurer to that risk. These features have to be measured at fair value, with changes in own credit risk recognised in OCI, and presented separately in the primary financial statements. The ASU also requires significant additional disclosures, including disaggregated roll forwards of the liability for future policy benefits, policyholder account balances, market risk benefits and DAC. The ASU is effective for annual and interim periods beginning after 15 December 2020. Early adoption of the amendments is permitted. The new guidance relating to measurement of the traditional and limited-payment contract liabilities and DAC amortisation has to be adopted under a modified retrospective transition approach, with an option to elect a full retrospective transition if certain criteria are met. Under the modified retrospective approach, for contracts in force at the transition date, an entity would continue to use the existing locked-in investment yield interest rate assumptions to calculate the net premium ratio. However, for balance sheet measurement purposes, policyholder liabilities are discounted at the upper-medium-grade fixed-income instrument yield at the transition date, with the impact of the change recognised against accumulated OCI. The Group is currently assessing the impact of the new requirements.

## 2 Information on business segments

The Group provides reinsurance and insurance throughout the world through its business segments. The business segments are determined by the organisational structure and by the way in which management reviews the operating performance of the Group.

The Group presents four core operating business segments: Property & Casualty Reinsurance, Life & Health Reinsurance, Corporate Solutions and Life Capital. The presentation of each segment's balance sheet is closely aligned to the segment legal entity structure. The assignment of assets and liabilities for entities that span more than one segment is determined by considering local statutory requirements, legal and other constraints, the economic view of duration and currency requirements of the reinsurance business written and the capacity of the segments to absorb risks. Interest expense is based on the segment's capital funding position. The tax impact of a segment is derived from the legal entity tax obligations and the segmentation of the pre-tax result. While most of the tax items can be directly attributed to individual segments, the tax which impacts two or more segments is allocated to the segments on a reasonable basis. Property & Casualty Reinsurance and Life & Health Reinsurance share the same year-to-date effective tax rate as both business segments belong to the Reinsurance Business Unit.

Accounting policies applied by the business segments are in line with those described in the summary of significant accounting policies (please refer to Note 1).

The Group operating segments are outlined below.

**Property & Casualty Reinsurance and Life & Health Reinsurance**
Reinsurance consists of two segments, Property & Casualty and Life & Health. The Reinsurance Business Unit operates globally, both through brokers and directly with clients, and provides a large range of solutions for risk and capital management. Clients include stock and mutual insurance companies as well as public sector and governmental entities. In addition to traditional reinsurance solutions, Reinsurance offers insurance-linked securities and other insurance-related capital market products in both Property & Casualty and Life & Health.

Property & Casualty includes the business lines property, casualty (including motor) and specialty. Life & Health includes the life and health lines of business.

**Corporate Solutions**
Corporate Solutions offers innovative insurance capacity to mid-sized and large multinational corporations across the globe. Offerings range from standard risk transfer covers and multi-line programmes to customised solutions tailored to the needs of clients. Corporate Solutions serves customers from over 50 offices worldwide.

**Life Capital**
Life Capital manages Swiss Re's primary life and health business. It encompasses the closed and open life and health insurance books, including the ReAssure business and the primary life and health insurance business comprising elipsLife and iptiQ. Through ReAssure, Swiss Re acquires closed blocks of inforce life and health insurance business, either through reinsurance or corporate acquisition, and typically assumes responsibility for administering the underlying policies. The administration of the business may be managed directly or, where appropriate, in partnership with a third party. In the open books business, elipsLife, the Group life and health insurance business, offers solutions to pension funds, corporates and affinity groups through an intermediated business to business to consumer ("B2B2C") model. The iptiQ business, primarily the individual life and health business, partners with distributors and enables individuals to address their protection needs on a white labelled basis.

**Group items**
Items not allocated to the business segments are included in the "Group items" column, which encompasses Swiss Re Ltd, the Group's ultimate parent company, the former Legacy business in run-off, Principal Investments and certain Treasury units. Swiss Re Ltd charges trademark licence fees to the business segments which are reported as other revenues. Certain administrative expenses of the corporate centre functions that are not recharged to the operating segments are reported as Group items.

**Consolidation**
Segment information is presented net of external and internal retrocession and other intra-group arrangements. The Group total is obtained after elimination of intra-group transactions in the "Consolidation" column. This includes significant intra-group reinsurance arrangements, recharge of trademark licence fees and intersegmental funding.

## a) Business segments – income statement

For the year ended 31 December

| 2017<br>USD millions | Property & Casualty Reinsurance | Life & Health Reinsurance | Corporate Solutions | Life Capital | Group items | Consolidation | Total |
|---|---|---|---|---|---|---|---|
| **Revenues** | | | | | | | |
| Gross premiums written | 16 544 | 13 313 | 4 193 | 1 761 | | –1 036 | 34 775 |
| Net premiums written | 16 031 | 11 826 | 3 600 | 859 | | | 32 316 |
| Change in unearned premiums | 636 | 25 | 51 | 91 | | | 803 |
| **Premiums earned** | 16 667 | 11 851 | 3 651 | 950 | | | 33 119 |
| Fee income from policyholders | | 129 | | 457 | | | 586 |
| Net investment income – non-participating business | 1 017 | 1 308 | 161 | 1 193 | 184 | –155 | 3 708 |
| Net realised investment gains/losses – non-participating business | 613 | 591 | 128 | 133 | 262 | | 1 727 |
| Net investment result – unit-linked and with-profit business | | 81 | | 3 234 | | | 3 315 |
| Other revenues | 48 | 3 | 5 | 2 | 359 | –385 | 32 |
| **Total revenues** | 18 345 | 13 963 | 3 945 | 5 969 | 805 | –540 | 42 487 |
| | | | | | | | |
| **Expenses** | | | | | | | |
| Claims and claim adjustment expenses | –13 172 | | –3 558 | | | | –16 730 |
| Life and health benefits | | –9 211 | | –1 872 | | | –11 083 |
| Return credited to policyholders | | –119 | | –3 179 | | | –3 298 |
| Acquisition costs | –4 253 | –2 064 | –554 | –106 | | | –6 977 |
| Operating expenses | –1 159 | –754 | –759 | –514 | –474 | 352 | –3 308 |
| **Total expenses before interest expenses** | –18 584 | –12 148 | –4 871 | –5 671 | –474 | 352 | –41 396 |
| | | | | | | | |
| **Income/loss before interest and income tax expense/benefit** | –239 | 1 815 | –926 | 298 | 331 | –188 | 1 091 |
| Interest expenses | –280 | –315 | –23 | –35 | –101 | 188 | –566 |
| **Income/loss before income tax expense/benefit** | –519 | 1 500 | –949 | 263 | 230 | 0 | 525 |
| Income tax expense/benefit | 125 | –360 | 203 | –102 | 2 | | –132 |
| **Net income/loss before attribution of non-controlling interests** | –394 | 1 140 | –746 | 161 | 232 | 0 | 393 |
| | | | | | | | |
| Income/loss attributable to non-controlling interests | | | 5 | | | | 5 |
| **Net income/loss after attribution of non-controlling interests** | –394 | 1 140 | –741 | 161 | 232 | 0 | 398 |
| | | | | | | | |
| Interest on contingent capital instruments, net of tax | –19 | –48 | | | | | –67 |
| **Net income/loss attributable to common shareholders** | –413 | 1 092 | –741 | 161 | 232 | 0 | 331 |
| | | | | | | | |
| Claims ratio in % | 79.0 | | 97.4 | | | | 82.3 |
| Expense ratio in % | 32.5 | | 36.0 | | | | 33.1 |
| Combined ratio in % | 111.5 | | 133.4 | | | | 115.4 |
| Management expense ratio in % | | 5.7 | | | | | |
| Net operating margin in % | –1.3 | 13.1 | –23.5 | 10.9 | | | 2.8 |

## Business segments – income statement
For the year ended 31 December

| 2018<br>USD millions | Property & Casualty Reinsurance | Life & Health Reinsurance | Corporate Solutions | Life Capital | Group items | Consolidation | Total |
|---|---|---|---|---|---|---|---|
| **Revenues** | | | | | | | |
| Gross premiums written | 16 545 | 14 527 | 4 694 | 2 739 | | –2 099 | 36 406 |
| Net premiums written | 16 098 | 12 647 | 4 122 | 1 175 | | | 34 042 |
| Change in unearned premiums | –3 | 36 | –197 | –3 | | | –167 |
| **Premiums earned** | 16 095 | 12 683 | 3 925 | 1 172 | | | 33 875 |
| Fee income from policyholders | | 152 | | 434 | | | 586 |
| Net investment income – non-participating business | 1 380 | 1 305 | 207 | 1 256 | 262 | –335 | 4 075 |
| Net realised investment gains – non-participating business | –16 | 347 | 16 | 66 | –348 | | 65 |
| Net investment result – unit-linked and with-profit business | | –33 | | –1 560 | | | –1 593 |
| Other revenues | 36 | 1 | 3 | | 353 | –354 | 39 |
| **Total revenues** | **17 495** | **14 455** | **4 151** | **1 368** | **267** | **–689** | **37 047** |
| | | | | | | | |
| **Expenses** | | | | | | | |
| Claims and claim adjustment expenses | –11 614 | | –3 241 | | | | –14 855 |
| Life and health benefits | | –10 280 | | –1 489 | | | –11 769 |
| Return credited to policyholders | | –5 | | 1 038 | | | 1 033 |
| Acquisition costs | –4 012 | –2 045 | –607 | –255 | | | –6 919 |
| Operating expenses | –1 114 | –758 | –763 | –549 | –599 | 351 | –3 432 |
| **Total expenses before interest expenses** | **–16 740** | **–13 088** | **–4 611** | **–1 255** | **–599** | **351** | **–35 942** |
| | | | | | | | |
| **Income/loss before interest and income tax expense/benefit** | **755** | **1 367** | **–460** | **113** | **–332** | **–338** | **1 105** |
| Interest expenses | –313 | –410 | –24 | –41 | –105 | 338 | –555 |
| **Income/loss before income tax expense/benefit** | **442** | **957** | **–484** | **72** | **–437** | **0** | **550** |
| Income tax expense/benefit | –72 | –155 | 75 | –26 | 109 | | –69 |
| **Net income/loss before attribution of non-controlling interests** | **370** | **802** | **–409** | **46** | **–328** | **0** | **481** |
| | | | | | | | |
| Income/loss attributable to non-controlling interests | | | 4 | –23 | | | –19 |
| **Net income/loss after attribution of non-controlling interests** | **370** | **802** | **–405** | **23** | **–328** | **0** | **462** |
| | | | | | | | |
| Interest on contingent capital instruments, net of tax | | –41 | | | | | –41 |
| **Net income/loss attributable to common shareholders** | **370** | **761** | **–405** | **23** | **–328** | **0** | **421** |
| | | | | | | | |
| Claims ratio in % | 72.2 | | 82.6 | | | | 74.2 |
| Expense ratio in % | 31.8 | | 34.9 | | | | 32.4 |
| Combined ratio in % | 104.0 | | 117.5 | | | | 106.6 |
| Management expense ratio in % | | 5.4 | | | | | |
| Net operating margin in % | 4.3 | 9.4 | –11.1 | 3.9 | | | 2.9 |

## Business segments – balance sheet
As of 31 December

| 2017<br>USD millions | Property & Casualty Reinsurance | Life & Health Reinsurance | Corporate Solutions | Life Capital | Group items | Consolidation | Total |
|---|---|---|---|---|---|---|---|
| **Assets** | | | | | | | |
| Fixed income securities | 34 189 | 32 642 | 8 356 | 26 528 | 71 | | 101 786 |
| Equity securities | 1 893 | 945 | 455 | 32 | 540 | | 3 865 |
| Other investments | 14 460 | 3 212 | 191 | 2 697 | 5 530 | –9 856 | 16 234 |
| Short-term investments | 1 608 | 996 | 482 | 1 711 | 49 | | 4 846 |
| Investments for unit-linked and with-profit business | | 585 | | 34 581 | | | 35 166 |
| Cash and cash equivalents | 1 334 | 1 595 | 654 | 2 959 | 264 | | 6 806 |
| Deferred acquisition costs | 2 146 | 4 234 | 454 | 37 | | | 6 871 |
| Acquired present value of future profits | | 921 | | 1 068 | | | 1 989 |
| Reinsurance recoverable | 2 541 | 4 638 | 5 737 | 5 200 | | –10 174 | 7 942 |
| Other reinsurance assets | 10 293 | 10 669 | 2 477 | 7 666 | 2 | –8 118 | 22 989 |
| Goodwill | 1 944 | 1 873 | 213 | 142 | | | 4 172 |
| Other | 10 067 | 2 249 | 1 717 | 2 100 | 1 819 | –8 092 | 9 860 |
| **Total assets** | 80 475 | 64 559 | 20 736 | 84 721 | 8 275 | –36 240 | 222 526 |
| | | | | | | | |
| **Liabilities** | | | | | | | |
| Unpaid claims and claim adjustment expenses | 45 276 | 12 129 | 11 818 | 2 308 | | –4 736 | 66 795 |
| Liabilities for life and health policy benefits | | 18 230 | 279 | 29 491 | | –5 439 | 42 561 |
| Policyholder account balances | | 1 574 | | 35 963 | | | 37 537 |
| Other reinsurance liabilities | 10 245 | 5 528 | 4 177 | 4 410 | 2 | –8 448 | 15 914 |
| Short-term debt | 807 | 4 766 | | 904 | 60 | –6 104 | 433 |
| Long-term debt | 3 500 | 6 914 | 497 | 1 603 | | –2 366 | 10 148 |
| Other | 9 891 | 7 197 | 1 411 | 2 954 | 2 538 | –9 147 | 14 844 |
| **Total liabilities** | 69 719 | 56 338 | 18 182 | 77 633 | 2 600 | –36 240 | 188 232 |
| | | | | | | | |
| **Shareholders' equity** | 10 755 | 8 221 | 2 385 | 7 088 | 5 675 | 0 | 34 124 |
| | | | | | | | |
| Non-controlling interests | 1 | | 169 | | | | 170 |
| **Total equity** | 10 756 | 8 221 | 2 554 | 7 088 | 5 675 | 0 | 34 294 |
| | | | | | | | |
| **Total liabilities and equity** | 80 475 | 64 559 | 20 736 | 84 721 | 8 275 | –36 240 | 222 526 |

## Business segments – balance sheet
As of 31 December

| 2018<br>USD millions | Property & Casualty Reinsurance | Life & Health Reinsurance | Corporate Solutions | Life Capital | Group items | Consolidation | Total |
|---|---|---|---|---|---|---|---|
| **Assets** | | | | | | | |
| Fixed income securities | 35 968 | 29 158 | 8 157 | 22 637 | 32 | | 95 952 |
| Equity securities | 1 776 | 670 | 180 | 69 | 341 | | 3 036 |
| Other investments | 13 298 | 3 200 | 132 | 2 550 | 6 447 | –12 276 | 13 351 |
| Short-term investments | 2 547 | 1 174 | 451 | 1 207 | 38 | | 5 417 |
| Investments for unit-linked and with-profit business | | 424 | | 29 122 | | | 29 546 |
| Cash and cash equivalents | 1 651 | 1 705 | 796 | 1 605 | 228 | | 5 985 |
| Deferred acquisition costs | 2 156 | 4 784 | 488 | 789 | | | 8 217 |
| Acquired present value of future profits | | 804 | | 1 014 | | | 1 818 |
| Reinsurance recoverable | 2 345 | 4 359 | 5 486 | 4 914 | | –10 046 | 7 058 |
| Other reinsurance assets | 9 715 | 9 304 | 2 461 | 6 859 | | –5 541 | 22 798 |
| Goodwill | 1 908 | 1 823 | 206 | 134 | | | 4 071 |
| Other | 8 798 | 4 169 | 2 108 | 1 823 | 1 752 | –8 329 | 10 321 |
| **Total assets** | **80 162** | **61 574** | **20 465** | **72 723** | **8 838** | **–36 192** | **207 570** |
| | | | | | | | |
| **Liabilities** | | | | | | | |
| Unpaid claims and claim adjustment expenses | 45 659 | 12 192 | 11 929 | 2 601 | 1 | –4 936 | 67 446 |
| Liabilities for life and health policy benefits | | 17 888 | 501 | 26 314 | | –5 110 | 39 593 |
| Policyholder account balances | | 1 356 | | 30 582 | | | 31 938 |
| Other reinsurance liabilities | 10 331 | 4 162 | 3 816 | 3 365 | 3 | –5 812 | 15 865 |
| Short-term debt | 2 735 | 5 075 | | 238 | | –6 415 | 1 633 |
| Long-term debt | 2 402 | 7 749 | 798 | 1 515 | 552 | –4 514 | 8 502 |
| Other | 9 551 | 6 878 | 1 483 | 2 342 | 3 017 | –9 405 | 13 866 |
| **Total liabilities** | **70 678** | **55 300** | **18 527** | **66 957** | **3 573** | **–36 192** | **178 843** |
| | | | | | | | |
| **Shareholders' equity** | **9 483** | **6 274** | **1 795** | **5 113** | **5 265** | **0** | **27 930** |
| | | | | | | | |
| Non-controlling interests | 1 | | 143 | 653 | | | 797 |
| **Total equity** | **9 484** | **6 274** | **1 938** | **5 766** | **5 265** | **0** | **28 727** |
| | | | | | | | |
| **Total liabilities and equity** | **80 162** | **61 574** | **20 465** | **72 723** | **8 838** | **–36 192** | **207 570** |

### b) Property & Casualty Reinsurance business segment – by line of business

For the year ended 31 December

| 2017<br>USD millions | Property | Casualty | Specialty | Unallocated | Total |
|---|---|---|---|---|---|
| **Revenues** | | | | | |
| Gross premiums written | 6 505 | 7 715 | 2 324 | | 16 544 |
| Net premiums written | 6 115 | 7 665 | 2 251 | | 16 031 |
| Change in unearned premiums | 140 | 435 | 61 | | 636 |
| **Premiums earned** | 6 255 | 8 100 | 2 312 | | 16 667 |
| Net investment income | | | | 1 017 | 1 017 |
| Net realised investment gains/losses | | | | 613 | 613 |
| Other revenues | | | | 48 | 48 |
| **Total revenues** | 6 255 | 8 100 | 2 312 | 1 678 | 18 345 |
| | | | | | |
| **Expenses** | | | | | |
| Claims and claim adjustment expenses | –5 635 | –6 041 | –1 496 | | –13 172 |
| Acquisition costs | –1 228 | –2 414 | –611 | | –4 253 |
| Operating expenses | –636 | –356 | –167 | | –1 159 |
| **Total expenses before interest expenses** | –7 499 | –8 811 | –2 274 | 0 | –18 584 |
| | | | | | |
| **Income/loss before interest and income tax expense** | –1 244 | –711 | 38 | 1 678 | –239 |
| Interest expenses | | | | –280 | –280 |
| **Income/loss before income tax expense** | –1 244 | –711 | 38 | 1 398 | –519 |
| | | | | | |
| Claims ratio in % | 90.1 | 74.6 | 64.7 | | 79.0 |
| Expense ratio in % | 29.8 | 34.2 | 33.7 | | 32.5 |
| Combined ratio in % | 119.9 | 108.8 | 98.4 | | 111.5 |

**Property & Casualty Reinsurance business segment – by line of business**
For the year ended 31 December

| 2018<br>USD millions | Property | Casualty | Specialty | Unallocated | Total |
|---|---|---|---|---|---|
| **Revenues** | | | | | |
| Gross premiums written | 6 403 | 7 595 | 2 547 | | 16 545 |
| Net premiums written | 6 047 | 7 548 | 2 503 | | 16 098 |
| Change in unearned premiums | –18 | 116 | –101 | | –3 |
| **Premiums earned** | 6 029 | 7 664 | 2 402 | | 16 095 |
| Net investment income | | | | 1 380 | 1 380 |
| Net realised investment gains/losses | | | | –16 | –16 |
| Other revenues | | | | 36 | 36 |
| **Total revenues** | **6 029** | **7 664** | **2 402** | **1 400** | **17 495** |
| | | | | | |
| **Expenses** | | | | | |
| Claims and claim adjustment expenses | –4 284 | –5 860 | –1 470 | | –11 614 |
| Acquisition costs | –1 189 | –2 228 | –595 | | –4 012 |
| Operating expenses | –547 | –388 | –179 | | –1 114 |
| **Total expenses before interest expenses** | **–6 020** | **–8 476** | **–2 244** | **0** | **–16 740** |
| | | | | | |
| **Income/loss before interest and income tax expense** | **9** | **–812** | **158** | **1 400** | **755** |
| Interest expenses | | | | –313 | –313 |
| **Income/loss before income tax expense** | **9** | **–812** | **158** | **1 087** | **442** |
| | | | | | |
| Claims ratio in % | 71.1 | 76.5 | 61.2 | | 72.2 |
| Expense ratio in % | 28.8 | 34.1 | 32.2 | | 31.8 |
| Combined ratio in % | 99.9 | 110.6 | 93.4 | | 104.0 |

## c) Life & Health Reinsurance business segment – by line of business

For the year ended 31 December

| 2017<br>USD millions | Life | Health | Unallocated | Total |
|---|---|---|---|---|
| **Revenues** | | | | |
| Gross premiums written | 9 525 | 3 788 | | 13 313 |
| Net premiums written | 8 138 | 3 688 | | 11 826 |
| Change in unearned premiums | 79 | –54 | | 25 |
| **Premiums earned** | 8 217 | 3 634 | | 11 851 |
| Fee income from policyholders | 129 | | | 129 |
| Net investment income – non-participating business | 1 023 | 285 | | 1 308 |
| Net realised investment gains/losses – non-participating business | 57 | –1 | 535 | 591 |
| Net investment result – unit-linked and with-profit business | 81 | | | 81 |
| Other revenues | 3 | | | 3 |
| **Total revenues** | 9 510 | 3 918 | 535 | 13 963 |
| | | | | |
| **Expenses** | | | | |
| Life and health benefits | –6 491 | –2 720 | | –9 211 |
| Return credited to policyholders | –119 | | | –119 |
| Acquisition costs | –1 432 | –632 | | –2 064 |
| Operating expenses | –533 | –221 | | –754 |
| **Total expenses before interest expenses** | –8 575 | –3 573 | 0 | –12 148 |
| | | | | |
| **Income before interest and income tax expense** | 935 | 345 | 535 | 1 815 |
| Interest expenses | | | –315 | –315 |
| **Income before income tax expense** | 935 | 345 | 220 | 1 500 |
| | | | | |
| Management expense ratio in % | 5.7 | 5.6 | | 5.7 |
| Net operating margin[1] in % | 9.9 | 8.8 | | 13.1 |

[1] Net operating margin is calculated as "Income before interest and income tax expense" divided by "Total revenues" excluding "Net investment result – unit-linked and with-profit business".

**Life & Health Reinsurance business segment – by line of business**
For the year ended 31 December

| 2018<br>USD millions | Life | Health | Unallocated | Total |
|---|---|---|---|---|
| **Revenues** | | | | |
| Gross premiums written | 10 356 | 4 171 | | 14 527 |
| Net premiums written | 8 606 | 4 041 | | 12 647 |
| Change in unearned premiums | 29 | 7 | | 36 |
| **Premiums earned** | 8 635 | 4 048 | | 12 683 |
| Fee income from policyholders | 152 | | | 152 |
| Net investment income – non-participating business | 1 001 | 304 | | 1 305 |
| Net realised investment gains/losses – non-participating business | 59 | –4 | 292 | 347 |
| Net investment result – unit-linked and with-profit business | –33 | | | –33 |
| Other revenues | 1 | | | 1 |
| **Total revenues** | **9 815** | **4 348** | **292** | **14 455** |
| | | | | |
| **Expenses** | | | | |
| Life and health benefits | –7 128 | –3 152 | | –10 280 |
| Return credited to policyholders | –5 | | | –5 |
| Acquisition costs | –1 449 | –596 | | –2 045 |
| Operating expenses | –513 | –245 | | –758 |
| **Total expenses before interest expenses** | **–9 095** | **–3 993** | **0** | **–13 088** |
| | | | | |
| **Income before interest and income tax expense** | **720** | **355** | **292** | **1 367** |
| Interest expenses | | | –410 | –410 |
| **Income/loss before income tax expense** | **720** | **355** | **–118** | **957** |
| | | | | |
| Management expense ratio in % | 5.2 | 5.6 | | 5.4 |
| Net operating margin[1] in % | 7.3 | 8.2 | | 9.4 |

[1] Net operating margin is calculated as "Income before interest and income tax expense" divided by "Total revenues" excluding "Net investment result – unit-linked and with-profit business".

### d) Net premiums earned and fee income from policyholders by geography

Net premiums earned and fee income from policyholders by region for the years ended 31 December

| USD millions | 2017 | 2018 |
|---|---|---|
| Americas | 16 101 | 16 075 |
| Europe (including Middle East and Africa) | 10 546 | 11 044 |
| Asia-Pacific | 7 058 | 7 342 |
| **Total** | 33 705 | **34 461** |

Net premiums earned and fee income from policyholders by country for the years ended 31 December

| USD millions | 2017 | 2018 |
|---|---|---|
| United States | 13 509 | 13 519 |
| United Kingdom | 3 382 | 3 487 |
| Australia | 2 095 | 2 061 |
| China | 1 933 | 1 644 |
| Japan | 1 168 | 1 426 |
| Germany | 1 258 | 1 226 |
| Canada | 1 137 | 1 209 |
| Switzerland | 886 | 952 |
| Netherlands | 502 | 837 |
| France | 730 | 789 |
| Ireland | 673 | 685 |
| Other | 6 432 | 6 626 |
| **Total** | 33 705 | **34 461** |

Net premiums earned and fee income from policyholders are allocated by country, based on the underlying contract.

## 3 Insurance information

### Premiums earned and fees assessed against policyholders

For the years ended 31 December

| 2017<br>USD millions | Property & Casualty Reinsurance | Life & Health Reinsurance | Corporate Solutions | Life Capital | Total |
|---|---|---|---|---|---|
| **Premiums earned, thereof:** | | | | | |
| Direct | | 55 | 3 229 | 1 465 | 4 749 |
| Reinsurance | 16 901 | 12 829 | 862 | 128 | 30 720 |
| Intra-group transactions (assumed and ceded) | 137 | 315 | –137 | –315 | 0 |
| **Premiums earned before retrocession to external parties** | 17 038 | 13 199 | 3 954 | 1 278 | 35 469 |
| Retrocession to external parties | –371 | –1 348 | –303 | –328 | –2 350 |
| **Net premiums earned** | 16 667 | 11 851 | 3 651 | 950 | 33 119 |
| | | | | | |
| **Fee income from policyholders, thereof:** | | | | | |
| Direct | | | | 362 | 362 |
| Reinsurance | | 130 | | 95 | 225 |
| **Gross fee income before retrocession to external parties** | | 130 | | 457 | 587 |
| Retrocession to external parties | | –1 | | | –1 |
| **Net fee income** | 0 | 129 | 0 | 457 | 586 |

| 2018<br>USD millions | Property & Casualty Reinsurance | Life & Health Reinsurance | Corporate Solutions | Life Capital | Total |
|---|---|---|---|---|---|
| **Premiums earned, thereof:** | | | | | |
| Direct | | 67 | 3 429 | 2 053 | 5 549 |
| Reinsurance | 16 314 | 13 358 | 916 | 110 | 30 698 |
| Intra-group transactions (assumed and ceded) | 161 | 577 | –161 | –577 | 0 |
| **Premiums earned before retrocession to external parties** | 16 475 | 14 002 | 4 184 | 1 586 | 36 247 |
| Retrocession to external parties | –380 | –1 319 | –259 | –414 | –2 372 |
| **Net premiums earned** | **16 095** | **12 683** | **3 925** | **1 172** | **33 875** |
| | | | | | |
| **Fee income from policyholders, thereof:** | | | | | |
| Direct | | | | 337 | 337 |
| Reinsurance | | 153 | | 97 | 250 |
| **Gross fee income before retrocession to external parties** | | 153 | | 434 | 587 |
| Retrocession to external parties | | –1 | | | –1 |
| **Net fee income** | **0** | **152** | **0** | **434** | **586** |

## Claims and claim adjustment expenses

For the year ended 31 December

| 2017<br>USD millions | Property & Casualty Reinsurance | Life & Health Reinsurance | Corporate Solutions | Life Capital | Total |
|---|---|---|---|---|---|
| **Claims paid, thereof:** | | | | | |
| Gross claims paid to external parties | –9 866 | –9 505 | –2 571 | –3 170 | –25 112 |
| Intra-group transactions (assumed and ceded) | –177 | –226 | 177 | 226 | 0 |
| **Claims before receivables from retrocession to external parties** | –10 043 | –9 731 | –2 394 | –2 944 | –25 112 |
| Retrocession to external parties | 279 | 1 162 | 192 | 357 | 1 990 |
| **Net claims paid** | –9 764 | –8 569 | –2 202 | –2 587 | –23 122 |
| | | | | | |
| **Change in unpaid claims and claim adjustment expenses; life and health benefits, thereof:** | | | | | |
| Gross – with external parties | –3 791 | –533 | –1 016 | 727 | –4 613 |
| Intra-group transactions (assumed and ceded) | 365 | –53 | –365 | 53 | 0 |
| **Unpaid claims and claim adjustment expenses; life and health benefits before impact of retrocession to external parties** | –3 426 | –586 | –1 381 | 780 | –4 613 |
| Retrocession to external parties | 18 | –56 | 25 | –65 | –78 |
| **Net unpaid claims and claim adjustment expenses; life and health benefits** | –3 408 | –642 | –1 356 | 715 | –4 691 |
| | | | | | |
| **Claims and claim adjustment expenses; life and health benefits** | –13 172 | –9 211 | –3 558 | –1 872 | –27 813 |

## Acquisition costs

For the year ended 31 December

| 2017<br>USD millions | Property & Casualty Reinsurance | Life & Health Reinsurance | Corporate Solutions | Life Capital | Total |
|---|---|---|---|---|---|
| **Acquisition costs, thereof:** | | | | | |
| Gross acquisition costs with external parties | –4 297 | –2 277 | –621 | –155 | –7 350 |
| Intra-group transactions (assumed and ceded) | –19 | –12 | 19 | 12 | 0 |
| **Acquisition costs before impact of retrocession to external parties** | –4 316 | –2 289 | –602 | –143 | –7 350 |
| Retrocession to external parties | 63 | 225 | 48 | 37 | 373 |
| **Net acquisition costs** | –4 253 | –2 064 | –554 | –106 | –6 977 |

## Claims and claim adjustment expenses
For the year ended 31 December

| **2018**<br>USD millions | Property & Casualty Reinsurance | Life & Health Reinsurance | Corporate Solutions | Life Capital | Total |
|---|---|---|---|---|---|
| **Claims paid, thereof:** | | | | | |
| Gross claims paid to external parties | –10 802 | –10 346 | –3 150 | –3 454 | –27 752 |
| Intra-group transactions (assumed and ceded) | –209 | –408 | 209 | 408 | 0 |
| **Claims before receivables from retrocession to external parties** | –11 011 | –10 754 | –2 941 | –3 046 | –27 752 |
| Retrocession to external parties | 748 | 1 214 | 444 | 501 | 2 907 |
| **Net claims paid** | **–10 263** | **–9 540** | **–2 497** | **–2 545** | **–24 845** |
| **Change in unpaid claims and claim adjustment expenses; life and health benefits, thereof:** | | | | | |
| Gross – with external parties | –1 251 | –629 | –261 | 1 031 | –1 110 |
| Intra-group transactions (assumed and ceded) | 294 | –78 | –294 | 78 | 0 |
| **Unpaid claims and claim adjustment expenses; life and health benefits before impact of retrocession to external parties** | –957 | –707 | –555 | 1 109 | –1 110 |
| Retrocession to external parties | –394 | –33 | –189 | –53 | –669 |
| **Net unpaid claims and claim adjustment expenses; life and health benefits** | **–1 351** | **–740** | **–744** | **1 056** | **–1 779** |
| **Claims and claim adjustment expenses; life and health benefits** | **–11 614** | **–10 280** | **–3 241** | **–1 489** | **–26 624** |

## Acquisition costs
For the year ended 31 December

| **2018**<br>USD millions | Property & Casualty Reinsurance | Life & Health Reinsurance | Corporate Solutions | Life Capital | Total |
|---|---|---|---|---|---|
| **Acquisition costs, thereof:** | | | | | |
| Gross acquisition costs with external parties | –4 073 | –2 211 | –660 | –364 | –7 308 |
| Intra-group transactions (assumed and ceded) | –4 | –58 | 4 | 58 | 0 |
| **Acquisition costs before impact of retrocession to external parties** | –4 077 | –2 269 | –656 | –306 | –7 308 |
| Retrocession to external parties | 65 | 224 | 49 | 51 | 389 |
| **Net acquisition costs** | **–4 012** | **–2 045** | **–607** | **–255** | **–6 919** |

### Reinsurance recoverable on unpaid claims and policy benefits

As of 31 December 2017 and 2018, the Group had a reinsurance recoverable of USD 7 942 million and USD 7 058 million, respectively. The concentration of credit risk is regularly monitored and evaluated. The reinsurance programme with Berkshire Hathaway and subsidiaries accounted for 34% and 29% of the Group's reinsurance recoverable as of year-end 2017 and 2018, respectively.

### Reinsurance receivables

Reinsurance receivables as of 31 December were as follows:

| USD millions | 2017 | **2018** |
|---|---|---|
| Premium receivables invoiced | 3 135 | 3 041 |
| Receivables invoiced from ceded re/insurance business | 427 | 445 |
| Assets arising from the application of the deposit method of accounting and meeting the definition of financing receivables | 147 | 124 |
| Recognised allowance | –71 | –58 |

### Policyholder dividends

Policyholder dividends are recognised as an element of policyholder benefits. The relative percentage of participating insurance of the life and health policy benefits in 2017 and 2018 was 10% and 9%, respectively. The amount of policyholder dividend expense in 2017 and 2018 was USD 194 million and USD 245 million, respectively. The Group revised the presentation of policyholder dividend expense. Comparative information for 2017 has been adjusted accordingly.

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# 4 Premiums written

For the years ended 31 December

| 2017<br>USD millions | Property & Casualty Reinsurance | Life & Health Reinsurance | Corporate Solutions | Life Capital | Consolidation | Total |
|---|---|---|---|---|---|---|
| **Gross premiums written, thereof:** | | | | | | |
| Direct | | 55 | 3 279 | 1 489 | | 4 823 |
| Reinsurance | 16 290 | 12 732 | 802 | 128 | | 29 952 |
| Intra-group transactions (assumed) | 254 | 526 | 112 | 144 | –1 036 | 0 |
| **Gross premiums written** | 16 544 | 13 313 | 4 193 | 1 761 | –1 036 | 34 775 |
| Intra-group transactions (ceded) | –112 | –144 | –254 | –526 | 1 036 | 0 |
| **Gross premiums written before retrocession to external parties** | 16 432 | 13 169 | 3 939 | 1 235 | | 34 775 |
| Retrocession to external parties | –401 | –1 343 | –339 | –376 | | –2 459 |
| **Net premiums written** | 16 031 | 11 826 | 3 600 | 859 | 0 | 32 316 |

| 2018<br>USD millions | Property & Casualty Reinsurance | Life & Health Reinsurance | Corporate Solutions | Life Capital | Consolidation | Total |
|---|---|---|---|---|---|---|
| **Gross premiums written, thereof:** | | | | | | |
| Direct | | 67 | 3 648 | 2 055 | | 5 770 |
| Reinsurance | 16 269 | 13 310 | 947 | 110 | | 30 636 |
| Intra-group transactions (assumed) | 276 | 1 150 | 99 | 574 | –2 099 | 0 |
| **Gross premiums written** | 16 545 | 14 527 | 4 694 | 2 739 | –2 099 | 36 406 |
| Intra-group transactions (ceded) | –99 | –574 | –276 | –1 150 | 2 099 | 0 |
| **Gross premiums written before retrocession to external parties** | 16 446 | 13 953 | 4 418 | 1 589 | | 36 406 |
| Retrocession to external parties | –348 | –1 306 | –296 | –414 | | –2 364 |
| **Net premiums written** | **16 098** | **12 647** | **4 122** | **1 175** | **0** | **34 042** |

## 5 Unpaid claims and claim adjustment expenses

A reconciliation of the opening and closing reserve balances for unpaid claims and claim adjustment expenses for the years ended 31 December is presented as follows:

| USD millions | 2017 | **2018** |
|---|---|---|
| Balance as of 1 January | 57 355 | 66 795 |
| Reinsurance recoverable | –4 044 | –4 458 |
| Deferred expense on retroactive reinsurance | –211 | –240 |
| **Net balance as of 1 January** | 53 100 | **62 097** |
| Incurred related to: | | |
| Current year[1] | 28 827 | 27 457 |
| Prior year[1] | –534 | 42 |
| Amortisation of deferred expense on retroactive reinsurance and impact of commutations | –5 | –41 |
| Total incurred | 28 288 | **27 458** |
| Paid related to: | | |
| Current year | –8 859 | –9 344 |
| Prior year | –14 263 | –15 501 |
| Total paid | –23 122 | **–24 845** |
| Foreign exchange | 2 653 | –1 748 |
| Effect of acquisitions, disposals, new retroactive reinsurance and other items | 1 178 | 709 |
| **Net balance as of period end** | 62 097 | **63 671** |
| Reinsurance recoverable | 4 458 | 3 606 |
| Deferred expense on retroactive reinsurance | 240 | 169 |
| **Balance as of period end** | 66 795 | **67 446** |

[1] The Group revised its methodology for determining the prior-year net claims and claim adjustment expenses development on a certain health business. Comparative information for 2017 has been amended accordingly.

### Prior-year development

Non-life claims development during 2018 on prior years includes favourable development on property and specialty, partially offset by adverse development on casualty. The favourable development on property and specialty is mainly related to the natural catastrophe events in North America and wildfires in California that occurred in 2017. Casualty includes adverse development for motor and liability lines of business.

For the life and health business, the adverse claims development on prior-year business was across a number of lines of business, in particular the individual life and disability portfolios in the US and the group disability portfolio in Australia. This was partially offset by positive experience in other regions, including Continental Europe and Asia. Claims development related to prior years also includes an element of interest accretion for unpaid claims reported at the estimated present value.

A summary of prior-year net claims and claim adjustment expenses development by lines of business for the years ended 31 December is shown below:

| USD millions | 2017 | **2018** |
|---|---|---|
| Line of business: | | |
| Property | –555 | –340 |
| Casualty | –67 | 428 |
| Specialty | –178 | –295 |
| Life and health[1] | 266 | 249 |
| **Total** | –534 | **42** |

[1] The Group revised its methodology for determining the prior-year net claims and claim adjustment expenses development on a certain health business. Comparative information for 2017 has been amended accordingly.

### US asbestos and environmental claims exposure

The Group's obligation for claims payments and claims settlement charges also includes obligations for long-latent injury claims arising out of policies written prior to 1986, in particular in the area of US asbestos and environmental liability.

At the end of 2018, the Group carried net reserves for US asbestos and environmental liabilities equal to USD 1 860 million. During 2018, the Group incurred net losses of USD 141 million and paid net against these liabilities of USD 111 million. Incurred claims include a settlement with one cedent on reported asbestos and environmental claims.

Estimating ultimate asbestos and environmental liabilities is particularly complex for a number of reasons, relating in part to the long period between exposure and manifestation of claims and in part to other factors, which include risks and lack of predictability inherent in complex litigation, changes in projected costs to resolve and in the projected number of asbestos and environmental claims, the effect of bankruptcy protection, insolvencies and changes in the legal, legislative and regulatory environment. As a result, the Group believes that projection of exposures for asbestos and environmental claims is subject to far less predictability relative to non-environmental and non-asbestos exposures. Management believes that its reserves for asbestos and environmental claims are appropriately established based upon known facts and the current state of the law. However, reserves are subject to revision as new information becomes available and as claims develop. Additional liabilities may arise for amounts in excess of reserves, and the Group's estimate of claims and claim adjustment expenses may change. Any such additional liabilities or increases in estimates cannot be reasonably estimated in advance but could result in charges that could be material to operating results.

## Short duration contract unpaid claims and claim adjustment expenses

**Basis of presentation for claims development information**

This section of the note provides claims development information on an accident year basis.

Claims development information and information on reserves for claims relating to insured events that have occurred but have not yet been reported or not enough reported ("IBNR") are generally presented by line of business for individually significant categories. Starting from a line of business split, additional aggregation or disaggregation is provided where appropriate, necessary and practicable ("disaggregation categories"). For instance, Reinsurance liability and motor lines of business are further disaggregated into proportional and non-proportional treaty types to provide more specific information on claims development, whereas specialty is shown as one distinct category.

In the Property & Casualty Reinsurance and Corporate Solutions segments, all contracts that transfer significant insurance risk are included in scope to the extent they can be allocated to a disaggregation category. For many reinsurance contracts, proportional contracts in particular, ceding companies do not report losses by accident year. In these cases, the Group has allocated reported losses by underwriting year to accident year to produce the accident year tables. Similarly, IBNR is calculated on an underwriting year basis and then the liabilities are allocated to accident year.

In the Life & Health Reinsurance segment, contracts classified as short duration include group life business, certain types of disability and long-term care contracts, group accident, health coverage including critical illness and medical expenses. The Group provides claims development information for Life & Health Reinsurance where reported accident year information is available and there is potential for claims development. This primarily applies to the Group's disability lines classified as short duration. This business is generally considered to have relatively higher claims estimation uncertainty than other life and health lines such as group life, due to longer claims development periods.

In the Life Capital segment, short duration contracts include mainly disability medical expenses business. The Group provides no claims development information for Life Capital as its short duration reserves are not material.

Amounts shown in the claims development tables are net of external retrocession and retrocession between business segments to the extent a retrocession program can be allocated to a disaggregation category. Ceded retroactive reinsurance is not included in the claims development table if it cannot be allocated on a reasonable basis to the disaggregation categories used to present claims development information.

Claims development information and information on IBNR reserves are shown on a nominal basis, also for cases where the Group discounts claims liabilities for measurement under US GAAP. Information is shown per accident year and by reporting period. The number of years shown in the claims development tables differs by business segment:

For Property & Casualty Reinsurance and for Life & Health Reinsurance long-tail, the Group discloses data for ten accident years and reporting periods.

The Corporate Solutions business segment was created in 2012. Therefore, seven accident years and reporting periods are shown for this business unit. All but an immaterial portion of claims arising from accident years prior to 2012 relate to accident years which are over ten years ago and therefore out of the required range of disclosure. Business ceded to Property & Casualty Reinsurance prior to 2012 is included in the net claims development information reported by this segment.

The current reporting period estimate of net claims liabilities for accident years older than the number of years shown in the claims development tables is presented as a total after disclosure of cumulative paid claims.

The information presented in claims development tables is presented at current balance sheet foreign exchange rates as of the date of these financial statements to permit an analysis of claims development excluding the impact of foreign exchange movements.

Some of the information provided in the following tables, is Required Supplementary Information (RSI) under US GAAP. Therefore it does not form part of these consolidated audited financial statements. Claims development information for all periods except the current reporting period and any information derived from it – including average annual percentage payout of claims incurred – is considered RSI and is identified as RSI in the tables presented.

**Methodology for determining the presented amounts of liabilities for IBNR claims**
The liability for unpaid claims and claim adjustment expenses is based on an estimate of the ultimate cost of settling the claims based on both information reported to us by ceding companies and internal estimates.

### Non-life re/insurance contracts
For reinsurance business, cedents report their case reserves and their estimated IBNR to the Group. The Group develops and recognises its own estimate of IBNR claims, which includes circumstances in which the cedent has not reported any claims to the Group or where the Group's estimate of reserves needed to cover reported claims differs from the amounts reported by cedents. For reinsurance business, case reserves and estimated IBNR reported by cedents to the Group have been accounted for as case reserves in previous years. For the year-end 2018, IBNR reported by cedents are presented together with the Group's own estimate of IBNR as IBNR in the claims development tables. Reserving for insurance business is performed similarly, except that the Group estimates case reserves as well. Reserving is done on portfolio or contract level depending on the features of the contract:

For business reviewed on a portfolio level, the expected ultimate losses are set for most lines and types of business based on analysis performed using standard actuarial techniques. In general, contracts are aggregated into portfolios by combining contracts with similar features.

In most cases, these standard actuarial techniques encompass a number of loss development factor techniques applied to claim tables of paid and reported losses. Other actuarial techniques may be applicable to specific categories. For instance, the analysis of frequency and severity could be applied in all disaggregation categories. Life contingency techniques for projecting regular payments related to bodily injury claims are applied to motor proportional, motor non-proportional, liability proportional, liability non-proportional, accident and health and similar Corporate Solutions lines, where the information is available. In some cases, techniques specific to the projection of future payments for specific risks such as asbestos or pollution claims are applied to both proportional and non-proportional liability claims, also in Corporate Solutions (see also separate section "US asbestos and environmental claims exposure" on page 229).

Contract-level reserving is based on standard actuarial techniques but requires more detailed contract, pricing, claim and exposure information than required for the business reviewed on a portfolio level.

In addition, the following applies to all non-life re/insurance business:

- For the most recent underwriting years, reliance may be made on the Group's costing and underwriting functions for the initial estimates of claims, although the initial reserving estimates may differ from these pricing estimates if there is good reason to believe losses are likely to emerge higher or lower, and in light of the limited claims experience to date. Reviews of those initial estimates are performed regularly, forming a basis for adjustments on both the current and prior underwriting years.

- The reserving process considers any information available in respect of either a specific case or a large loss event and the impact of any unusual features in the technical accounting of information provided by cedents.

### Life and health re/insurance contracts
For the Life & Health Reinsurance long tail business, the liability for IBNR claims includes provision for "not yet reported claims" expected to have been incurred in respect of both already processed and not yet processed reinsurance accounts and generally includes provisions for the cost of claims on disability contracts that currently are within their deferred period. The IBNR reserving calculations have been made using appropriate techniques, such as chain ladder and/or Bornhuetter-Ferguson approaches, depending upon the level of detail available and the assumed level of development of the claim. For certain lines of business, IBNR claims reserves include reported but not admitted claims, allowing for expected rates of decline for these claims.

**Claims frequency information**
Claims frequency information is not available for the disaggregation categories of Property & Casualty Reinsurance, as cedents do not report claims frequency information to the Group for most of the assumed reinsurance contract types. These contracts are to be found in all disaggregation categories presented.

Life & Health Reinsurance reports claims frequency information based on individual incidence. The number of reported claims is the actual number of claims booked. For Group income protection business, claims with multiple payments in a year are counted as one claim with the corresponding amount annualised. Claims that are reported but not admitted are included in the claim count.

For Corporate Solutions, claims frequency is displayed for direct business only, as individual claims information is generally not available for assumed and ceded business. Claims are counted individually per contract to produce the claims frequency table. For some direct business, summary reports are received and multiple claims are booked under a single claim code; this is usually done at a program, policy year, state, country and/or line of business level of detail. This approach may be applied to business which has a high volume of claim counts, but with only minor claims dollars associated with each claim.

### Property & Casualty Reinsurance – Property
Incurred claims and allocated claim adjustment expenses, net of reinsurance

| USD millions | Reporting year | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Accident year** | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | **2018** | **thereof IBNR** |
| 2009 | *2 341* | *2 356* | *2 237* | *2 194* | *2 172* | *2 170* | *2 168* | *2 170* | *2 141* | 2 148 | 12 |
| 2010 | | *2 521* | *2 469* | *2 338* | *2 357* | *2 441* | *2 483* | *2 590* | *2 563* | 2 523 | 29 |
| 2011 | | | *4 303* | *4 354* | *4 168* | *4 222* | *4 174* | *4 169* | *4 187* | 4 224 | 13 |
| 2012 | | | | *2 696* | *2 524* | *2 324* | *2 281* | *2 252* | *2 236* | 2 237 | 8 |
| 2013 | | | | | *3 130* | *3 146* | *2 972* | *2 887* | *2 865* | 2 849 | 1 |
| 2014 | | | | | | *2 732* | *2 572* | *2 393* | *2 361* | 2 358 | 4 |
| 2015 | | | | | | | *2 830* | *2 764* | *2 594* | 2 562 | 67 |
| 2016 | | | | | | | | *3 902* | *3 627* | 3 333 | 40 |
| 2017 | *RSI* | | | | | | | | *6 032* | 5 937 | 598 |
| 2018 | | | | | | | | | | 4 656 | 2 604 |
| Total | | | | | | | | | | **32 827** | **3 376** |

Cumulative claims paid and allocated claim adjustment expenses, net of reinsurance

| USD millions | Reporting year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Accident year** | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | **2018** |
| 2009 | *559* | *1 608* | *1 924* | *2 026* | *2 076* | *2 097* | *2 107* | *2 118* | *2 103* | 2 110 |
| 2010 | | *389* | *1 511* | *1 805* | *1 914* | *2 110* | *2 263* | *2 405* | *2 448* | 2 461 |
| 2011 | | | *671* | *2 394* | *3 197* | *3 635* | *3 917* | *4 018* | *4 138* | 4 159 |
| 2012 | | | | *239* | *1 591* | *1 981* | *2 101* | *2 144* | *2 164* | 2 175 |
| 2013 | | | | | *541* | *1 999* | *2 504* | *2 698* | *2 758* | 2 780 |
| 2014 | | | | | | *464* | *1 708* | *2 089* | *2 218* | 2 262 |
| 2015 | | | | | | | *467* | *1 654* | *2 172* | 2 338 |
| 2016 | | | | | | | | *636* | *2 210* | 2 842 |
| 2017 | *RSI* | | | | | | | | *980* | 3 672 |
| 2018 | | | | | | | | | | 634 |
| Total | | | | | | | | | | **25 433** |
| | | | | | | | | | | |
| All liabilities before 2009 | | | | | | | | | | 139 |
| **Liabilities for claims and claim adjustment expenses, net of reinsurance** | | | | | | | | | | **7 533** |

Average annual percentage payout of incurred claims by age, net of reinsurance

| Years | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Property (RSI) | *17.4%* | *48.6%* | *17.0%* | *6.2%* | *3.8%* | *2.2%* | *2.4%* | *0.9%* | *-0.1%* | *0.3%* |

The liability for unpaid claims and claim adjustment expenses for property in Property & Casualty Reinsurance shows positive development on most recent accident years. Claims in accident year 2011 were at a high level due to several large natural catastrophes including the earthquake and tsunami in Japan, the earthquakes in Christchurch, New Zealand, and floods in Thailand. The 2017 accident year claims incurred are higher due to natural catastrophes, mainly stemming from cyclone Debbie, hurricanes Harvey, Irma and Maria in the Americas, the two earthquakes in Mexico and the wildfires in California. The 2018 accident year claims incurred are lower than 2017 but include a higher level of natural catastrophes than 2012 to 2016.

**Property & Casualty Reinsurance – Liability, proportional**

Incurred claims and allocated claim adjustment expenses, net of reinsurance

| USD millions | Reporting year | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Accident year | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | **2018** | **thereof IBNR** |
| 2009 | *726* | *861* | *980* | *937* | *932* | *910* | *921* | *930* | *926* | 880 | 38 |
| 2010 | | *835* | *982* | *921* | *901* | *897* | *901* | *889* | *854* | 829 | 82 |
| 2011 | | | *639* | *696* | *720* | *668* | *625* | *621* | *598* | 584 | 77 |
| 2012 | | | | *519* | *603* | *559* | *530* | *503* | *505* | 487 | 71 |
| 2013 | | | | | *727* | *750* | *757* | *752* | *757* | 747 | 135 |
| 2014 | | | | | | *994* | *984* | *996* | *980* | 969 | 277 |
| 2015 | | | | | | | *1 264* | *1 312* | *1 397* | 1 467 | 606 |
| 2016 | | | | | | | | *1 709* | *1 737* | 1 759 | 899 |
| 2017 | *RSI* | | | | | | | | *1 964* | 2 072 | 1 483 |
| 2018 | | | | | | | | | | 1 898 | 1 714 |
| Total | | | | | | | | | | **11 692** | **5 382** |

Cumulative claims paid and allocated claim adjustment expenses, net of reinsurance

| USD millions | Reporting year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Accident year | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | **2018** |
| 2009 | *-60* | *88* | *241* | *365* | *478* | *586* | *635* | *682* | *717* | 720 |
| 2010 | | *28* | *159* | *317* | *408* | *516* | *612* | *661* | *681* | 707 |
| 2011 | | | *2* | *107* | *180* | *249* | *335* | *381* | *399* | 428 |
| 2012 | | | | *13* | *115* | *182* | *240* | *294* | *328* | 364 |
| 2013 | | | | | *14* | *126* | *232* | *347* | *418* | 493 |
| 2014 | | | | | | *23* | *157* | *291* | *400* | 546 |
| 2015 | | | | | | | *34* | *209* | *400* | 627 |
| 2016 | | | | | | | | *46* | *223* | 497 |
| 2017 | *RSI* | | | | | | | | *50* | 252 |
| 2018 | | | | | | | | | | 52 |
| Total | | | | | | | | | | **4 686** |
| All liabilities before 2009 | | | | | | | | | | 908 |
| **Liabilities for claims and claim adjustment expenses, net of reinsurance** | | | | | | | | | | **7 914** |

Average annual percentage payout of incurred claims by age, net of reinsurance

| Years | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Liability, proportional (RSI) | *1.4%* | *14.7%* | *14.9%* | *13.0%* | *12.7%* | *9.8%* | *5.5%* | *4.2%* | *3.6%* | *0.3%* |

The increase in the incurred losses for accident years 2013 to 2018 is driven by volume increases of business being written. The increases in the incurred losses in reporting year 2018 for accident years 2015 to 2017 are driven by US business.

In line with the Group's policy, cash flows under loss portfolio transfers are reported through claims paid. For longer-tailed lines and depending on the business volume written, timing of cash flows can lead to net inward payments across the whole portfolio in the first development year of the contract for some accident years.

### Property & Casualty Reinsurance – Liability, non-proportional
Incurred claims and allocated claim adjustment expenses, net of reinsurance

| USD millions | Reporting year | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Accident year** | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | **2018** | **thereof IBNR** |
| 2009 | 509 | 520 | 426 | 425 | 385 | 351 | 327 | 313 | 311 | 304 | 27 |
| 2010 | | 521 | 436 | 400 | 375 | 354 | 333 | 324 | 311 | 315 | 39 |
| 2011 | | | 401 | 430 | 467 | 426 | 382 | 349 | 336 | 332 | 56 |
| 2012 | | | | 329 | 347 | 308 | 280 | 259 | 251 | 241 | 59 |
| 2013 | | | | | 406 | 388 | 353 | 298 | 270 | 252 | 89 |
| 2014 | | | | | | 432 | 437 | 405 | 362 | 342 | 146 |
| 2015 | | | | | | | 1 754 | 1 793 | 1 762 | 1 787 | 199 |
| 2016 | | | | | | | | 585 | 540 | 524 | 250 |
| 2017 | RSI | | | | | | | | 494 | 508 | 326 |
| 2018 | | | | | | | | | | 450 | 428 |
| Total | | | | | | | | | | **5 055** | **1 619** |

Cumulative claims paid and allocated claim adjustment expenses, net of reinsurance

| USD millions | Reporting year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Accident year** | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | **2018** |
| 2009 | –14 | 12 | 32 | 55 | 93 | 155 | 178 | 186 | 195 | 202 |
| 2010 | | 1 | 11 | 35 | 52 | 87 | 104 | 123 | 158 | 160 |
| 2011 | | | 1 | 9 | 65 | 111 | 138 | 145 | 168 | 181 |
| 2012 | | | | –4 | 11 | 35 | 53 | 84 | 106 | 136 |
| 2013 | | | | | –2 | 11 | 36 | 59 | 82 | 118 |
| 2014 | | | | | | –2 | 8 | 40 | 73 | 118 |
| 2015 | | | | | | | 0 | 89 | 193 | 345 |
| 2016 | | | | | | | | 13 | 145 | 106 |
| 2017 | RSI | | | | | | | | –2 | 18 |
| 2018 | | | | | | | | | | –1 |
| Total | | | | | | | | | | **1 383** |
| | | | | | | | | | | |
| All liabilities before 2009 | | | | | | | | | | 5 179 |
| **Liabilities for claims and claim adjustment expenses, net of reinsurance** | | | | | | | | | | **8 851** |

Average annual percentage payout of incurred claims by age, net of reinsurance

| Years | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Liability, non-proportional (RSI) | -0.5% | 7.0% | 7.3% | 8.8% | 11.1% | 10.3% | 8.2% | 5.9% | 1.8% | 2.3% |

The increase in incurred losses for accident year 2015 compared to other years is due to an increase in volume of business written. Liabilities before 2009 include reserves for historic US Asbestos and Environmental losses.

In line with the Group's policy, cash flows under loss portfolio transfers are reported through claims paid. For longer-tailed lines and depending on the business volume written, timing of cash flows can lead to net inward payments across the whole portfolio in the first development year of the contract for some accident years.

### Property & Casualty Reinsurance – Accident & Health

Incurred claims and allocated claim adjustment expenses, net of reinsurance

| USD millions | Reporting year | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Accident year | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | **2018** | **thereof IBNR** |
| 2009 | 347 | 370 | 347 | 342 | 338 | 329 | 324 | 317 | 311 | 310 | 24 |
| 2010 | | 274 | 226 | 231 | 220 | 217 | 219 | 211 | 206 | 202 | 24 |
| 2011 | | | 228 | 248 | 245 | 236 | 239 | 234 | 234 | 230 | 28 |
| 2012 | | | | 324 | 334 | 319 | 310 | 306 | 300 | 298 | 33 |
| 2013 | | | | | 344 | 351 | 338 | 328 | 321 | 318 | 48 |
| 2014 | | | | | | 302 | 335 | 327 | 316 | 305 | 61 |
| 2015 | | | | | | | 434 | 432 | 410 | 400 | 75 |
| 2016 | | | | | | | | 592 | 626 | 621 | 202 |
| 2017 | RSI | | | | | | | | 733 | 767 | 354 |
| 2018 | | | | | | | | | | 723 | 376 |
| Total | | | | | | | | | | **4 174** | **1 225** |

Cumulative claims paid and allocated claim adjustment expenses, net of reinsurance

| USD millions | Reporting year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Accident year | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | **2018** |
| 2009 | 31 | 136 | 192 | 216 | 234 | 247 | 253 | 258 | 262 | 265 |
| 2010 | | 25 | 84 | 115 | 130 | 138 | 145 | 149 | 156 | 158 |
| 2011 | | | 48 | 120 | 142 | 152 | 161 | 165 | 175 | 177 |
| 2012 | | | | 77 | 177 | 203 | 219 | 229 | 238 | 242 |
| 2013 | | | | | 54 | 139 | 180 | 203 | 216 | 224 |
| 2014 | | | | | | 30 | 103 | 145 | 173 | 190 |
| 2015 | | | | | | | 62 | 138 | 190 | 223 |
| 2016 | | | | | | | | 74 | 178 | 271 |
| 2017 | RSI | | | | | | | | 96 | 232 |
| 2018 | | | | | | | | | | 98 |
| Total | | | | | | | | | | **2 080** |
| All liabilities before 2009 | | | | | | | | | | 2 865 |
| **Liabilities for claims and claim adjustment expenses, net of reinsurance** | | | | | | | | | | **4 959** |

Average annual percentage payout of incurred claims by age, net of reinsurance

| Years | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Accident & Health (RSI) | 14.9% | 25.8% | 13.3% | 7.1% | 4.4% | 3.0% | 2.4% | 2.0% | 1.1% | 1.0% |

The increase in incurred losses from accident year 2015 onwards is due to an increase in the volume of workers' compensation written on a proportional basis. The 2009 and prior accident years include the run-off of business written by entities acquired as part of the acquisition of General Electric Insurance Solutions during 2006. This business which generally had a longer payment pattern was not renewed.

### Property & Casualty Reinsurance – Motor, proportional

Incurred claims and allocated claim adjustment expenses, net of reinsurance

| USD millions | Reporting year | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Accident year** | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | **2018** | **thereof IBNR** |
| 2009 | *650* | *646* | *711* | *736* | *723* | *719* | *721* | *719* | *718* | 716 | –5 |
| 2010 | | *591* | *652* | *691* | *697* | *695* | *697* | *697* | *695* | 695 | –1 |
| 2011 | | | *998* | *994* | *965* | *922* | *925* | *924* | *922* | 914 | –23 |
| 2012 | | | | *1 487* | *1 477* | *1 461* | *1 449* | *1 440* | *1 438* | 1 435 | 28 |
| 2013 | | | | | *1 554* | *1 528* | *1 535* | *1 509* | *1 502* | 1 497 | 14 |
| 2014 | | | | | | *1 996* | *1 959* | *1 958* | *1 941* | 1 931 | –2 |
| 2015 | | | | | | | *1 916* | *1 916* | *1 920* | 1 924 | 25 |
| 2016 | | | | | | | | *2 478* | *2 594* | 2 644 | 147 |
| 2017 | *RSI* | | | | | | | | *2 373* | 2 391 | 476 |
| 2018 | | | | | | | | | | 2 032 | 1 149 |
| Total | | | | | | | | | | **16 179** | **1 808** |

Cumulative claims paid and allocated claim adjustment expenses, net of reinsurance

| USD millions | Reporting year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Accident year** | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | **2018** |
| 2009 | *141* | *385* | *585* | *619* | *631* | *682* | *691* | *693* | *696* | 699 |
| 2010 | | *198* | *453* | *537* | *573* | *651* | *660* | *669* | *673* | 676 |
| 2011 | | | *266* | *670* | *852* | *885* | *904* | *913* | *921* | 924 |
| 2012 | | | | *474* | *1 104* | *1 265* | *1 314* | *1 345* | *1 366* | 1 378 |
| 2013 | | | | | *573* | *1 170* | *1 352* | *1 397* | *1 428* | 1 444 |
| 2014 | | | | | | *738* | *1 468* | *1 714* | *1 790* | 1 826 |
| 2015 | | | | | | | *795* | *1 440* | *1 682* | 1 783 |
| 2016 | | | | | | | | *821* | *1 816* | 2 163 |
| 2017 | *RSI* | | | | | | | | *759* | 1 526 |
| 2018 | | | | | | | | | | 624 |
| Total | | | | | | | | | | **13 043** |
| | | | | | | | | | | |
| All liabilities before 2009 | | | | | | | | | | 322 |
| **Liabilities for claims and claim adjustment expenses, net of reinsurance** | | | | | | | | | | **3 458** |

Average annual percentage payout of incurred claims by age, net of reinsurance

| Years | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Motor, proportional (RSI) | *32.2%* | *37.8%* | *15.2%* | *4.2%* | *3.5%* | *2.4%* | *1.1%* | *0.4%* | *0.4%* | *0.4%* |

The increase in the incurred losses from accident year 2010 onwards is driven by new business volume across all regions. Proportional motor business includes both longer-tailed liability business and shorter-tailed hull business.

The negative IBNRs are due to overstated case reserves, mainly on the German business, and accident year 2011 includes the effects of an outwards proportional contract in inwards non-proportional business.

**Property & Casualty Reinsurance – Motor, non-proportional**
Incurred claims and allocated claim adjustment expenses, net of reinsurance

| USD millions | Reporting year | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Accident year** | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | **2018** | **thereof IBNR** |
| 2009 | *375* | *390* | *283* | *284* | *270* | *275* | *269* | *267* | *259* | 261 | 66 |
| 2010 | | *325* | *288* | *283* | *269* | *262* | *255* | *246* | *243* | 245 | 33 |
| 2011 | | | *407* | *445* | *424* | *422* | *407* | *401* | *390* | 416 | 107 |
| 2012 | | | | *332* | *349* | *329* | *313* | *315* | *298* | 307 | 65 |
| 2013 | | | | | *432* | *454* | *457* | *440* | *427* | 432 | 70 |
| 2014 | | | | | | *408* | *441* | *436* | *435* | 428 | 88 |
| 2015 | | | | | | | *388* | *409* | *445* | 441 | 118 |
| 2016 | | | | | | | | *470* | *585* | 549 | 199 |
| 2017 | *RSI* | | | | | | | | *579* | 611 | 276 |
| 2018 | | | | | | | | | | 489 | 392 |
| Total | | | | | | | | | | **4 179** | **1 414** |

Cumulative claims paid and allocated claim adjustment expenses, net of reinsurance

| USD millions | Reporting year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Accident year** | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | **2018** |
| 2009 | *1* | *39* | *58* | *70* | *83* | *96* | *107* | *117* | *121* | 125 |
| 2010 | | *5* | *22* | *48* | *67* | *83* | *100* | *113* | *120* | 130 |
| 2011 | | | *-10* | *20* | *56* | *79* | *103* | *117* | *133* | 144 |
| 2012 | | | | *2* | *25* | *50* | *85* | *111* | *136* | 157 |
| 2013 | | | | | *7* | *85* | *149* | *194* | *220* | 248 |
| 2014 | | | | | | *4* | *60* | *104* | *144* | 187 |
| 2015 | | | | | | | *–1* | *34* | *92* | 157 |
| 2016 | | | | | | | | *8* | *65* | 127 |
| 2017 | *RSI* | | | | | | | | *9* | 59 |
| 2018 | | | | | | | | | | 4 |
| Total | | | | | | | | | | **1 338** |
| All liabilities before 2009 | | | | | | | | | | 2 877 |
| **Liabilities for claims and claim adjustment expenses, net of reinsurance** | | | | | | | | | | **5 718** |

Average annual percentage payout of incurred claims by age, net of reinsurance

| Years | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Motor, non-proportional (RSI) | *0.7%* | *10.4%* | *10.5%* | *9.1%* | *7.0%* | *6.0%* | *5.1%* | *3.1%* | *2.8%* | *1.5%* |

Claims development in non-proportional motor business is considered long-tailed as it is dominated by liability exposures leading to bodily injury claims which pay out for the lifetime of the claimant.

For accident year 2011, negative claims paid in the first year are due to the commutation of an external retrocession on acquired retroactive business.

In line with the Group's policy, cash flows under loss portfolio transfers are reported through claims paid. For longer-tailed lines and depending on the business volume written, timing of cash flows can lead to net inward payments across the whole portfolio in the first development year of the contract for some accident years.

## Property & Casualty Reinsurance – Specialty

Incurred claims and allocated claim adjustment expenses, net of reinsurance

| USD millions<br>Accident year | Reporting year<br>2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | thereof IBNR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2009 | 1 542 | 1 673 | 1 485 | 1 416 | 1 384 | 1 361 | 1 346 | 1 330 | 1 303 | 1 293 | 2 |
| 2010 | | 1 229 | 1 241 | 1 186 | 1 160 | 1 141 | 1 110 | 1 088 | 1 090 | 1 081 | 21 |
| 2011 | | | 1 292 | 1 270 | 1 185 | 1 102 | 1 148 | 1 144 | 1 159 | 1 152 | 8 |
| 2012 | | | | 959 | 1 019 | 1 040 | 1 021 | 1 021 | 1 008 | 994 | 15 |
| 2013 | | | | | 1 095 | 1 021 | 981 | 945 | 935 | 912 | 34 |
| 2014 | | | | | | 1 108 | 1 100 | 999 | 972 | 956 | 60 |
| 2015 | | | | | | | 1 237 | 1 219 | 1 205 | 1 196 | 116 |
| 2016 | | | | | | | | 1 286 | 1 274 | 1 228 | 221 |
| 2017 | RSI | | | | | | | | 1 613 | 1 535 | 501 |
| 2018 | | | | | | | | | | 1 646 | 1 194 |
| Total | | | | | | | | | | **11 993** | **2 172** |

Cumulative claims paid and allocated claim adjustment expenses, net of reinsurance

| USD millions<br>Accident year | Reporting year<br>2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|---|---|---|---|
| 2009 | 209 | 659 | 910 | 1 011 | 1 085 | 1 143 | 1 181 | 1 205 | 1 218 | 1 230 |
| 2010 | | 197 | 467 | 659 | 759 | 837 | 952 | 973 | 992 | 1 004 |
| 2011 | | | 165 | 561 | 778 | 881 | 931 | 967 | 1 031 | 1 054 |
| 2012 | | | | 127 | 444 | 679 | 770 | 827 | 869 | 903 |
| 2013 | | | | | 148 | 417 | 600 | 710 | 765 | 801 |
| 2014 | | | | | | 173 | 409 | 590 | 688 | 744 |
| 2015 | | | | | | | 135 | 387 | 692 | 853 |
| 2016 | | | | | | | | 143 | 477 | 722 |
| 2017 | RSI | | | | | | | | 181 | 580 |
| 2018 | | | | | | | | | | 185 |
| Total | | | | | | | | | | **8 076** |
| | | | | | | | | | | |
| All liabilities before 2009 | | | | | | | | | | 658 |
| **Liabilities for claims and claim adjustment expenses, net of reinsurance** | | | | | | | | | | **4 575** |

Average annual percentage payout of incurred claims by age, net of reinsurance

| Years | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Specialty (RSI) | 14.2% | 28.3% | 20.5% | 10.1% | 5.8% | 5.3% | 3.5% | 1.9% | 1.1% | 0.9% |

This category contains several individual large losses on marine, aviation and space lines, including the Costa Concordia event in accident year 2012. The 2017 accident year claims incurred is higher due to natural catastrophes mainly stemming from hurricanes Harvey, Irma and Maria in the Americas which have reduced in reporting year 2018. The 2018 accident year claims incurred include natural catastrophes and man-made losses.

## Corporate Solutions

Incurred claims and allocated claim adjustment expenses, net of reinsurance

| USD millions | Reporting year | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Accident year | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | **2018** | **thereof IBNR** | **Cumulative number of reported claims (in nominals)** |
| 2012 | *1 294* | *1 223* | *1 148* | *1 116* | *1 112* | *1 157* | 1 151 | 55 | 12 805 |
| 2013 | | *1 593* | *1 574* | *1 504* | *1 421* | *1 407* | 1 408 | 106 | 25 901 |
| 2014 | | | *1 826* | *1 769* | *1 700* | *1 675* | 1 675 | 215 | 21 085 |
| 2015 | | | | *1 885* | *2 052* | *2 091* | 2 091 | 297 | 17 060 |
| 2016 | | | | | *2 011* | *2 217* | 2 165 | 460 | 15 959 |
| 2017 | *RSI* | | | | | *3 005* | 3 232 | 864 | 18 121 |
| 2018 | | | | | | | 2 697 | 1 276 | 11 667 |
| Total | | | | | | | **14 419** | **3 273** | **122 598** |

Cumulative claims paid and allocated claim adjustment expenses, net of reinsurance

| USD millions | Reporting year | | | | | | |
|---|---|---|---|---|---|---|---|
| Accident year | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | **2018** |
| 2012 | *182* | *554* | *714* | *808* | *896* | *967* | 1 000 |
| 2013 | | *272* | *666* | *935* | *1 091* | *1 158* | 1 236 |
| 2014 | | | *271* | *826* | *1 117* | *1 251* | 1 349 |
| 2015 | | | | *350* | *907* | *1 293* | 1 501 |
| 2016 | | | | | *372* | *1 194* | 1 421 |
| 2017 | *RSI* | | | | | *382* | 1 504 |
| 2018 | | | | | | | 416 |
| Total | | | | | | | **8 427** |
| | | | | | | | |
| All liabilities before 2012 | | | | | | | 482 |
| **Liabilities for claims and claim adjustment expenses, net of reinsurance** | | | | | | | **6 474** |

Average annual percentage payout of incurred claims by age, net of reinsurance

| Years | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Corporate Solutions (RSI) | *16.1%* | *32.1%* | *15.9%* | *9.3%* | *6.1%* | *5.9%* | *2.9%* |

The claims incurred increased due to general volume growth for all accident years. Incurred claims on accident years 2016 and 2017 increased due to large man-made losses as well as adverse prior year development, in particularly in casualty North America. Accident years 2017 and 2018 were significantly impacted by multiple severe large man-made losses, hurricanes in North America and the California wildfires.

Change in claim counts in 2013 and 2014 relate mostly to agriculture business written in 2013, leading to high claim counts in those years. For accident year 2017, a portion of the Accident & Health business from the IHC acquisition moved from assumed reinsurance to direct business which is driving the increase in direct claim counts in that year relative to accident year 2016.

## Life & Health Reinsurance, long tail

Incurred claims and allocated claim adjustment expenses, net of reinsurance

| USD millions / Accident year | Reporting year 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | thereof IBNR | Cumulative number of reported claims (in nominals) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2009 | 148 | 154 | 146 | 147 | 147 | 169 | 168 | 169 | 163 | 164 | 16 | 4 305 |
| 2010 | | 184 | 185 | 181 | 204 | 204 | 216 | 191 | 187 | 190 | 20 | 4 722 |
| 2011 | | | 210 | 219 | 277 | 289 | 302 | 281 | 275 | 276 | 29 | 6 621 |
| 2012 | | | | 260 | 347 | 350 | 374 | 339 | 341 | 338 | 29 | 9 069 |
| 2013 | | | | | 468 | 460 | 458 | 423 | 422 | 424 | 33 | 11 528 |
| 2014 | | | | | | 458 | 418 | 398 | 399 | 422 | 51 | 13 134 |
| 2015 | | | | | | | 391 | 424 | 409 | 410 | 64 | 15 528 |
| 2016 | | | | | | | | 411 | 426 | 413 | 126 | 12 106 |
| 2017 | RSI | | | | | | | | 419 | 424 | 208 | 11 126 |
| 2018 | | | | | | | | | | 389 | 297 | 3 677 |
| Total | | | | | | | | | | **3 450** | **873** | **91 816** |

Cumulative claims paid and allocated claim adjustment expenses, net of reinsurance

| USD millions / Accident year | Reporting year 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|---|---|---|---|
| 2009 | 7 | 36 | 54 | 67 | 75 | 83 | 88 | 96 | 102 | 108 |
| 2010 | | 8 | 39 | 61 | 78 | 91 | 102 | 111 | 119 | 125 |
| 2011 | | | 18 | 59 | 96 | 120 | 140 | 160 | 175 | 188 |
| 2012 | | | | 26 | 84 | 134 | 171 | 203 | 225 | 243 |
| 2013 | | | | | 36 | 117 | 178 | 237 | 276 | 302 |
| 2014 | | | | | | 31 | 104 | 190 | 250 | 285 |
| 2015 | | | | | | | 34 | 102 | 181 | 229 |
| 2016 | | | | | | | | 13 | 83 | 152 |
| 2017 | RSI | | | | | | | | 11 | 72 |
| 2018 | | | | | | | | | | 11 |
| Total | | | | | | | | | | **1 715** |
| All liabilities before 2009 | | | | | | | | | | 230 |
| **Liabilities for claims and claim adjustment expenses, net of reinsurance** | | | | | | | | | | **1 965** |

Average annual percentage payout of incurred claims by age, net of reinsurance

| Years | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Life & Health Reinsurance, long tail (RSI) | 5.5% | 16.7% | 15.2% | 10.9% | 7.7% | 6.1% | 4.6% | 4.6% | 3.4% | 3.7% |

In the reporting year 2013, the Group significantly strengthened IBNR claims liabilities in Australia for some lines of business. In addition, for 2013 and 2014 the effect of business volume increases is discernible as well. In 2018 the first year incurred claims are below 2017 due to lower volume in Australia.

**Reconciliation of gross liability for unpaid claims and claim adjustment expenses**
The following table reconciles the Group's net outstanding liabilities to the gross liabilities for unpaid claims and claim adjustment expenses.

The net outstanding liabilities correspond to the total liabilities for unpaid claims and claim adjustment expenses, net of reinsurance for each disaggregation category.

Other short duration contract lines includes reserves for business that is not material to the Group and where accident year information is not available. For Life & Health Reinsurance, in certain markets, cedents do not provide sufficient information to reinsurers to split claims incurred and claims paid by accident year. This is based on existing market practice. For these markets, an assessment of available information from other sources was made along with investigating approximations that could be used to provide claims development information by accident year. However, these alternate sources and estimates, based on currently available data and methods, could not be used to generate meaningful and representative accident year information and therefore have been excluded from disclosure. Other short duration contract lines also contain other treaties from Property & Casualty Reinsurance and Corporate Solutions which could not be allocated on a consistent basis to disaggregation categories or specific accident years.

For details on consolidation please refer to Note 2.

For the year ended 31 December

| USD millions | 2018 |
|---|---|
| **Net outstanding liabilities** | |
| Property & Casualty Reinsurance | |
| Property | 7 533 |
| Liability, proportional | 7 914 |
| Liability, non-proportional | 8 851 |
| Accident & Health | 4 959 |
| Motor, proportional | 3 458 |
| Motor, non-proportional | 5 718 |
| Specialty | 4 575 |
| Corporate Solutions | 6 474 |
| Life & Health Reinsurance, long tail | 1 965 |
| **Total net undiscounted outstanding liabilities excluding other short duration contract lines and before unallocated reinsurance recoverable** | 51 447 |
| Discounting impact on (Life & Health Reinsurance) short duration contracts | –291 |
| Impact of acquisition accounting | –554 |
| **Total net discounted outstanding liabilities excluding other short duration contract lines and before unallocated reinsurance recoverable** | 50 602 |
| Other short duration contract lines | 2 802 |
| **Total net discounted outstanding short duration liabilities** | **53 404** |
| | |
| Allocated reinsurance recoverables on unpaid claims: | |
| Property & Casualty Reinsurance | |
| Property | 571 |
| Liability, proportional | 324 |
| Liability, non-proportional | 266 |
| Accident & Health | 215 |
| Motor, proportional | 76 |
| Motor, non-proportional | 237 |
| Specialty | 594 |
| Corporate Solutions | 4 160 |
| Consolidation | –4 113 |
| Impact of acquisition accounting | –111 |
| Other short duration contract lines | 649 |
| **Total short duration reinsurance recoverable on outstanding liabilities** | **2 868** |
| | |
| Exclusions: | |
| Unallocated claim adjustment expenses | 994 |
| Long duration contracts | 10 180 |
| **Total other reconciling items** | **11 174** |
| | |
| **Total unpaid claims and claim adjustment expenses** | **67 446** |

**Discounting information**

The following disclosure covers the discounting impact for the disaggregation categories included in the claims development information. Discounting information for Life & Health Reinsurance long tail as of 31 December was as follows:

| USD millions | 2017 | **2018** |
|---|---|---|
| Carrying amount of discounted claims | 1 262 | 1 223 |
| Aggregate amount of the discount | –291 | –291 |
| Interest accretion[1] | 28 | 35 |
| Range of interest rates | 2.9% –3.6% | 3.0% –3.6% |

[1] Interest accretion is shown as part of "Life and health benefits" in the income statement.

Please refer to Note 1 for more details about the Group's discounting approach for unpaid claims and claim adjustment expenses.

# 6 Deferred acquisition costs (DAC) and acquired present value of future profits (PVFP)

As of 31 December, the DAC were as follows:

| 2017<br>USD millions | Property & Casualty Reinsurance | Life & Health Reinsurance | Corporate Solutions | Life Capital | Total |
|---|---|---|---|---|---|
| Opening balance as of 1 January | 2 280 | 3 465 | 444 | 11 | 6 200 |
| Deferred | 4 068 | 1 294 | 553 | 71 | 5 986 |
| Effect of acquisitions/disposals and retrocessions | | –5 | 2 | 5 | 2 |
| Amortisation | –4 255 | –508 | –549 | –67 | –5 379 |
| Effect of foreign currency translation and other changes | 53 | –12 | 4 | 17 | 62 |
| **Closing balance** | 2 146 | 4 234 | 454 | 37 | 6 871 |

| **2018**<br>USD millions | Property & Casualty Reinsurance | Life & Health Reinsurance | Corporate Solutions | Life Capital | Total |
|---|---|---|---|---|---|
| Opening balance as of 1 January | 2 146 | 4 234 | 454 | 37 | 6 871 |
| Deferred | 4 048 | 1 235 | 634 | 978 | 6 895 |
| Amortisation | –4 012 | –496 | –595 | –187 | –5 290 |
| Effect of foreign currency translation and other changes | –26 | –189 | –5 | –39 | –259 |
| **Closing balance** | **2 156** | **4 784** | **488** | **789** | **8 217** |

Retroceded DAC may arise on retrocession of reinsurance portfolios, including reinsurance undertaken as part of a securitisation. The associated potential retrocession recoveries are determined by the nature of the retrocession agreements and by the terms of the securitisation.

As of 31 December, the PVFP was as follows:

| 2017<br>USD millions | Life & Health Reinsurance | Life Capital Positive PVFP | Life Capital Negative PVFP | Life Capital Total | Total |
|---|---|---|---|---|---|
| Opening balance as of 1 January | 966 | 1 558 | –521 | 1 037 | 2 003 |
| Amortisation | –135 | –143 | 45 | –98 | –233 |
| Interest accrued on unamortised PVFP | 52 | 102 | –17 | 85 | 137 |
| Effect of change in unrealised gains/losses | | –1 | | –1 | –1 |
| Effect of foreign currency translation | 38 | 96 | –51 | 45 | 83 |
| **Closing balance** | 921 | 1 612 | –544 | 1 068 | 1 989 |

| **2018**<br>USD millions | Life & Health Reinsurance | Life Capital Positive PVFP | Life Capital Negative PVFP | Life Capital Total | **Total** |
|---|---|---|---|---|---|
| Opening balance as of 1 January | **921** | 1 612 | –544 | **1 068** | **1 989** |
| Amortisation | **–140** | –170 | 40 | **–130** | **–270** |
| Interest accrued on unamortised PVFP | **45** | 107 | –17 | **90** | **135** |
| Effect of change in unrealised gains/losses | | 18 | | **18** | **18** |
| Effect of foreign currency translation | **–22** | –62 | 30 | **–32** | **–54** |
| **Closing balance** | **804** | **1 505** | **–491** | **1 014** | **1 818** |

Retroceded PVFP may arise on retrocession of reinsurance portfolios, including reinsurance undertaken as part of a securitisation. The associated potential retrocession recoveries are determined by the nature of the retrocession agreements and by the terms of the securitisation.

The percentage of PVFP which is expected to be amortised in each of the next five years is 14%, 13%, 12%, 11% and 10%.

# 7 Investments

### Investment income

Net investment income by source (excluding unit-linked and with-profit business) was as follows:

| USD millions | 2017 | 2018 |
|---|---|---|
| Fixed income securities | 2 778 | 2 905 |
| Equity securities | 79 | 71 |
| Policy loans, mortgages and other loans | 148 | 213 |
| Investment real estate | 200 | 220 |
| Short-term investments | 65 | 62 |
| Other current investments | 118 | 128 |
| Share in earnings of equity-accounted investees | 100 | 166 |
| Cash and cash equivalents | 25 | 47 |
| Net result from deposit-accounted contracts | 127 | 250 |
| Deposits with ceding companies | 457 | 447 |
| **Gross investment income** | 4 097 | **4 509** |
| Investment expenses | –380 | –419 |
| Interest charged for funds held | –9 | –15 |
| **Net investment income – non-participating business** | 3 708 | **4 075** |

Dividends received from investments accounted for using the equity method were USD 170 million and USD 170 million for 2017 and 2018, respectively.

Share in earnings of equity-accounted investees included impairments of the carrying amount of equity-accounted investees of USD 46 million for 2017.

### Realised gains and losses

Realised gains and losses for fixed income securities, equity securities and other investments (excluding unit-linked and with-profit business) were as follows:

| USD millions | 2017 | 2018 |
|---|---|---|
| Fixed income securities available-for-sale: | | |
| Gross realised gains | 748 | 526 |
| Gross realised losses | –148 | –225 |
| Equity securities available-for-sale: | | |
| Gross realised gains[1] | 959 | |
| Gross realised losses[1] | –28 | |
| Other-than-temporary impairments | –46 | –9 |
| Net realised investment gains/losses on equity securities[1] | | 21 |
| Change in net unrealised investment gains/losses on equity securities[1] | | –483 |
| Net realised investment gains/losses on trading securities | 27 | –69 |
| Change in net unrealised investment gains/losses on trading securities | 3 | 39 |
| Net realised/unrealised gains/losses on other investments | –8 | 117 |
| Net realised/unrealised gains/losses on insurance-related activities | 99 | 97 |
| Foreign exchange gains/losses | 121 | 51 |
| **Net realised investment gains/losses – non-participating business** | 1 727 | **65** |

[1] Change due to ASU 2016-01. Please refer to Note 1 for more details.

Net realised/unrealised gains/losses on insurance-related activities included impairments of USD 11 million and USD 7 million for 2017 and 2018, respectively.

### Investment result – unit-linked and with-profit business

For unit-linked contracts, the investment risk is borne by the policyholder. For with-profit contracts, the majority of the investment risk is also borne by the policyholder, although there are certain guarantees that limit the downside risk for the policyholder, and a certain proportion of the returns may be retained by the Group (typically 10%).

Net investment result on unit-linked and with-profit business credited to policyholders was as follows:

| USD millions | 2017 Unit-linked | 2017 With-profit | 2018 Unit-linked | 2018 With-profit |
|---|---|---|---|---|
| Investment income – fixed income securities | 69 | 120 | 68 | 120 |
| Investment income – equity securities | 705 | 69 | 715 | 72 |
| Investment income – other | 20 | 11 | 17 | 10 |
| **Total investment income – unit-linked and with-profit business** | 794 | 200 | **800** | **202** |
| Realised gains/losses – fixed income securities | –12 | 12 | –61 | –140 |
| Realised gains/losses – equity securities | 2 094 | 191 | –2 124 | –257 |
| Realised gains/losses – other | 28 | 8 | –14 | 1 |
| **Total realised gains/losses – unit-linked and with-profit business** | 2 110 | 211 | **–2 199** | **–396** |
| **Total net investment result – unit-linked and with-profit business** | 2 904 | 411 | **–1 399** | **–194** |

### Impairment on fixed income securities related to credit losses

Other-than-temporary impairments for debt securities are bifurcated between credit and non-credit components, with the credit component recognised through earnings and the non-credit component recognised in other comprehensive income. The credit component of other-than-temporary impairments is defined as the difference between a security's amortised cost basis and the present value of expected cash flows. Methodologies for measuring the credit component of impairment are aligned to market observer forecasts of credit performance drivers. Management believes that these forecasts are representative of median market expectations.

For securitised products, cash flow projection analysis is conducted by integrating forward-looking evaluation of collateral performance drivers, including default rates, prepayment rates and loss severities and deal-level features, such as credit enhancement and prioritisation among tranches for payments of principal and interest. Analytics are differentiated by asset class, product type and security-level differences in historical and expected performance. For corporate bonds and hybrid debt instruments, an expected loss approach based on default probabilities and loss severities expected in the current and forecasted economic environment is used for securities identified as credit-impaired to project probability-weighted cash flows. Expected cash flows resulting from these analyses are discounted, and the present value is compared to the amortised cost basis to determine the credit component of other-than-temporary impairments.

A reconciliation of other-than-temporary impairments related to credit losses recognised in earnings was as follows:

| USD millions | 2017 | 2018 |
|---|---|---|
| Balance as of 1 January | 97 | 91 |
| Credit losses for which an other-than-temporary impairment was not previously recognised | 14 | 5 |
| Reductions for securities sold during the period | –24 | –12 |
| Increase of credit losses for which an other-than-temporary impairment has been recognised previously, when the Group does not intend to sell, or more likely than not will not be required to sell before recovery | 4 | 2 |
| Impact of increase in cash flows expected to be collected | –4 | –4 |
| Impact of foreign exchange movements | 4 | –2 |
| **Balance as of 31 December** | 91 | **80** |

## Investments available-for-sale

Amortised cost or cost, estimated fair values and other-than-temporary impairments of fixed income securities classified as available-for-sale as of 31 December were as follows:

| 2017<br>USD millions | Amortised cost or cost | Gross unrealised gains | Gross unrealised losses | Other-than-temporary impairments recognised in other comprehensive income | Estimated fair value |
|---|---|---|---|---|---|
| Debt securities issued by governments and government agencies: | | | | | |
| US Treasury and other US government corporations and agencies | 14 397 | 273 | –152 | | 14 518 |
| US Agency securitised products | 5 884 | 18 | –66 | | 5 836 |
| States of the United States and political subdivisions of the states | 1 620 | 108 | –7 | | 1 721 |
| United Kingdom | 8 699 | 1 378 | –31 | | 10 046 |
| Germany | 3 193 | 239 | –22 | | 3 410 |
| Canada | 3 969 | 543 | –30 | | 4 482 |
| France | 2 015 | 252 | –10 | | 2 257 |
| Australia | 2 065 | 16 | –4 | | 2 077 |
| Other | 7 655 | 318 | –76 | | 7 897 |
| Total | 49 497 | 3 145 | –398 | | 52 244 |
| Corporate debt securities | 39 510 | 3 218 | –136 | | 42 592 |
| Mortgage- and asset-backed securities | 4 271 | 162 | –19 | –2 | 4 412 |
| **Fixed income securities available-for-sale** | 93 278 | 6 525 | –553 | –2 | 99 248 |
| **Equity securities available-for-sale** | 3 544 | 365 | –47 | | 3 862 |

| **2018**<br>USD millions | Amortised cost or cost | Gross unrealised gains | Gross unrealised losses | Other-than-temporary impairments recognised in other comprehensive income | Estimated fair value |
|---|---|---|---|---|---|
| Debt securities issued by governments and government agencies: | | | | | |
| US Treasury and other US government corporations and agencies | 12 144 | 218 | –156 | | 12 206 |
| US Agency securitised products | 6 416 | 18 | –130 | | 6 304 |
| States of the United States and political subdivisions of the states | 1 584 | 55 | –19 | | 1 620 |
| United Kingdom | 7 837 | 1 085 | –74 | | 8 848 |
| Germany | 2 723 | 229 | –7 | | 2 945 |
| Canada | 2 721 | 192 | –29 | | 2 884 |
| France | 1 723 | 205 | –6 | | 1 922 |
| Australia | 1 658 | 14 | –3 | | 1 669 |
| Other | 9 026 | 273 | –135 | | 9 164 |
| Total | 45 832 | 2 289 | –559 | | 47 562 |
| Corporate debt securities | 39 630 | 1 617 | –542 | | 40 705 |
| Mortgage- and asset-backed securities | 4 211 | 117 | –56 | –1 | 4 271 |
| **Fixed income securities available-for-sale** | **89 673** | **4 023** | **–1 157** | **–1** | **92 538** |

The "Other-than-temporary impairments recognised in other comprehensive income" column includes only securities with a credit-related loss recognised in earnings. Subsequent recovery in fair value of securities previously impaired in other comprehensive income is also presented in the "Other-than-temporary impairments recognised in other comprehensive income" column.

## Unrealised losses on securities available-for-sale

The following table shows the fair value and unrealised losses of the Group's fixed income securities, aggregated by investment category and length of time that individual securities were in a continuous unrealised loss position as of 31 December 2017 and 2018.

| 2017<br>USD millions | Less than 12 months<br>Fair value | Unrealised losses | 12 months or more<br>Fair value | Unrealised losses | Total<br>Fair value | Unrealised losses |
|---|---|---|---|---|---|---|
| Debt securities issued by governments and government agencies: | | | | | | |
| US Treasury and other US government corporations and agencies | 9 742 | 113 | 1 825 | 39 | 11 567 | 152 |
| US Agency securitised products | 3 773 | 37 | 1 029 | 29 | 4 802 | 66 |
| States of the United States and political subdivisions of the states | 304 | 4 | 120 | 3 | 424 | 7 |
| United Kingdom | 1 161 | 18 | 301 | 13 | 1 462 | 31 |
| Germany | 722 | 19 | 44 | 3 | 766 | 22 |
| Canada | 1 766 | 29 | 276 | 1 | 2 042 | 30 |
| France | 214 | 8 | 7 | 2 | 221 | 10 |
| Australia | 1 118 | 3 | 74 | 1 | 1 192 | 4 |
| Other | 2 813 | 54 | 451 | 22 | 3 264 | 76 |
| Total | 21 613 | 285 | 4 127 | 113 | 25 740 | 398 |
| Corporate debt securities | 6 299 | 102 | 1 040 | 34 | 7 339 | 136 |
| Mortgage- and asset-backed securities | 1 617 | 14 | 421 | 7 | 2 038 | 21 |
| **Total** | 29 529 | 401 | 5 588 | 154 | 35 117 | 555 |

| **2018**<br>USD millions | Less than 12 months<br>Fair value | Unrealised losses | 12 months or more<br>Fair value | Unrealised losses | Total<br>Fair value | Unrealised losses |
|---|---|---|---|---|---|---|
| Debt securities issued by governments and government agencies: | | | | | | |
| US Treasury and other US government corporations and agencies | 1 157 | 33 | 6 170 | 123 | 7 327 | 156 |
| US Agency securitised products | 1 013 | 11 | 3 710 | 119 | 4 723 | 130 |
| States of the United States and political subdivisions of the states | 108 | 2 | 518 | 17 | 626 | 19 |
| United Kingdom | 1 372 | 47 | 442 | 27 | 1 814 | 74 |
| Germany | 109 | 4 | 156 | 3 | 265 | 7 |
| Canada | 549 | 8 | 855 | 21 | 1 404 | 29 |
| France | 381 | 5 | 15 | 1 | 396 | 6 |
| Australia | 509 | 2 | 21 | 1 | 530 | 3 |
| Other | 2 280 | 68 | 1 149 | 67 | 3 429 | 135 |
| Total | 7 478 | 180 | 13 036 | 379 | 20 514 | 559 |
| Corporate debt securities | 12 135 | 275 | 6 334 | 267 | 18 469 | 542 |
| Mortgage- and asset-backed securities | 1 111 | 15 | 1 718 | 42 | 2 829 | 57 |
| **Total** | **20 724** | **470** | **21 088** | **688** | **41 812** | **1 158** |

As of 31 December 2017, USD 40 million of the gross unrealised loss on equity securities available-for-sale relates to declines in value for less than 12 months and USD 7 million to declines in value for more than 12 months.

## Maturity of fixed income securities available-for-sale

The amortised cost or cost and estimated fair values of investments in fixed income securities available-for-sale by remaining maturity are shown below. Fixed maturity investments are assumed not to be called for redemption prior to the stated maturity date. As of 31 December 2017 and 2018, USD 17 742 million and USD 18 601 million, respectively, of fixed income securities available-for-sale were callable.

| USD millions | 2017 Amortised cost or cost | 2017 Estimated fair value | 2018 Amortised cost or cost | 2018 Estimated fair value |
|---|---|---|---|---|
| Due in one year or less | 7 399 | 7 410 | 10 449 | 10 379 |
| Due after one year through five years | 29 459 | 29 724 | 24 547 | 24 614 |
| Due after five years through ten years | 15 921 | 16 652 | 16 183 | 16 471 |
| Due after ten years | 36 550 | 41 370 | 34 749 | 37 262 |
| Mortgage- and asset-backed securities with no fixed maturity | 3 949 | 4 092 | 3 745 | 3 812 |
| **Total fixed income securities available-for-sale** | 93 278 | 99 248 | **89 673** | **92 538** |

## Investments trading and at fair value through earnings

The carrying amounts of fixed income securities classified as trading and equity securities classified as trading and at fair value through earnings (excluding unit-linked and with-profit business) as of 31 December were as follows:

| USD millions | 2017 | 2018 |
|---|---|---|
| Debt securities issued by governments and government agencies | 2 414 | 3 314 |
| Corporate debt securities | 38 | 37 |
| Mortgage- and asset-backed securities | 86 | 63 |
| **Fixed income securities trading – non-participating business** | 2 538 | **3 414** |
| **Equity securities trading – non-participating business**[1] | 3 | |
| **Equity securities at fair value through earnings – non-participating business**[1] | | **3 036** |

[1] Change due to ASU 2016-01. Please refer to Note 1 for more details.

## Investments held for unit-linked and with-profit business

The carrying amounts of investments held for unit-linked and with-profit business as of 31 December were as follows:

| USD millions | 2017 Unit-linked | 2017 With-profit | 2018 Unit-linked | 2018 With-profit |
|---|---|---|---|---|
| Fixed income securities trading | 2 105 | 3 104 | 2 253 | 2 685 |
| Equity securities trading[1] | 26 582 | 2 201 | | |
| Equity securities at fair value through earnings[1] | | | 21 326 | 1 797 |
| Investment real estate | 543 | 281 | 537 | 230 |
| Other | 286 | 64 | 702 | 16 |
| **Total investments for unit-linked and with-profit business** | 29 516 | 5 650 | **24 818** | **4 728** |

[1] Change due to ASU 2016-01. Please refer to Note 1 for more details.

## Mortgage, policy and other loans and investment real estate

As of 31 December, the carrying and respective fair values of investments in mortgage, policy and other loans and investment real estate (excluding unit-linked and with-profit business) were as follows:

| USD millions | 2017 Carrying value | 2017 Fair value | 2018 Carrying value | 2018 Fair value |
|---|---|---|---|---|
| Policy loans | 94 | 94 | 84 | 84 |
| Mortgage loans | 2 665 | 2 674 | 2 890 | 2 882 |
| Other loans | 1 351 | 1 367 | 1 568 | 1 587 |
| Investment real estate | 2 220 | 4 099 | 2 411 | 4 307 |

Depreciation expense related to investment real estate was USD 49 million and USD 57 million for 2017 and 2018, respectively. Accumulated depreciation on investment real estate totalled USD 585 million and USD 609 million as of 31 December 2017 and 2018, respectively.

Substantially all mortgage, policy and other loan receivables are secured by buildings, land or the underlying policies.

### Other financial assets and liabilities by measurement category

As of 31 December 2017 and 2018, "Other invested assets" and "Accrued expenses and other liabilities" by measurement category were as follows:

| 2017<br>USD millions | Fair value | Investments measured at net asset value as practical expedient | Amortised cost or cost | Equity-accounted | Not in scope[1] | Total |
|---|---|---|---|---|---|---|
| Other invested assets | | | | | | |
| Derivative financial instruments | 527 | | | | | 527 |
| Reverse repurchase agreements | | | 3 058 | | | 3 058 |
| Securities lending/borrowing | 776 | | 1 065 | | | 1 841 |
| Equity-accounted investments | 446 | | | 2 446 | | 2 892 |
| Other | 63 | 828 | 695 | | | 1 586 |
| **Other invested assets** | 1 812 | 828 | 4 818 | 2 446 | 0 | 9 904 |
| | | | | | | |
| Accrued expenses and other liabilities | | | | | | |
| Derivative financial instruments | 582 | | | | | 582 |
| Repurchase agreements | | | 160 | | | 160 |
| Securities lending | 778 | | 51 | | | 829 |
| Securities sold short | 1 947 | | | | | 1 947 |
| Other | | | 835 | | 2 837 | 3 672 |
| **Accrued expenses and other liabilities** | 3 307 | 0 | 1 046 | 0 | 2 837 | 7 190 |

| **2018**<br>USD millions | Fair value | Investments measured at net asset value as practical expedient | Amortised cost or cost | Equity-accounted | Not in scope[1] | Total |
|---|---|---|---|---|---|---|
| Other invested assets | | | | | | |
| Derivative financial instruments | 564 | | | | | 564 |
| Reverse repurchase agreements | | | 1 051 | | | 1 051 |
| Securities lending/borrowing | 302 | | 11 | | | 313 |
| Equity-accounted investments | 312 | | | 2 660 | | 2 972 |
| Other | 52 | 812 | 634 | | | 1 498 |
| **Other invested assets** | **1 230** | **812** | **1 696** | **2 660** | **0** | **6 398** |
| | | | | | | |
| Accrued expenses and other liabilities | | | | | | |
| Derivative financial instruments | 582 | | | | | 582 |
| Repurchase agreements | | | 581 | | | 581 |
| Securities lending | 301 | | 59 | | | 360 |
| Securities sold short | 1 538 | | | | | 1 538 |
| Other | | | 1 077 | | 2 660 | 3 737 |
| **Accrued expenses and other liabilities** | **2 421** | **0** | **1 717** | **0** | **2 660** | **6 798** |

[1] Amounts do not relate to financial assets or liabilities.

## Offsetting of derivatives, financial assets and financial liabilities

Offsetting of derivatives, financial assets and financial liabilities as of 31 December was as follows:

| 2017<br>USD millions | Gross amounts of recognised financial assets | Collateral set-off in the balance sheet | Net amounts of financial assets presented in the balance sheet | Related financial instruments not set-off in the balance sheet | Net amount |
|---|---|---|---|---|---|
| Derivative financial instruments – assets | 1 710 | –1 176 | 534 | | 534 |
| Reverse repurchase agreements | 6 053 | –2 995 | 3 058 | –3 058 | 0 |
| Securities borrowing | 1 589 | –524 | 1 065 | –1 065 | 0 |
| **Total** | 9 352 | –4 695 | 4 657 | –4 123 | 534 |

| 2017<br>USD millions | Gross amounts of recognised financial liabilities | Collateral set-off in the balance sheet | Net amounts of financial liabilities presented in the balance sheet | Related financial instruments not set-off in the balance sheet | Net amount |
|---|---|---|---|---|---|
| Derivative financial instruments – liabilities | –1 924 | 1 342 | –582 | 49 | –533 |
| Repurchase agreements | –2 631 | 2 471 | –160 | 160 | 0 |
| Securities lending | –1 878 | 1 049 | –829 | 765 | –64 |
| **Total** | –6 433 | 4 862 | –1 571 | 974 | –597 |

| **2018**<br>USD millions | Gross amounts of recognised financial assets | Collateral set-off in the balance sheet | Net amounts of financial assets presented in the balance sheet | Related financial instruments not set-off in the balance sheet | Net amount |
|---|---|---|---|---|---|
| Derivative financial instruments – assets | 1 620 | –1 052 | 568 | | **568** |
| Reverse repurchase agreements | 4 285 | –3 234 | 1 051 | –1 051 | **0** |
| Securities borrowing | 110 | –99 | 11 | –11 | **0** |
| **Total** | **6 015** | **–4 385** | **1 630** | **–1 062** | **568** |

| **2018**<br>USD millions | Gross amounts of recognised financial liabilities | Collateral set-off in the balance sheet | Net amounts of financial liabilities presented in the balance sheet | Related financial instruments not set-off in the balance sheet | Net amount |
|---|---|---|---|---|---|
| Derivative financial instruments – liabilities | –1 505 | 923 | –582 | 21 | **–561** |
| Repurchase agreements | –3 334 | 2 753 | –581 | 581 | **0** |
| Securities lending | –940 | 580 | –360 | 339 | **–21** |
| **Total** | **–5 779** | **4 256** | **–1 523** | **941** | **–582** |

Collateral pledged or received between two counterparties with a master netting arrangement in place, but not subject to balance sheet netting, is disclosed at fair value. The fair values represent the gross carrying value amounts at the reporting date for each financial instrument received or pledged by the Group. Management believes that master netting agreements provide for legally enforceable set-off in the event of default, which substantially reduces credit exposure. Upon occurrence of an event of default, the non-defaulting party may set off the obligation against collateral received regardless if it has been offset on the balance sheet prior to the defaulting event. The net amounts of the financial assets and liabilities presented on the balance sheet were recognised in "Other invested assets", "Investments for unit-linked and with-profit business" and "Accrued expenses and other liabilities".

## Assets pledged

As of 31 December 2017 and 2018, investments with a carrying value of USD 7 384 million and USD 5 776 million, respectively, were on deposit with regulatory agencies in accordance with local requirements, of which USD 147 million and USD 277 million, respectively, were cash and cash equivalents. As of 31 December 2017 and 2018, investments with a carrying value of USD 12 209 million and USD 12 959 million, respectively, were placed on deposit or pledged to secure certain reinsurance liabilities, including pledged investments in subsidiaries, of which USD 247 million and USD 404 million, respectively, were cash and cash equivalents. Cash and cash equivalents pledged include some instances where cash is legally restricted from usage or withdrawal.

As of 31 December 2017 and 2018, securities of USD 15 740 million and USD 15 850 million, respectively, were transferred to third parties under securities lending transactions and repurchase agreements on a fully collateralised basis. Corresponding liabilities of USD 989 million and USD 941 million, respectively, were recognised in accrued expenses and other liabilities for the obligation to return collateral that the Group has the right to sell or repledge.

As of 31 December 2017 and 2018, a real estate portfolio with a carrying value of USD 192 million and USD 191 million, respectively, served as collateral for a credit facility, allowing the Group to withdraw funds up to CHF 500 million.

### Collateral accepted which the Group has the right to sell or repledge

As of 31 December 2017 and 2018, the fair value of the equity securities, government and corporate debt securities received as collateral was USD 7 476 million and USD 4 239 million, respectively. Of this, the amount that was sold or repledged as of 31 December 2017 and 2018 was USD 1 981 million and USD 1 721 million, respectively. The sources of the collateral are securities borrowing, reverse repurchase agreements and derivative transactions.

### Recognised gross liability for the obligation to return collateral that the Group has the right to sell or repledge

As of 31 December 2017 and 2018, the gross amounts of liabilities related to repurchase agreements and securities lending by the class of securities transferred to third parties and by the remaining maturity are shown below. The liabilities are recognised for the obligation to return collateral that the Group has the right to sell or repledge.

| 2017<br>USD millions | Remaining contractual maturity of the agreements<br>Overnight and continuous | Up to 30 days | 30–90 days | Greater than 90 days | Total |
|---|---|---|---|---|---|
| **Repurchase agreements** | | | | | |
| Debt securities issued by governments and government agencies | 31 | 2 091 | 354 | 139 | 2 615 |
| Corporate debt securities | | 16 | | | 16 |
| **Total repurchase agreements** | 31 | 2 107 | 354 | 139 | 2 631 |
| **Securities lending** | | | | | |
| Debt securities issued by governments and government agencies | 244 | 567 | 614 | 442 | 1 867 |
| Corporate debt securities | 6 | | | | 6 |
| Equity securities | 5 | | | | 5 |
| **Total securities lending** | 255 | 567 | 614 | 442 | 1 878 |
| **Gross amount of recognised liabilities for repurchase agreements and securities lending** | | | | | 4 509 |

| **2018**<br>USD millions | Remaining contractual maturity of the agreements<br>Overnight and continuous | Up to 30 days | 30–90 days | Greater than 90 days | Total |
|---|---|---|---|---|---|
| **Repurchase agreements** | | | | | |
| Debt securities issued by governments and government agencies | 149 | 2 894 | 100 | 141 | 3 284 |
| Corporate debt securities | 9 | 41 | | | 50 |
| **Total repurchase agreements** | **158** | **2 935** | **100** | **141** | **3 334** |
| **Securities lending** | | | | | |
| Debt securities issued by governments and government agencies | 110 | 146 | 242 | 431 | 929 |
| Corporate debt securities | 7 | 4 | | | 11 |
| Equity securities | | | | | 0 |
| **Total securities lending** | **117** | **150** | **242** | **431** | **940** |
| **Gross amount of recognised liabilities for repurchase agreements and securities lending** | | | | | **4 274** |

The programme is structured in a conservative manner within a clearly defined risk framework. Yield enhancement is conducted on a non-cash basis, thereby taking no re-investment risk.

# 8 Fair value disclosures

Fair value, as defined by the Fair Value Measurements and Disclosures Topic, is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

The Fair Value Measurements and Disclosures Topic requires all assets and liabilities that are measured at fair value to be categorised within the fair value hierarchy. This three-level hierarchy is based on the observability of the inputs used in the fair value measurement. The levels of the fair value hierarchy are defined as follows:

Level 1 inputs are quoted prices in active markets for identical assets or liabilities that the Group has the ability to access. Level 1 inputs are the most persuasive evidence of fair value and are to be used whenever possible.

Level 2 inputs are market-based inputs that are directly or indirectly observable, but not considered level 1 quoted prices. Level 2 inputs consist of (i) quoted prices for similar assets or liabilities in active markets; (ii) quoted prices for identical assets or liabilities in non-active markets (eg markets which have few transactions and where prices are not current or price quotations vary substantially); (iii) inputs other than quoted prices that are observable (eg interest rates, yield curves, volatilities, prepayment speeds, credit risks and default rates); and (iv) inputs derived from, or corroborated by, observable market data.

Level 3 inputs are unobservable inputs. These inputs reflect the Group's own assumptions about market pricing using the best internal and external information available.

The types of instruments valued, based on unadjusted quoted market prices in active markets, include most US government and sovereign obligations, active listed equities and most money market securities. Such instruments are generally classified within level 1 of the fair value hierarchy.

The types of instruments that trade in markets that are not considered to be active, but are valued based on quoted market prices, broker or dealer quotations or alternative pricing sources with reasonable levels of price transparency, include most government agency securities, investment-grade corporate bonds, certain mortgage- and asset-backed products, less liquid listed equities and state, municipal and provincial obligations. Such instruments are generally classified within level 2 of the fair value hierarchy.

Exchange-traded derivative instruments typically fall within level 1 or level 2 of the fair value hierarchy, depending on whether they are considered to be actively traded or not.

Certain financial instruments are classified within level 3 of the fair value hierarchy because they trade infrequently and therefore have little or no price transparency. Such instruments include private equity, less liquid corporate debt securities and certain asset-backed securities (ABS). Certain over-the-counter (OTC) derivatives trade in less liquid markets with limited pricing information, and the determination of fair value for these derivatives is inherently more difficult. Such instruments are classified within level 3 of the fair value hierarchy. Pursuant to the election of the fair value option, the Group classifies certain liabilities for life and health policy benefits in level 3 of the fair value hierarchy. When appropriate, valuations are adjusted for various factors such as liquidity, bid/offer spreads and credit considerations. Such adjustments are generally based on available market evidence. In the absence of such evidence, management's best estimate is used.

The fair values of assets are adjusted to incorporate the counterparty risk of non-performance. Similarly, the fair values of liabilities reflect the risk of non-performance of the Group, captured by the Group's credit spread. These valuation adjustments from assets and liabilities measured at fair value using significant unobservable inputs are recognised in net realised gains and losses. For 2018, these adjustments were not material. Whenever the underlying assets or liabilities are reported in a specific business segment, the valuation adjustment is allocated accordingly. Valuation adjustments not attributable to any business segment are reported in Group items.

In certain situations, the Group uses inputs to measure the fair value of asset or liability positions that fall into different levels of the fair value hierarchy. In these situations, the Group will determine the appropriate level based on the lowest level input that is significant to the determination of the fair value.

## Valuation techniques

US government securities typically have quoted market prices in active markets and are categorised as level 1 instruments in the fair value hierarchy. Non-US government holdings are generally classified as level 2 instruments and are valued on the basis of the quotes provided by pricing services, which are subject to the Group's pricing validation reviews and pricing vendor challenge process. Valuations provided by pricing vendors are generally based on the actual trade information as substantially all of the Group's non-US government holdings are traded in a transparent and liquid market.

Corporate debt securities mainly include US and European investment-grade positions, which are priced on the basis of quotes provided by third-party pricing vendors and first utilise valuation inputs from actively traded securities, such as bid prices, bid spreads to Treasury securities, Treasury curves and same or comparable issuer curves and spreads. Issuer spreads are determined from actual quotes and traded prices and incorporate considerations of credit/default, sector composition, and liquidity and call features. Where market data is not available, valuations are developed based on the modelling techniques that utilise observable inputs and option-adjusted spreads and incorporate considerations of the security's seniority, maturity and the issuer's corporate structure.

Values of mortgage- and asset-backed securities are obtained both from third-party pricing vendors and through quoted prices, some of which may be based on the prices of comparable securities with similar structural and collateral features. Values of certain ABS for which there are no significant observable inputs are developed using benchmarks to similar transactions or indices. For both residential mortgage-backed securities (RMBS) and commercial mortgage-backed securities (CMBS), cash flows are derived based on the transaction-specific information, which incorporates priority in the capital structure, and are generally adjusted to reflect benchmark yields, market prepayment data, collateral performance (default rates and loss severity) for specific vintage and geography, credit enhancements and ratings. For certain RMBS and CMBS with low levels of market liquidity, judgements may be required to determine comparable securities based on the loan type and deal-specific performance. CMBS terms may also incorporate lock-out periods that restrict borrowers from prepaying the loans or provide disincentives to prepay and therefore reduce prepayment risk of these securities, compared to RMBS. The factors specifically considered in valuation of CMBS include borrower-specific statistics in a specific region, such as debt service coverage and loan-to-value ratios, as well as the type of commercial property. Mortgage- and asset-backed securities also includes debt securitised by credit card, student loan and auto loan receivables. Pricing inputs for these securities also focus on capturing, where relevant, collateral quality and performance, payment patterns and delinquencies.

The Group uses third-party pricing vendor data to value agency securitised products, which mainly include collateralised mortgage obligations (CMO) and mortgage-backed government agency securities. The valuations generally utilise observable inputs consistent with those noted above for RMBS and CMBS.

Equity securities held by the Group for proprietary investment purposes are mainly classified in level 1. Securities classified in level 1 are traded on public stock exchanges for which quoted prices are readily available.

The category "Other invested assets" includes the Group's private equity and hedge fund investments which are made directly or via ownership of funds. Valuation of direct private equity investments requires significant management judgement due to the absence of quoted market prices and the lack of liquidity. Initial valuation is based on the acquisition cost, and is further refined based on the available market information for the public companies that are considered comparable to the Group's holdings in the private companies being valued, and the private company-specific performance indicators, both historic and projected. Subsequent valuations also reflect business or asset appraisals, as well as market transaction data for private and public benchmark companies and the actual companies being valued, such as financing rounds and mergers and acquisitions activity. The Group's holdings in private equity and hedge funds are generally valued utilising net asset values (NAV), subject to adjustments, as deemed necessary, for restrictions on redemption (lock-up periods and amount limitations on redemptions). These investments are included under investments measured at net asset value as a practical expedient.

The Group holds both exchange-traded and OTC interest rate, foreign exchange, credit and equity derivative contracts for hedging and trading purposes. The fair values of exchange-traded derivatives measured using observable exchange prices are classified in level 1. Long-dated contracts may require adjustments to the exchange-traded prices which would trigger reclassification to level 2 in the fair value hierarchy. OTC derivatives are generally valued by the Group based on the internal models, which are consistent with industry standards and practices, and use both observable (dealer, broker or market consensus prices, spot and forward rates, interest rate and credit curves and volatility indices) and unobservable inputs (adjustments for liquidity, inputs derived from the observable data based on the Group's judgements and assumptions).

The Group's OTC interest rate derivatives primarily include interest rate swaps, futures, options, caps and floors and are valued based on the cash flow discounting models which generally utilise as inputs observable market yield curves and volatility assumptions.

The Group's OTC foreign exchange derivatives primarily include forward, spot and option contracts and are generally valued based on the cash flow discounting models, utilising as main inputs observable foreign exchange forward curves.

The Group's investments in equity derivatives primarily include OTC equity option contracts on single or baskets of market indices and equity options on individual or baskets of equity securities, which are valued using internally developed models (such as the Black-Scholes type option pricing model and various simulation models) calibrated with the inputs, which include underlying spot prices, dividend curves, volatility surfaces, yield curves and correlations between underlying assets.

The Group's OTC credit derivatives can include index and single-name credit default swaps. Plain vanilla credit derivatives, such as index and single-name credit default swaps, are valued by the Group based on the models consistent with the industry valuation standards for these credit contracts, and primarily utilise observable inputs published by market data sources, such as credit spreads and recovery rates. These valuation techniques warrant classification of plain vanilla OTC derivatives as level 2 financial instruments in the fair value hierarchy.

**Governance around level 3 fair valuation**

The Asset Valuation Committee, endorsed by the Group Executive Committee, has a primary responsibility for governing and overseeing all of Group's asset and derivative valuation policies and operating parameters (including level 3 measurements). The Asset Valuation Committee delegates the responsibility for implementation and oversight of consistent application of the Group's pricing and valuation policies to the Pricing and Valuation Committee.

The Pricing and Valuation Committee, which is a joint Risk Management & Finance management control committee, is responsible for the implementation and consistent application of the pricing and valuation policies. Key functions of the Pricing and Valuation Committee include: oversight over the entire valuation process, approval of internal valuation methodologies, approval of external pricing vendors, monitoring of the independent price verification (IPV) process and resolution of significant or complex valuation issues.

A formal IPV process is undertaken monthly by members of the Valuation Risk Management team within a Financial Risk Management function. The process includes monitoring and in-depth analyses of approved pricing methodologies and valuations of the Group's financial instruments aimed at identifying and resolving pricing discrepancies.

The Risk Management function is responsible for independent validation and ongoing review of the Group's valuation models. The Product Control group within Finance is tasked with reporting of fair values through the vendor- and model-based valuations, the results of which are also subject to the IPV process.

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## Assets and liabilities measured at fair value on a recurring basis

As of 31 December, the fair values of assets and liabilities measured on a recurring basis by level of input were as follows:

| 2017<br>USD millions | Quoted prices in active markets for identical assets and liabilities (level 1) | Significant other observable inputs (level 2) | Significant unobservable inputs (level 3) | Impact of netting[1] | Investments measured at net asset value as practical expedient | Total |
|---|---|---|---|---|---|---|
| **Assets** | | | | | | |
| Fixed income securities held for proprietary investment purposes | 14 013 | 86 420 | 1 353 | | | 101 786 |
| Debt securities issued by US government and government agencies | 14 013 | 2 392 | | | | 16 405 |
| US Agency securitised products | | 5 965 | | | | 5 965 |
| Debt securities issued by non-US governments and government agencies | | 32 285 | 3 | | | 32 288 |
| Corporate debt securities | | 41 287 | 1 343 | | | 42 630 |
| Mortgage- and asset-backed securities | | 4 491 | 7 | | | 4 498 |
| Fixed income securities backing unit-linked and with-profit business | | 5 209 | | | | 5 209 |
| Equity securities held for proprietary investment purposes | 3 856 | 5 | 4 | | | 3 865 |
| Equity securities backing unit-linked and with-profit business | 28 770 | 13 | | | | 28 783 |
| Short-term investments held for proprietary investment purposes | 1 021 | 3 825 | | | | 4 846 |
| Short-term investments backing unit-linked and with-profit business | | 59 | | | | 59 |
| Derivative financial instruments | 50 | 1 274 | 386 | –1 176 | | 534 |
| Interest rate contracts | 4 | 511 | 5 | | | 520 |
| Foreign exchange contracts | | 307 | | | | 307 |
| Equity contracts | 43 | 451 | 283 | | | 777 |
| Credit contracts | | 1 | | | | 1 |
| Other contracts | | | 98 | | | 98 |
| Contracts backing unit-linked and with-profit business | 3 | 4 | | | | 7 |
| Investment real estate | | | 198 | | | 198 |
| Other invested assets | 765 | 12 | 509 | | 828 | 2 114 |
| Funds held by ceding companies | | 206 | | | | 206 |
| **Total assets at fair value** | 48 475 | 97 023 | 2 450 | –1 176 | 828 | 147 600 |
| | | | | | | |
| **Liabilities** | | | | | | |
| Derivative financial instruments | –22 | –1 423 | –479 | 1 342 | | –582 |
| Interest rate contracts | –2 | –395 | –1 | | | –398 |
| Foreign exchange contracts | | –321 | | | | –321 |
| Equity contracts | –19 | –622 | –31 | | | –672 |
| Credit contracts | | –79 | | | | –79 |
| Other contracts | | | –447 | | | –447 |
| Contracts backing unit-linked and with-profit business | –1 | –6 | | | | –7 |
| Liabilities for life and health policy benefits | | | –126 | | | –126 |
| Accrued expenses and other liabilities | –939 | –1 785 | | | | –2 724 |
| **Total liabilities at fair value** | –961 | –3 208 | –605 | 1 342 | | –3 432 |

[1] The netting of derivative receivables and derivative payables is permitted when a legally enforceable master netting agreement exists between two counterparties. A master netting agreement provides for the net settlement of all contracts, as well as cash collateral, through a single payment, in a single currency, in the event of default or on the termination of any one contract.

| 2018<br>USD millions | Quoted prices in active markets for identical assets and liabilities (level 1) | Significant other observable inputs (level 2) | Significant unobservable inputs (level 3) | Impact of netting[1] | Investments measured at net asset value as practical expedient | Total |
|---|---|---|---|---|---|---|
| **Assets** | | | | | | |
| Fixed income securities held for proprietary investment purposes | 11 668 | 82 906 | 1 378 | | | 95 952 |
| Debt securities issued by US government and government agencies | 11 668 | 2 186 | | | | 13 854 |
| US Agency securitised products | | 6 551 | | | | 6 551 |
| Debt securities issued by non-US governments and government agencies | | 30 468 | 3 | | | 30 471 |
| Corporate debt securities | | 39 372 | 1 370 | | | 40 742 |
| Mortgage- and asset-backed securities | | 4 329 | 5 | | | 4 334 |
| Fixed income securities backing unit-linked and with-profit business | | 4 938 | | | | 4 938 |
| Equity securities held for proprietary investment purposes | 3 023 | 13 | | | | 3 036 |
| Equity securities backing unit-linked and with-profit business | 23 111 | 12 | | | | 23 123 |
| Short-term investments held for proprietary investment purposes | 1 220 | 4 197 | | | | 5 417 |
| Short-term investments backing unit-linked and with-profit business | | 11 | | | | 11 |
| Derivative financial instruments | 11 | 1 205 | 404 | –1 052 | | 568 |
| Interest rate contracts | 6 | 424 | 6 | | | 436 |
| Foreign exchange contracts | | 399 | | | | 399 |
| Equity contracts | 1 | 377 | 339 | | | 717 |
| Credit contracts | | | | | | 0 |
| Other contracts | 2 | | 59 | | | 61 |
| Contracts backing unit-linked and with-profit business | 2 | 5 | | | | 7 |
| Investment real estate | | | 166 | | | 166 |
| Other invested assets | 286 | 16 | 364 | | 812 | 1 478 |
| Funds held by ceding companies | | 206 | | | | 206 |
| **Total assets at fair value** | **39 319** | **93 504** | **2 312** | **–1 052** | **812** | **134 895** |
| | | | | | | |
| **Liabilities** | | | | | | |
| Derivative financial instruments | –14 | –974 | –517 | 923 | | –582 |
| Interest rate contracts | –3 | –318 | –3 | | | –324 |
| Foreign exchange contracts | | –169 | | | | –169 |
| Equity contracts | –8 | –484 | –43 | | | –535 |
| Credit contracts | | –1 | | | | –1 |
| Other contracts | | | –471 | | | –471 |
| Contracts backing unit-linked and with-profit business | –3 | –2 | | | | –5 |
| Liabilities for life and health policy benefits | | | –119 | | | –119 |
| Accrued expenses and other liabilities | –302 | –1 538 | | | | –1 840 |
| **Total liabilities at fair value** | **–316** | **–2 512** | **–636** | **923** | | **–2 541** |

[1] The netting of derivative receivables and derivative payables is permitted when a legally enforceable master netting agreement exists between two counterparties. A master netting agreement provides for the net settlement of all contracts, as well as cash collateral, through a single payment, in a single currency, in the event of default or on the termination of any one contract.

### Assets and liabilities measured at fair value on a recurring basis using significant unobservable inputs (level 3)

As of 31 December, the reconciliations of the fair values of assets and liabilities measured on a recurring basis using significant unobservable inputs were as follows:

| 2017<br>USD millions | Fixed income securities | Equity securities | Derivative assets | Investment real estate | Other invested assets | Total assets | Derivative liabilities | Liabilities for life and health policy benefits | Total liabilities |
|---|---|---|---|---|---|---|---|---|---|
| **Assets and liabilities** | | | | | | | | | |
| Balance as of 1 January | 1 182 | 4 | 461 | 209 | 496 | 2 352 | –664 | –144 | –808 |
| Realised/unrealised gains/losses: | | | | | | | | | |
| Included in net income | –8 | –2 | 23 | 19 | 34 | 66 | 202 | 19 | 221 |
| Included in other comprehensive income | 13 | 4 | | | 16 | 33 | | | 0 |
| Purchases | 264 | | 26 | | | 290 | | | 0 |
| Issuances | | | | | | 0 | –84 | | –84 |
| Sales | –59 | | –45 | –49 | –44 | –197 | 83 | | 83 |
| Settlements | –84 | | –79 | | –6 | –169 | –1 | | –1 |
| Transfers into level 3[1] | 45 | | | | | 45 | | | 0 |
| Transfers out of level 3[1] | –89 | –2 | | | | –91 | | | 0 |
| Impact of foreign exchange movements | 89 | | | 19 | 13 | 121 | –15 | –1 | –16 |
| **Closing balance as of 31 December** | 1 353 | 4 | 386 | 198 | 509 | 2 450 | –479 | –126 | –605 |

[1] Transfers are recognised at the date of the event or change in circumstances that caused the transfer.

| **2018**<br>USD millions | Fixed income securities | Equity securities | Derivative assets | Investment real estate | Other invested assets | **Total assets** | Derivative liabilities | Liabilities for life and health policy benefits | **Total liabilities** |
|---|---|---|---|---|---|---|---|---|---|
| **Assets and liabilities** | | | | | | | | | |
| Balance as of 1 January | 1 353 | 4 | 386 | 198 | 509 | **2 450** | –479 | –126 | **–605** |
| Realised/unrealised gains/losses: | | | | | | | | | |
| Included in net income | | | 67 | 13 | –19 | **61** | 44 | 7 | **51** |
| Included in other comprehensive income | –39 | | | | | **–39** | | | **0** |
| Purchases | 201 | | 11 | | | **212** | | | **0** |
| Issuances | | | | | | **0** | –159 | | **–159** |
| Sales | –7 | | –8 | –33 | –129 | **–177** | 23 | | **23** |
| Settlements | –44 | | –52 | | | **–96** | 48 | | **48** |
| Transfers into level 3[1] | | | | | 19 | **19** | –3 | | **–3** |
| Transfers out of level 3[1] | –18 | –4 | | | –3 | **–25** | | | **0** |
| Impact of foreign exchange movements | –68 | | | –12 | –13 | **–93** | 9 | | **9** |
| **Closing balance as of 31 December** | **1 378** | **0** | **404** | **166** | **364** | **2 312** | **–517** | **–119** | **–636** |

[1] Transfers are recognised at the date of the event or change in circumstances that caused the transfer.

### Gains and losses on assets and liabilities measured at fair value on a recurring basis using significant unobservable inputs (level 3)

The gains and losses relating to the assets and liabilities measured at fair value using significant unobservable inputs (level 3) for the years ended 31 December were as follows:

| USD millions | 2017 | **2018** |
|---|---|---|
| Gains/losses included in net income for the period | 287 | 112 |
| Whereof change in unrealised gains/losses relating to assets and liabilities still held at the reporting date | 226 | 33 |

### Quantitative information about level 3 fair value measurements

Unobservable inputs for major level 3 assets and liabilities as of 31 December were as follows:

| USD millions | 2017 Fair value | 2018 Fair value | Valuation technique | Unobservable input | Range (weighted average) |
|---|---|---|---|---|---|
| **Assets** | | | | | |
| Corporate debt securities | 1 343 | **1 370** | | | |
| Infrastructure loans | 778 | 920 | Discounted cash flow model | Valuation spread | 118–250 bps (192 bps) |
| Private placement corporate debt | 428 | 341 | Corporate spread matrix | Credit spread | 131–402 bps (247 bps) |
| Private placement credit tenant leases | 46 | 42 | Discounted cash flow model | Illiquidity premium | 125–150 bps (146 bps) |
| Derivative equity contracts | 283 | **339** | | | |
| OTC equity option referencing correlated equity indices | 283 | 339 | Proprietary option model | Correlation | –35–40% (2.5%)[1] |
| Investment real estate | 198 | **166** | Discounted cash flow model | Discount rate | 5% per annum |
| **Liabilities** | | | | | |
| Derivative equity contracts | –31 | **–43** | | | |
| OTC equity option referencing correlated equity indices | –31 | –43 | Proprietary option model | Correlation | –20–40% (10%)[1] |
| Other derivative contracts and liabilities for life and health policy benefits | –573 | **–590** | | | |
| Variable annuity and fair valued GMDB contracts | –325 | –327 | Discounted cash flow model | Risk margin | 4% (n/a) |
| | | | | Volatility | 4–42% |
| | | | | Lapse | 0.5–33% |
| | | | | Mortality adjustment | –10–0% |
| | | | | Withdrawal rate | 0–90% |
| Swap liability referencing real estate investments | –150 | –127 | Discounted cash flow model | Discount rate | 5% per annum |
| Weather contracts | –35 | –77 | Proprietary option model | Risk margin | 5–11% (9.3%) |
| | | | | Correlation | –71–56% (–0.5%) |
| | | | | Volatility (power/gas) | 28–117% (57.3%) |
| | | | | Volatility (temperature) | 96–775 (268) HDD/CAT[2] |
| | | | | Index value (temperature) | 800–4366 (2451) HDD/CAT[2] |

[1] Represents average input value for the reporting period.
[2] Heating Degree Days (HDD); Cumulative Average Temperature (CAT).

**Sensitivity of recurring level 3 measurements to changes in unobservable inputs**
The significant unobservable input used in the fair value measurement of the Group's infrastructure loans is valuation spread. A significant increase (decrease) in this input in isolation would result in a significantly lower (higher) fair value measurement. The significant unobservable input used in the fair value measurement of the Group's private placement corporate debt securities is credit spread. A significant increase (decrease) in this input in isolation would result in a significantly lower (higher) fair value measurement. The significant unobservable input used in the fair value measurement of the Group's private placement credit tenant leases is illiquidity premium. A significant increase (decrease) in this input in isolation would result in a significantly lower (higher) fair value measurement.

The significant unobservable input used in the fair value measurement of the Group's OTC equity option referencing correlated equity indices is correlation. Where the Group is long correlation risk, a significant increase (decrease) in this input in isolation would result in a significantly higher (lower) fair value measurement. Where the Group is short correlation risk, a significant increase (decrease) in this input in isolation would result in a significantly lower (higher) fair value measurement.

The significant unobservable input used in the fair value measurement of the Group's investment real estate and swap liability referencing real estate investment is the rate used to discount future cash flows from property sales. A significant increase (decrease) in this input in isolation would result in a significantly lower (higher) fair value measurement.

The significant unobservable inputs used in the fair value measurement of the Group's variable annuity and fair valued guaranteed minimum death benefit (GMDB) contracts are: risk margin, volatility, lapse, mortality adjustment rate and withdrawal rate. A significant increase (decrease) in isolation in each of the following inputs: risk margin, volatility and withdrawal rate would result in a significantly higher (lower) fair value of the Group's obligation. A significant increase (decrease) in isolation in a lapse rate for in-the-money contracts would result in a significantly lower (higher) fair value of the Group's obligation, whereas for out-of-the-money contracts, an isolated increase (decrease) in a lapse assumption would increase (decrease) fair value of the Group's obligation. Changes in the mortality adjustment rate impact the fair value of the Group's obligation differently for living-benefit products, compared to death-benefit products. For the former, a significant increase (decrease) in the mortality adjustment rate (ie increase (decrease) in mortality, respectively) in isolation would result in a decrease (increase) in fair value of the Group's liability. For the latter, a significant increase (decrease) in the mortality adjustment rate in isolation would result in an increase (decrease) in fair value of the Group's liability.

The significant unobservable inputs used in the fair value measurement of the Group's weather contracts are risk margin, correlation, volatility and index value. Where the Group has a long position, a significant increase (decrease) in the risk margin input in isolation would result in a significantly higher (lower) fair value measurement. Where the Group has a long volatility or correlation position, a significant increase (decrease) in the correlation and volatility inputs would result in a significantly higher (lower) fair value measurement. Where the Group has a long index position, an increase (decrease) in the index value input in isolation would result in a significantly higher (lower) fair value measurement. Where the Group has a short position, a significant increase (decrease) in the risk margin input in isolation would result in a significantly lower (higher) fair value measurement. Where the Group has a short volatility or correlation position, a significant increase (decrease) in the correlation and volatility inputs would result in a significantly lower (higher) fair value measurement. Where the Group has a short index position, an increase (decrease) in the index value input in isolation would result in a significantly lower (higher) fair value measurement.

**Other invested assets measured at net asset value**
Other invested assets measured at net asset value as of 31 December were as follows:

| USD millions | 2017 Fair value | **2018** Fair value | Unfunded commitments | Redemption frequency (if currently eligible) | Redemption notice period |
|---|---|---|---|---|---|
| Private equity funds | 511 | 504 | 362 | non-redeemable | n/a |
| Hedge funds | 128 | 196 | | redeemable[1] | 45–95 days[2] |
| Private equity direct | 92 | 69 | | non-redeemable | n/a |
| Real estate funds | 97 | 43 | 30 | non-redeemable | n/a |
| **Total** | 828 | **812** | **392** | | |

[1] The redemption frequency varies by position.
[2] Cash distribution can be delayed for an extended period depending on the sale of the underlyings.

The hedge fund investments employ a variety of strategies, including relative value and event-driven across various asset classes.

The private equity direct portfolio consists of equity and equity-like investments directly in other companies. These investments have no contractual term and are generally held based on financial or strategic intent.

Private equity and real estate funds generally have limitations imposed on the amount of redemptions from the fund during the redemption period due to illiquidity of the underlying investments. Fees may apply for redemptions or transferring of interest to other parties. Distributions are expected to be received from these funds as the underlying assets are liquidated over the life of the fund, which is generally from 10 to 12 years.

The redemption frequency of hedge funds varies depending on the manager as well as the nature of the underlying product. Additionally, certain funds may impose lock-up periods and redemption gates as defined in the terms of the individual investment agreement.

**Fair value option**
The fair value option under the Financial Instruments Topic permits the choice to measure specified financial assets and liabilities at fair value on an instrument-by-instrument basis. The Group elected the fair value option for positions in the following line items:

**Other invested assets**
The Group elected the fair value option for certain investments classified as equity method investees within other invested assets in the balance sheet. The Group applied the fair value option, as the investments are managed on a fair value basis. The changes in fair value of these elected investments are recorded in earnings.

**Funds held by ceding companies**
For operational efficiencies, the Group elected the fair value option for funds held by the cedent under three of its reinsurance agreements. The assets are carried at fair value and changes in fair value are reported as a component of earnings.

**Liabilities for life and health policy benefits**
The Group elected the fair value option for existing GMDB reserves related to certain variable annuity contracts which are classified as universal-life-type contracts. The Group has applied the fair value option, as the equity risk associated with those contracts is managed on a fair value basis and it is economically hedged with derivative options in the market. The liability is carried at fair value and changes in fair value attributable to instrument-specific credit risk are reported on other comprehensive income and all other changes in fair value are reported as a component of earnings.

**Other derivative liabilities**
For operational efficiencies, the Group elected the fair value option on a hybrid financial instrument, where the host contract is a debt instrument and the embedded derivative is pegged to the performance of the fund's real estate portfolio. The liability is carried at fair value and changes in fair value are reported as a component of earnings. In the balance sheet and the following fair value disclosures, this item is included under "Accrued expenses and other liabilities".

### Assets and liabilities measured at fair value pursuant to election of the fair value option

Pursuant to the election of the fair value option for the items described, the balances as of 31 December were as follows:

| USD millions | 2017 | 2018 |
|---|---|---|
| **Assets** | | |
| Other invested assets | 9 904 | 6 398 |
| of which at fair value pursuant to the fair value option | 446 | 312 |
| Funds held by ceding companies | 9 155 | 9 009 |
| of which at fair value pursuant to the fair value option | 206 | 206 |
| **Liabilities** | | |
| Liabilities for life and health policy benefits | –42 561 | –39 593 |
| of which at fair value pursuant to the fair value option | –126 | –119 |
| Accrued expenses and other liabilities | –7 190 | –6 798 |
| of which at fair value pursuant to the fair value option | –150 | –127 |

### Changes in fair values for items measured at fair value pursuant to election of the fair value option

Gains/losses included in earnings for items measured at fair value pursuant to election of the fair value option including foreign exchange impact for the years ended 31 December were as follows:

| USD millions | 2017 | 2018 |
|---|---|---|
| Other invested assets | 36 | 6 |
| Liabilities for life and health policy benefits | 19 | 6 |
| Accrued expenses and other liabilities | 20 | –11 |
| **Total** | 75 | **1** |

Fair value changes from other invested assets and funds held by ceding companies are reported in "Net investment income – non-participating business". Fair value changes from the GMDB reserves are shown in "Life and health benefits". Fair value changes from accrued expenses and other liabilities are reported in "Net realised investment gains/losses – non-participating business".

### Assets and liabilities not measured at fair value but for which the fair value is disclosed

Assets and liabilities not measured at fair value but for which the fair value is disclosed as of 31 December were as follows:

| 2017<br>USD millions | Significant other observable inputs (level 2) | Significant unobservable inputs (level 3) | Total |
|---|---|---|---|
| **Assets** | | | |
| Policy loans | | 94 | 94 |
| Mortgage loans | | 2 674 | 2 674 |
| Other loans | | 1 367 | 1 367 |
| Investment real estate | | 3 901 | 3 901 |
| **Total assets** | 0 | 8 036 | 8 036 |
| | | | |
| **Liabilities** | | | |
| Debt | –7 607 | –5 074 | –12 681 |
| **Total liabilities** | –7 607 | –5 074 | –12 681 |

| **2018**<br>USD millions | Significant other observable inputs (level 2) | Significant unobservable inputs (level 3) | Total |
|---|---|---|---|
| **Assets** | | | |
| Policy loans | | 84 | 84 |
| Mortgage loans | | 2 882 | 2 882 |
| Other loans | | 1 587 | 1 587 |
| Investment real estate | | 4 141 | 4 141 |
| **Total assets** | **0** | **8 694** | **8 694** |
| | | | |
| **Liabilities** | | | |
| Debt | –7 576 | –4 109 | –11 685 |
| **Total liabilities** | **–7 576** | **–4 109** | **–11 685** |

Policy loans, other loans and certain mortgage loans are classified as level 3 measurements, as they do not have an active exit market. Some of these positions need to be assessed in conjunction with the corresponding insurance business, whilst the fair value of some other positions does not differ materially from the carrying amount. Considering these circumstances for these positions, the Group presents the carrying amount as an approximation for the fair value. For certain commercial mortgage loans and infrastructure loans, which are included in mortgage loans and other loans respectively, the fair value can be estimated using discounted cash flow models which are based on discount curves and spread inputs that require management's judgement.

Investments in real estate are fair valued primarily by external appraisers based on proprietary discounted cash flow models that incorporate applicable risk premium adjustments to discount yields and projected market rental income streams based on market-specific data. These fair value measurements are classified in level 3 in the fair value hierarchy.

Debt positions, which are fair valued based on executable broker quotes or the discounted cash flow method using observable inputs, are classified as level 2 measurements. Fair value of the majority of the Group's level 3 debt positions is judged to approximate carrying value due to the highly tailored nature of the obligation and short-notice termination provisions.

# 9 Derivative financial instruments

The Group uses a variety of derivative financial instruments including swaps, options, forwards, credit derivatives and exchange-traded financial futures in its trading and hedging strategies, in line with the Group's overall risk management strategy. The objectives include managing exposure to price, foreign currency and/or interest rate risk on planned or anticipated investment purchases, existing assets or liabilities, as well as locking in attractive investment conditions for future available funds.

The fair values represent the gross carrying value amounts at the reporting date for each class of derivative contract held or issued by the Group. The gross fair values are not an indication of credit risk, as many over-the-counter transactions are contracted and documented under ISDA master agreements or their equivalent. Management believes that such agreements provide for legally enforceable set-off in the event of default, which substantially reduces credit exposure.

## Fair values and notional amounts of derivative financial instruments

As of 31 December, the fair values and notional amounts of the derivatives outstanding were as follows:

| 2017<br>USD millions | Notional amount assets/liabilities | Fair value assets | Fair value liabilities | Carrying value assets/liabilities |
|---|---|---|---|---|
| **Derivatives not designated as hedging instruments** | | | | |
| Interest rate contracts[1] | 48 904 | 524 | –404 | 120 |
| Foreign exchange contracts[1] | 16 874 | 206 | –137 | 69 |
| Equity contracts[1] | 17 135 | 780 | –673 | 107 |
| Credit contracts | 4 194 | 1 | –79 | –78 |
| Other contracts | 12 432 | 98 | –447 | –349 |
| **Total** | 99 539 | 1 609 | –1 740 | –131 |
| **Derivatives designated as hedging instruments** | | | | |
| Foreign exchange contracts | 12 362 | 101 | –184 | –83 |
| **Total** | 12 362 | 101 | –184 | –83 |
| **Total derivative financial instruments** | 111 901 | 1 710 | –1 924 | –214 |
| **Amount offset** | | | | |
| Where a right of set-off exists | | –801 | 801 | |
| Due to cash collateral | | –375 | 541 | |
| **Total net amount of derivative financial instruments** | | 534 | –582 | –48 |

| **2018**<br>USD millions | Notional amount assets/liabilities | Fair value assets | Fair value liabilities | Carrying value assets/liabilities |
|---|---|---|---|---|
| **Derivatives not designated as hedging instruments** | | | | |
| Interest rate contracts[1] | 52 719 | 441 | –326 | 115 |
| Foreign exchange contracts[1] | 19 415 | 186 | –148 | 38 |
| Equity contracts[1] | 12 493 | 719 | –538 | 181 |
| Credit contracts | 379 | | –1 | –1 |
| Other contracts | 11 385 | 61 | –471 | –410 |
| **Total** | **96 391** | **1 407** | **–1 484** | **–77** |
| **Derivatives designated as hedging instruments** | | | | |
| Foreign exchange contracts | 12 679 | 213 | –21 | 192 |
| **Total** | **12 679** | **213** | **–21** | **192** |
| **Total derivative financial instruments** | **109 070** | **1 620** | **–1 505** | **115** |
| **Amount offset** | | | | |
| Where a right of set-off exists | | –623 | 623 | |
| Due to cash collateral | | –429 | 300 | |
| **Total net amount of derivative financial instruments** | | **568** | **–582** | **–14** |

[1] During 2018, the Group revised its methodology on the calculation of notional amounts for interest rate derivatives. The revision has no impact on the income statement or balance sheet of the Group. Comparative information for 2017 has been adjusted accordingly.

The notional amounts of derivative financial instruments give an indication of the Group's volume of derivative activity. The fair value assets are included in "Other invested assets" and "Investments for unit-linked and with-profit business", and the fair value liabilities are included in "Accrued expenses and other liabilities". The fair value amounts that were not offset were nil as of 31 December 2017 and 2018.

## Non-hedging activities

The Group primarily uses derivative financial instruments for risk management and trading strategies. Gains and losses of derivative financial instruments not designated as hedging instruments are recorded in "Net realised investment gains/losses — non-participating business" and "Net investment result — unit-linked and with-profit business" in the income statement. For the years ended 31 December, the gains and losses of derivative financial instruments not designated as hedging instruments were as follows:

| USD millions | 2017 | 2018 |
|---|---|---|
| **Derivatives not designated as hedging instruments** | | |
| Interest rate contracts | 43 | –178 |
| Foreign exchange contracts | 301 | –60 |
| Equity contracts | –254 | 30 |
| Credit contracts | –25 | –7 |
| Other contracts | 287 | 73 |
| **Total gains/losses recognised in income** | 352 | **–142** |

## Hedging activities

The Group designates certain derivative financial instruments as hedging instruments. The designation of derivative financial instruments is primarily used for overall portfolio and risk management strategies. As of 31 December 2017 and 2018, the following hedging relationships were outstanding:

### Fair value hedges

The Group enters into foreign exchange swaps to reduce the exposure to foreign exchange volatility for certain fixed income securities. These derivative instruments are designated as hedging instruments in qualifying fair value hedges. Gains and losses on derivative financial instruments designated as fair value hedging instruments are recorded in "Net realised investment gains/losses — non-participating business" in the income statement. For the years ended 31 December, the gains and losses attributable to the hedged risks were as follows:

| | | 2017 | | 2018 |
|---|---|---|---|---|
| USD millions | Gains/losses on derivatives | Gains/losses on hedged items | Gains/losses on derivatives | Gains/losses on hedged items |
| **Fair value hedging relationships** | | | | |
| Foreign exchange contracts | –577 | 577 | 430 | –430 |
| **Total gains/losses recognised in income** | –577 | 577 | **430** | **–430** |

### Cash flow hedges

The Group entered into cross-currency swaps to reduce the exposure to foreign exchange volatility for a long-term debt instrument issued in the second quarter of 2016 and a portfolio of foreign currency denominated corporate bonds. These derivative instruments are designated as cash flow hedging instruments.

For the year ended 31 December 2018, the Group recorded a gain of USD 25 million on derivatives in accumulated other comprehensive income. For the year ended 31 December 2018, the Group reclassified a gain of USD 10 million from accumulated other comprehensive income into income.

As of 31 December 2018, the maximum length of time over which the Group hedged its exposure to the variability in future cash flows for forecasted transactions, excluding those forecasted transactions related to the payment of variable interest on existing financial instruments, was eight years.

The Group believes that the net gains and losses associated with cash flow hedges expected to be reclassified from accumulated other comprehensive income within the next twelve months cannot be reasonably estimated as they relate to foreign exchange volatility.

### Hedges of the net investment in foreign operations

The Group designates derivative and non-derivative monetary financial instruments as hedging the foreign currency exposure of its net investment in certain foreign operations.

For the years ended 31 December 2017 and 2018, the Group recorded an accumulated net unrealised foreign currency remeasurement gain of USD 1 552 million and USD 2 102 million, respectively, in shareholders' equity. These offset translation gains and losses on the hedged net investment.

### Maximum potential loss
In consideration of the rights of set-off and the qualifying master netting arrangements with various counterparties, the maximum potential loss as of 31 December 2017 and 2018 was approximately USD 909 million and USD 997 million, respectively. The maximum potential loss is based on the positive market replacement cost assuming non-performance of all counterparties, excluding cash collateral.

### Credit risk-related contingent features
Certain derivative instruments held by the Group contain provisions that require its debt to maintain an investment-grade credit rating. If the Group's credit rating were downgraded or no longer rated, the counterparties could request immediate payment, guarantee or an ongoing full overnight collateralisation on derivative instruments in net liability positions.

The total fair value of derivative financial instruments containing credit risk-related contingent features amounted to USD 102 million and USD 108 million as of 31 December 2017 and 2018, respectively. For derivative financial instruments containing credit risk-related contingent features, the Group posted collateral of nil as of 31 December 2017 and 2018, respectively. In the event of a reduction of the Group's credit rating to below investment grade, a fair value of USD 108 million additional collateral would have had to be posted as of 31 December 2018. The total equals the amount needed to settle the instruments immediately as of 31 December 2018.

# 10 Acquisitions

**Bradesco Seguros, S.A.**

On 3 July 2017, the Group and Bradesco Seguros, S.A. (Bradesco) entered into a partnership combining the large commercial risk business of Bradesco with Swiss Re Corporate Solutions Brasil Seguros S.A. (SRCSB). Upon closing this transaction, SRCSB became one of the leading insurers in the commercial large-risk insurance market in Brazil. The acquisition cost was BRL 210 million paid in cash and 40% shares of SRCSB. The transaction includes Bradesco's related operations, its team of experts and a business portfolio, including existing, new and renewal business.

This transaction strengthens the Group's position in the Brazilian commercial insurance market by combining two diversified portfolios and securing a sustainable and large distribution channel.

# 11 Debt and contingent capital instruments

The Group enters into long- and short-term debt arrangements to obtain funds for general corporate use and specific transaction financing. The Group defines short-term debt as debt having a maturity at the balance sheet date of not greater than one year and long-term debt as having a maturity of greater than one year. For subordinated debt positions, maturity is defined as the first optional redemption date (notwithstanding that optional redemption could be subject to regulatory consent). Interest expense is classified accordingly.

The Group's debt as of 31 December was as follows:

| USD millions | 2017 | 2018 |
|---|---|---|
| Senior financial debt | 433 | 235 |
| Subordinated financial debt[1] | | 637 |
| Contingent capital instruments classified as financial debt[1] | | 761 |
| **Short-term debt** | 433 | **1 633** |
| | | |
| Senior financial debt | 3 781 | 3 428 |
| Senior operational debt | 390 | 388 |
| Subordinated financial debt[1] | 2 632 | 1 892 |
| Subordinated operational debt | 2 370 | 2 112 |
| Contingent capital instruments classified as financial debt[1] | 975 | 682 |
| **Long-term debt** | 10 148 | **8 502** |
| | | |
| **Total carrying value** | 10 581 | **10 135** |
| **Total fair value** | 12 681 | **11 685** |

[1] Certain items previously described within the disclosure table as subordinated financial debt or convertible debt are now included as contingent capital instruments classified as financial debt. Comparative information for 2017 has been amended accordingly.

As of 31 December 2017 and 2018, operational debt, ie debt related to operational leverage, amounted to USD 2.8 billion (thereof USD 2.4 billion limited- or non-recourse) and USD 2.5 billion (thereof USD 2.1 billion limited- or non-recourse), respectively. Operational leverage is subject to asset/liability matching and is excluded from rating agency financial leverage calculations.

### Maturity of long-term debt

As of 31 December, long-term debt as reported above had the following maturities:

| USD millions | 2017 | 2018 |
|---|---|---|
| Due in 2019 | 2 341 | 0 |
| Due in 2020 | 197 | 188 |
| Due in 2021 | 213 | 816 |
| Due in 2022 | 845 | 817 |
| Due in 2023 | 897 | 855 |
| Due after 2023 | 5 655 | 5 826 |
| **Total carrying value** | 10 148 | **8 502** |

## Senior long-term debt

| Maturity | Instrument | Issued in | Currency | Nominal in millions | Interest rate | Book value in USD millions |
|---|---|---|---|---|---|---|
| 2021 | Syndicated senior bank loans | 2018 | GBP | 468 | variable | 596 |
| 2022 | Senior notes | 2012 | USD | 250 | 2.88% | 249 |
| 2023 | Senior notes | 2016 | EUR | 750 | 1.38% | 853 |
| 2024 | EMTN | 2014 | CHF | 250 | 1.00% | 253 |
| 2026 | Senior notes[1] | 1996 | USD | 397 | 7.00% | 476 |
| 2027 | EMTN | 2015 | CHF | 250 | 0.75% | 254 |
| 2030 | Senior notes[1] | 2000 | USD | 193 | 7.75% | 257 |
| 2042 | Senior notes | 2012 | USD | 500 | 4.25% | 490 |
| Various | Payment undertaking agreements | various | USD | 344 | various | 388 |
| **Total senior long-term debt as of 31 December 2018** | | | | | | **3 816** |
| Total senior long-term debt as of 31 December 2017 | | | | | | 4 171 |

[1] Assumed in the acquisition of GE Insurance Solutions.

## Subordinated long-term debt

| Maturity | Instrument | Issued in | Currency | Nominal in millions | Interest rate | First call in | Book value in USD millions |
|---|---|---|---|---|---|---|---|
| 2042 | Subordinated fixed-to-floating rate loan note | 2012 | EUR | 500 | 6.63% | 2022 | 568 |
| 2044 | Subordinated fixed rate resettable callable loan note | 2014 | USD | 500 | 4.50% | 2024 | 498 |
| 2057 | Subordinated private placement (amortising, limited recourse) | 2007 | GBP | 1 658 | 5.28% | | 2 112 |
| | Perpetual subordinated fixed-to-floating rate callable loan note | 2015 | EUR | 750 | 2.60% | 2025 | 826 |
| **Total subordinated long-term debt as of 31 December 2018** | | | | | | | **4 004** |
| Total subordinated long-term debt as of 31 December 2017[1] | | | | | | | 5 002 |

[1] Certain items previously described within the disclosure table as subordinated long-term debt are now included as contingent capital instruments classified as long-term debt. Comparative information for 2017 has been amended accordingly.

## Contingent capital instruments classified as long-term debt

| Maturity | Instrument | Issued in | Currency | Nominal in millions | Interest rate | First call in | Book value in USD millions |
|---|---|---|---|---|---|---|---|
| 2024 | Senior unsecured exchangeable instrument with issuer stock settlement | 2018 | USD | 500 | 3.25% | | 494 |
| 2045 | Subordinated contingent write-off securities | 2013 | CHF | 175 | 7.50% | 2020 | 188 |
| **Total contingent capital instruments classified as long-term debt as of 31 December 2018** | | | | | | | **682** |
| Total contingent capital instruments classified as long-term debt as of 31 December 2017[1] | | | | | | | 975 |

[1] Certain items previously described within the disclosure table as subordinated long-term debt are now included as contingent capital instruments classified as long-term debt. Comparative information for 2017 has been amended accordingly.

**Interest expense on long-term debt and contingent capital instruments classified as equity**

Interest expense on long-term debt for the years ended 31 December was as follows:

| USD millions | 2017 | 2018 |
|---|---|---|
| Senior financial debt | 114 | 100 |
| Senior operational debt | 11 | 11 |
| Subordinated financial debt[1] | 128 | 108 |
| Subordinated operational debt | 114 | 118 |
| Contingent capital instruments classified as financial debt[1] | 38 | 38 |
| **Total** | 405 | **375** |

[1] Certain items previously described within the disclosure table as subordinated financial debt or convertible debt are now included as contingent capital instruments classified as financial debt. Comparative information for 2017 has been amended accordingly.

In addition to the above, interest expense on contingent capital instruments classified as equity was USD 67 million and USD 41 million for the years ended 31 December 2017 and 2018, respectively.

**Long-term debt issued in 2018**

In June 2018, Swiss Re Ltd issued a six-year senior unsecured exchangeable instrument with issuer stock settlement. The instrument has a face value of USD 500 million, with a fixed coupon of 3.25% per annum payable semi-annually in arrear until the maturity date (13 June 2024). The interest expense was USD 10 million for the year ended 31 December 2018. In limited circumstances, the instrument may be redeemed early, in cash. Noteholders have a put option requiring the issuer to redeem the instrument at par if a delisting, nationalisation or change of control occurs. The higher of the par value and the fair market value of the instrument may be stock-settled, at any time at the option of the issuer, by delivering Swiss Re Ltd shares at a prevailing share price which uses a forward-looking 15 trading day volume-weighted average share price with a 1% discount. If the issuer stock settlement option is exercised at a time when the Group's, or the issuer's, regulatory solvency ratio calculated under the Swiss Solvency Test is less than 160%, the prevailing share price is subject to a share price floor of USD 44.3305. After year five, holders of the instrument have the unrestricted option (and prior to year five, a restricted option) to exchange the instrument for Swiss Re Ltd shares at the prevailing exchange price, which is initially set at USD 115.2593, representing a premium of 30% to the reference share price, which used a forward-looking ten trading day volume-weighted average share price commencing on 7 June 2018. The number of Swiss Re Ltd shares to be delivered upon a noteholder-initiated exchange will be determined by dividing the principal amount of the instrument held by such noteholder by the prevailing exchange price at the time. The issuer may elect to settle a noteholder exchange in cash or Swiss Re Ltd shares. The share price floor and the exchange price are subject to customary anti-dilution adjustments. To economically hedge the settlement of a noteholder-initiated exchange (in cash or in Swiss Re Ltd shares), Swiss Re Ltd purchased matching call options in an aggregate amount of USD 500 million with an expiry date of 13 June 2024 on Swiss Re Ltd shares with a portion of the proceeds of the offering through an internal call option entered through Swiss Reinsurance Company Ltd with external banks. Consequently, no new Swiss Re Ltd shares will be issued upon a noteholder-initiated exchange. Both the noteholder-initiated exchange option and the matching call options are accounted as equity within Swiss Re Ltd.

In June 2018, Swiss Re ReAssure Limited entered into a GBP 550 million revolving credit facility with a syndicate of banks. The facility has an expiry date of 26 June 2021. At 29 June 2018, the amount drawn under the facility was GBP 468 235 294. This revolving credit facility replaces the previous GBP 550 million revolving credit facility that Swiss Re ReAssure Limited (formerly known as Swiss Re Admin Re Limited) had entered into in April 2016.

**Contingent capital instruments classified as equity**

In March 2012, Swiss Reinsurance Company Ltd issued a perpetual subordinated capital instrument with issuer stock settlement, a face value of USD 750 million and a fixed coupon of 8.25% per annum. This capital instrument was redeemed on 1 September 2018.

# 12 Earnings per share

Most jurisdictions require reinsurers to maintain a minimum amount of capital in excess of the statutory definition of net assets or maintain certain minimum capital and surplus levels. In addition, some jurisdictions place certain restrictions on amounts that may be loaned or transferred to the parent company. The Group's ability to pay dividends may be restricted by these requirements.

Dividends are declared in Swiss francs. During the years ended 31 December 2017 and 2018, the Group paid dividends per share of CHF 4.85 and CHF 5.00, respectively.

Earnings per share for the years ended 31 December were as follows:

| USD millions (except share data) | 2017 | 2018 |
|---|---|---|
| **Basic earnings per share** | | |
| Net income | 393 | 481 |
| Non-controlling interests | 5 | –19 |
| Interest on contingent capital instruments[1] | –67 | –41 |
| Net income attributable to common shareholders | 331 | 421 |
| Weighted average common shares outstanding | 320 811 238 | 306 841 773 |
| **Net income per share in USD** | 1.03 | 1.37 |
| **Net income per share in CHF[2]** | 1.02 | 1.34 |
| | | |
| **Effect of dilutive securities** | | |
| Change in income available to common shares due to contingent capital instruments[1] | | 8 |
| Change in average number of shares due to contingent capital instruments | | 6 203 404 |
| Change in average number of shares due to employee options | 514 803 | 604 473 |
| | | |
| **Diluted earnings per share** | | |
| Net income assuming debt conversion and exercise of options | 331 | 429 |
| Weighted average common shares outstanding | 321 326 041 | 313 649 650 |
| **Net income per share in USD** | 1.03 | 1.37 |
| **Net income per share in CHF[2]** | 1.01 | 1.34 |

[1] Please refer to Note 11 "Debt and contingent capital instruments".
[2] The translation from USD to CHF is shown for informational purposes only and has been calculated using the Group's average exchange rates.

At the 153rd Annual General Meeting held on 21 April 2017 and at the 154th Annual General Meeting held on 20 April 2018, the Group's shareholders authorised the Group Board of Directors to repurchase up to a maximum CHF 1 billion purchase value of the Group's own shares by way of a public buy-back programme for cancellation purposes prior to the 2018 and 2019 Annual General Meetings, respectively.

The public share buy-back programme approved by the 2017 Annual General Meeting was completed on 16 February 2018. The total number of shares repurchased amounted to 10.8 million, of which 6.3 million and 4.5 million shares were repurchased as of 31 December 2017 and between 1 January and 16 February 2018, respectively. On 20 April 2018, the 154th Annual General Meeting resolved the cancellation of the repurchased 10.8 million shares by way of share capital reduction. The shares were cancelled as of 24 July 2018, after completion of the procedure in respect of a share capital reduction as set forth in Article 732 et seqq. of the Swiss Code of Obligations.

The public share buy-back programme approved by the 2018 Annual General Meeting was completed on 15 February 2019. The total number of shares repurchased amounted to 11.2 million, of which 10 million and 1.2 million shares were repurchased as of 31 December 2018 and between 1 January and 15 February 2019, respectively.

Net of tax expense effects from contingent capital instruments, totalling USD 41 million in 2018, and the potential impact of these instruments on the weighted average number of shares, of 15 625 000 shares, have not been included in the diluted earnings per share calculation because the impact of such an inclusion was antidilutive.

# 13 Income taxes

The Group is generally subject to corporate income taxes based on the taxable net income in various jurisdictions in which it operates. The components of the income tax expense were:

| USD millions | 2017 | 2018 |
|---|---|---|
| Current taxes | 727 | 636 |
| Deferred taxes | –595 | –567 |
| **Income tax expense** | 132 | **69** |

### Tax rate reconciliation

The following table reconciles the expected tax expense at the Swiss statutory tax rate to the actual tax expense in the accompanying income statement:

| USD millions | 2017 | 2018 |
|---|---|---|
| Income tax at the Swiss statutory tax rate of 21.0% | 110 | 115 |
| Increase (decrease) in the income tax charge resulting from: | | |
| Foreign income taxed at different rates | 11 | 122 |
| Impact of foreign exchange movements | 71 | –64 |
| Tax exempt income/dividends received deduction | –51 | –61 |
| Change in valuation allowance | –77 | –92 |
| Non-deductible expenses | 57 | 55 |
| Change in statutory rate | –60 | 25 |
| Change in liability for unrecognised tax benefits including interest and penalties | 13 | 72 |
| Intra-entity transfers | 16 | –68 |
| Other, net[1] | 42 | –35 |
| **Total** | 132 | **69** |

[1] Other, net includes tax return to tax provision adjustments from various jurisdictions.

For the year ended 31 December 2018, the Group reported a tax charge of USD 69 million on a pre-tax income of USD 550 million, compared to a charge of USD 132 million on a pre-tax income of USD 525 million for 2017. This translates into an effective tax rate in the current and prior-year reporting periods of 12.5% and 25.1%, respectively.

For the year ended 31 December 2018, the tax rate was largely driven by tax benefits from foreign currency translation differences between statutory and US GAAP accounts, the releases of valuation allowances on net operating losses and tax benefits from intra-entity transfers, partially offset by the impact of different rates in various jurisdictions and tax charges from unrecognised tax benefits. The higher rate in the year ended 31 December 2017 was largely driven by tax charges from currency translation differences between statutory and US GAAP accounts, impacts from unrecognised tax benefits and recognition of deferred tax charges from intra-entity transfers, partially offset by tax benefits from US tax law changes.

## Deferred and other non-current taxes

The components of deferred and other non-current taxes were as follows:

| USD millions | 2017 | 2018 |
|---|---|---|
| **Deferred tax assets** | | |
| Income accrued/deferred | 259 | 212 |
| Technical provisions | 488 | 560 |
| Pension provisions | 313 | 293 |
| Benefit on loss carryforwards | 2 296 | 2 675 |
| Currency translation adjustments | 490 | 423 |
| Unrealised gains in income | 487 | 424 |
| Other | 981 | 1 212 |
| **Gross deferred tax asset** | 5 314 | 5 799 |
| Valuation allowance | –475 | –366 |
| Unrecognised tax benefits offsetting benefits on loss carryforwards | –22 | –22 |
| **Total deferred tax assets** | 4 817 | **5 411** |
| | | |
| **Deferred tax liabilities** | | |
| Present value of future profits | –322 | –294 |
| Income accrued/deferred | –473 | –199 |
| Investment valuation in income | –535 | –382 |
| Deferred acquisition costs | –918 | –1 071 |
| Technical provisions | –2 191 | –2 264 |
| Unrealised gains on investments | –984 | –584 |
| Foreign exchange provisions | –507 | –602 |
| Other | –807 | –780 |
| **Total deferred tax liabilities** | –6 737 | **–6 176** |
| | | |
| Liability for unrecognised tax benefits including interest and penalties | –238 | –295 |
| **Total deferred and other non-current tax liabilities** | –6 975 | **–6 471** |

As of 31 December 2018, the aggregate amount of temporary differences associated with investment in subsidiaries, branches and associates and interests in joint ventures, for which deferred tax liabilities have not been recognised amount to approximately USD 3 billion. In the remote scenario in which these temporary differences were to reverse simultaneously, the resulting tax liabilities would be very limited due to participation exemption rules.

As of 31 December 2018, the Group had USD 11 649 million net operating tax loss carryforwards, expiring as follows: USD 5 million in 2019, USD 17 million in 2020, USD 9 million in 2021, USD 7 million in 2022, USD 7 128 million in 2023 and beyond, and USD 4 483 million never expire.

As of 31 December 2018, the Group had capital loss carryforwards of USD 1 084 million, expiring as follows: USD 3 million in 2020, USD 4 million in 2021, USD 39 million in 2023, and USD 1 038 million never expire.

For the year ended 31 December 2018, net operating tax losses of USD 487 million and net capital tax losses of USD 117 million were utilised.

Income taxes paid in 2017 and 2018 were USD 720 million and USD 740 million, respectively.

### Unrecognised tax benefits

A reconciliation of the opening and closing amount of gross unrecognised tax benefits (excluding interest and penalties) is as follows:

| USD millions | 2017 | 2018 |
|---|---|---|
| Balance as of 1 January | 216 | 206 |
| Additions based on tax positions related to current year | 24 | 49 |
| Additions based on tax positions related to prior years | 16 | 57 |
| Reductions for tax positions of current year | –9 | –8 |
| Reductions for tax positions of prior years | –12 | –15 |
| Statute expiration | –9 | –19 |
| Settlements | –29 | –7 |
| Other (including foreign currency translation) | 9 | –6 |
| **Balance as of 31 December** | 206 | **257** |

As of 31 December 2017 and 2018, the amount of gross unrecognised tax benefits within the tabular reconciliation that, if recognised, would affect the effective tax rate were approximately USD 206 million and USD 257 million, respectively.

Interest and penalties related to unrecognised tax benefits are recorded in income tax expense. For the years ended 31 December 2017 and 2018, such expenses were USD 2 million and USD 7 million, respectively. For the years ended 31 December 2017 and 2018, USD 54 million and USD 60 million, respectively, were accrued for the payment of interest (net of tax benefits) and penalties. The accrued interest balance as of 31 December 2018 is included within the deferred and other non-current taxes section reflected above and in the balance sheet.

The balance of gross unrecognised tax benefits as of 31 December 2018 presented in the table above excludes accrued interest and penalties (USD 60 million).

During the year, certain tax positions and audits in Switzerland, Australia and France were effectively settled.

The Group continually evaluates proposed adjustments by taxing authorities. The Group believes that it is reasonably possible (more than remote and less than likely) that the balance of unrecognised tax benefits could increase or decrease over the next 12 months due to settlements or expiration of statutes. However, quantification of an estimated range cannot be made at this time.

The following table summarises jurisdictions and tax years that remain subject to examination:

| | | | |
|---|---|---|---|
| Australia | 2013–2018 | Korea | 2013–2018 |
| Brazil | 2013–2018 | Luxembourg | 2014–2018 |
| Canada | 2011–2018 | Malaysia | 2009–2018 |
| China | 2009–2018 | Mexico | 2013–2018 |
| Colombia | 2012–2018 | Netherlands | 2014–2018 |
| Denmark | 2013–2018 | New Zealand | 2013–2018 |
| France | 2016–2018 | Nigeria | 2016–2018 |
| Germany | 2014–2018 | Singapore | 2013–2018 |
| Hong Kong | 2013–2018 | Slovakia | 2014–2018 |
| India | 2006–2018 | South Africa | 2014–2018 |
| Ireland | 2014–2018 | Spain | 2014–2018 |
| Israel | 2014–2018 | Switzerland | 2015–2018 |
| Italy | 2013–2018 | United Kingdom | 2008, 2011–2018 |
| Japan | 2013–2018 | United States | 2011–2018 |

# 14 Benefit plans

### Defined benefit pension plans and post-retirement benefits

The Group sponsors various funded defined benefit pension plans. Employer contributions to the plans are charged to income on a basis which recognises the costs of pensions over the expected service lives of employees covered by the plans. The Group's funding policy for these plans is to contribute annually at a rate that is intended to maintain a level percentage of compensation for the employees covered. A full valuation is prepared at least every three years.

The Group also provides certain healthcare and life insurance benefits for retired employees and their dependants. Employees become eligible for these benefits when they become eligible for pension benefits.

The measurement date of these plans is 31 December for each year presented.

| 2017<br>USD millions | Swiss plan | Foreign plans | Other benefits | Total |
|---|---|---|---|---|
| Benefit obligation as of 1 January | 3 916 | 2 358 | 369 | 6 643 |
| Service cost | 111 | 8 | 4 | 123 |
| Interest cost | 24 | 69 | 9 | 102 |
| Amendments | –55 | | –3 | –58 |
| Actuarial gains/losses | –57 | –48 | 42 | –63 |
| Benefits paid | –185 | –78 | –17 | –280 |
| Employee contribution | 26 | | | 26 |
| Effect of settlement, curtailment and termination | 2 | –20 | | –18 |
| Effect of foreign currency translation | 166 | 175 | 9 | 350 |
| **Benefit obligation as of 31 December** | 3 948 | 2 464 | 413 | 6 825 |
| | | | | |
| Fair value of plan assets as of 1 January | 3 532 | 2 257 | 0 | 5 789 |
| Actual return on plan assets | 264 | 167 | | 431 |
| Company contribution | 95 | 61 | 17 | 173 |
| Benefits paid | –185 | –78 | –17 | –280 |
| Employee contribution | 26 | | | 26 |
| Effect of settlement, curtailment and termination | 2 | –20 | | –18 |
| Effect of foreign currency translation | 153 | 178 | | 331 |
| **Fair value of plan assets as of 31 December** | 3 887 | 2 565 | 0 | 6 452 |
| **Funded status** | –61 | 101 | –413 | –373 |

| **2018**<br>USD millions | Swiss plan | Foreign plans | Other benefits | Total |
|---|---|---|---|---|
| Benefit obligation as of 1 January | 3 948 | 2 464 | 413 | 6 825 |
| Service cost | 120 | 8 | 5 | 133 |
| Interest cost | 23 | 68 | 9 | 100 |
| Amendments | | 1 | –61 | –60 |
| Actuarial gains/losses | –43 | –81 | –25 | –149 |
| Benefits paid | –202 | –91 | –18 | –311 |
| Employee contribution | 25 | | | 25 |
| Effect of settlement, curtailment and termination | 4 | | | 4 |
| Effect of foreign currency translation | –43 | –99 | –4 | –146 |
| **Benefit obligation as of 31 December** | **3 832** | **2 270** | **319** | **6 421** |
| | | | | |
| Fair value of plan assets as of 1 January | 3 887 | 2 565 | 0 | 6 452 |
| Actual return on plan assets | –73 | –46 | | –119 |
| Company contribution | 162 | 16 | 18 | 196 |
| Benefits paid | –202 | –91 | –18 | –311 |
| Employee contribution | 25 | | | 25 |
| Effect of settlement, curtailment and termination | 4 | | | 4 |
| Effect of foreign currency translation | –43 | –108 | | –151 |
| **Fair value of plan assets as of 31 December** | **3 760** | **2 336** | **0** | **6 096** |
| **Funded status** | **–72** | **66** | **–319** | **–325** |

Amounts recognised in "Other assets" and "Accrued expenses and other liabilities" in the Group's balance sheet as of 31 December were as follows:

| 2017<br>USD millions | Swiss plan | Foreign plans | Other benefits | Total |
|---|---|---|---|---|
| Non-current assets | | 278 | | 278 |
| Current liabilities | | –3 | –18 | –21 |
| Non-current liabilities | –61 | –174 | –395 | –630 |
| **Net amount recognised** | –61 | 101 | –413 | –373 |

| **2018**<br>USD millions | Swiss plan | Foreign plans | Other benefits | Total |
|---|---|---|---|---|
| Non-current assets | | 238 | | 238 |
| Current liabilities | | –3 | –17 | –20 |
| Non-current liabilities | –72 | –169 | –302 | –543 |
| **Net amount recognised** | **–72** | **66** | **–319** | **–325** |

Amounts recognised in accumulated other comprehensive income, gross of tax, as of 31 December were as follows:

| 2017<br>USD millions | Swiss plan | Foreign plans | Other benefits | Total |
|---|---|---|---|---|
| Net gain/loss | 805 | 375 | 13 | 1 193 |
| Prior service cost/credit | –115 | 2 | | –113 |
| **Total** | 690 | 377 | 13 | 1 080 |

| **2018**<br>USD millions | Swiss plan | Foreign plans | Other benefits | Total |
|---|---|---|---|---|
| Net gain/loss | 864 | 393 | –12 | 1 245 |
| Prior service cost/credit | –100 | 3 | –61 | –158 |
| **Total** | **764** | **396** | **–73** | **1 087** |

## Components of net periodic benefit cost

The components of pension and post-retirement cost for the years ended 31 December were as follows:

| 2017<br>USD millions | Swiss plan | Foreign plans | Other benefits | Total |
|---|---|---|---|---|
| Service cost (net of participant contributions) | 111 | 8 | 4 | 123 |
| Interest cost | 24 | 69 | 9 | 102 |
| Expected return on assets | –90 | –78 | | –168 |
| Amortisation of: | | | | |
| Net gain/loss | 77 | 35 | –1 | 111 |
| Prior service cost | –9 | | | –9 |
| Effect of settlement, curtailment and termination | 2 | | –61 | –59 |
| **Net periodic benefit cost** | 115 | 34 | –49 | 100 |

| **2018**<br>USD millions | Swiss plan | Foreign plans | Other benefits | Total |
|---|---|---|---|---|
| Service cost (net of participant contributions) | 120 | 8 | 5 | 133 |
| Interest cost | 23 | 68 | 9 | 100 |
| Expected return on assets | –93 | –85 | | –178 |
| Amortisation of: | | | | |
| Net gain/loss | 64 | 19 | | 83 |
| Prior service cost | –15 | | | –15 |
| Effect of settlement, curtailment and termination | 4 | | | 4 |
| **Net periodic benefit cost** | **103** | **10** | **14** | **127** |

Other changes in plan assets and benefit obligations recognised in other comprehensive income for the years ended 31 December were as follows:

| 2017<br>USD millions | Swiss plan | Foreign plans | Other benefits | Total |
|---|---|---|---|---|
| Net gain/loss | –231 | –137 | 42 | –326 |
| Prior service cost/credit | –55 | | –3 | –58 |
| Amortisation of: | | | | |
| Net gain/loss | –77 | –35 | 1 | –111 |
| Prior service cost | 9 | | | 9 |
| Effect of settlement, curtailment and termination | | | 61 | 61 |
| Exchange rate gain/loss recognised during the year | | 34 | | 34 |
| **Total recognised in other comprehensive income, gross of tax** | –354 | –138 | 101 | –391 |
| **Total recognised in net periodic benefit cost and other comprehensive income, gross of tax** | –239 | –104 | 52 | –291 |

| **2018**<br>USD millions | Swiss plan | Foreign plans | Other benefits | Total |
|---|---|---|---|---|
| Net gain/loss | 123 | 50 | –25 | 148 |
| Prior service cost/credit | | 1 | –61 | –60 |
| Amortisation of: | | | | |
| Net gain/loss | –64 | –19 | | –83 |
| Prior service cost | 15 | | | 15 |
| Effect of settlement, curtailment and termination | | | | 0 |
| Exchange rate gain/loss recognised during the year | | –13 | | –13 |
| **Total recognised in other comprehensive income, gross of tax** | **74** | **19** | **–86** | **7** |
| **Total recognised in net periodic benefit cost and other comprehensive income, gross of tax** | **177** | **29** | **–72** | **134** |

The estimated net loss and prior service credit for the defined benefit pension plans that will be amortised from accumulated other comprehensive income into net periodic benefit cost in 2019 are USD 56 million and USD 15 million, respectively. The estimated net gain and prior service credit for the other defined post-retirement benefits that will be amortised from accumulated other comprehensive income into net periodic benefit cost in 2019 are USD 2 million and USD 15 million, respectively.

The accumulated benefit obligation (the current value of accrued benefits excluding future salary increases) for pension benefits was USD 6 335 million and USD 6 043 million as of 31 December 2017 and 2018, respectively.

Pension plans with an accumulated benefit obligation in excess of plan assets as of 31 December were as follows:

| USD millions | 2017 | **2018** |
|---|---|---|
| Projected benefit obligation | 5 071 | 4 898 |
| Accumulated benefit obligation | 5 025 | 4 856 |
| Fair value of plan assets | 4 834 | 4 654 |

## Principal actuarial assumptions

| | Swiss plan | | Foreign plans weighted average | | Other benefits weighted average | |
|---|---|---|---|---|---|---|
| | 2017 | **2018** | 2017 | **2018** | 2017 | **2018** |
| **Assumptions used to determine obligations at the end of the year** | | | | | | |
| Discount rate | 0.6% | 0.8% | 2.8% | 3.0% | 2.1% | 2.2% |
| Rate of compensation increase | 1.8% | 1.8% | 3.0% | 3.0% | 2.1% | 2.1% |
| **Assumptions used to determine net periodic pension costs for the year ended** | | | | | | |
| Discount rate | 0.6% | 0.6% | 2.9% | 2.8% | 2.4% | 2.1% |
| Expected long-term return on plan assets | 2.5% | 2.5% | 3.5% | 3.6% | | |
| Rate of compensation increase | 1.8% | 1.8% | 3.1% | 3.0% | 2.1% | 2.1% |
| **Assumed medical trend rates at year end** | | | | | | |
| Medical trend – initial rate | | | | | 5.6% | 4.7% |
| Medical trend – ultimate rate | | | | | 3.8% | 3.6% |
| Year that the rate reaches the ultimate trend rate | | | | | 2021 | 2021 |

The expected long-term rates of return on plan assets are based on long-term expected inflation, interest rates, risk premiums and targeted asset category allocations. The estimates take into consideration historical asset category returns.

Assumed healthcare cost trend rates have a significant effect on the amounts reported for the healthcare plans. A one percentage point change in assumed healthcare cost trend rates would have had the following effects for 2018:

| USD millions | 1 percentage point increase | 1 percentage point decrease |
|---|---|---|
| Effect on total of service and interest cost components | 0 | 0 |
| Effect on post-retirement benefit obligation | 18 | –15 |

## Plan asset allocation by asset category

The actual asset allocation by major asset category for defined benefit pension plans as of the respective measurement dates in 2017 and 2018 was as follows:

| | Swiss plan allocation | | | Foreign plans allocation | | |
|---|---|---|---|---|---|---|
| | 2017 | **2018** | **Target allocation** | 2017 | **2018** | **Target allocation** |
| **Asset category** | | | | | | |
| Equity securities | 29% | 23% | 23% | 21% | 13% | 20% |
| Debt securities | 41% | 46% | 45% | 71% | 73% | 74% |
| Real estate | 23% | 24% | 24% | 0% | 2% | 0% |
| Other | 7% | 7% | 8% | 8% | 12% | 6% |
| **Total** | 100% | **100%** | **100%** | 100% | **100%** | **100%** |

Actual asset allocation is determined by a variety of current economic and market conditions and considers specific asset class risks.

Equity securities include Swiss Re common stock of USD 6 million (0.1% of total plan assets) and USD 4 million (0.1% of total plan assets) as of 31 December 2017 and 2018, respectively.

The Group´s pension plan investment strategy is to match the maturity profiles of the assets and liabilities in order to reduce the future volatility of pension expense and funding status of the plans. This involves balancing investment portfolios between equity and fixed income securities. Tactical allocation decisions that reflect this strategy are made on a quarterly basis.

### Assets measured at fair value

For a description of the different fair value levels and valuation techniques see Note 8 "Fair value disclosures".

Certain items reported as pension plan assets at fair value in the following table are not within the scope of Note 8, namely two positions: real estate and an insurance contract.

Real estate positions classified as level 1 and level 2 are exchange-traded real estate funds where a market valuation is readily available. Real estate reported on level 3 is property-owned by the pension funds. These positions are accounted for at the capitalised income value. The capitalisation based on sustainable recoverable earnings is conducted at interest rates that are determined individually for each property, based on the property's location, age and condition. If properties are intended for disposal, the estimated selling costs and taxes are recognised in provisions. Sales gains or losses are allocated to income from real estate when the contract is concluded.

The fair value of the insurance contract is based on the fair value of the assets backing the contract.

As of 31 December, the fair values of pension plan assets by level of input were as follows:

| 2017<br>USD millions | Quoted prices in active markets for identical assets (level 1) | Significant other observable inputs (level 2) | Significant unobservable inputs (level 3) | Investments measured at net asset value as practical expedient | Total |
|---|---|---|---|---|---|
| **Assets** | | | | | |
| Fixed income securities: | | | | | |
| Debt securities issued by the US government and government agencies | 30 | 181 | | | 211 |
| Debt securities issued by non-US governments and government agencies | | 1 224 | | | 1 224 |
| Corporate debt securities | | 1 846 | 10 | | 1 856 |
| Residential mortgage-backed securities | | 23 | | | 23 |
| Commercial mortgage-backed securities | | 1 | | | 1 |
| Agency securitised products | | | | | 0 |
| Other asset-backed securities | | 1 | | | 1 |
| Equity securities: | | | | | |
| Equity securities held for proprietary investment purposes | 1 141 | 414 | 103 | | 1 658 |
| Short-term investments | | 38 | | | 38 |
| Derivative financial instruments | | –13 | | | –13 |
| Real estate | | | 692 | | 692 |
| Other assets | | 89 | | 563 | 652 |
| **Total assets at fair value** | 1 171 | 3 804 | 805 | 563 | 6 343 |
| Cash | 109 | | | | 109 |
| **Total plan assets** | 1 280 | 3 804 | 805 | 563 | 6 452 |

| **2018**<br>USD millions | Quoted prices in active markets for identical assets (level 1) | Significant other observable inputs (level 2) | Significant unobservable inputs (level 3) | Investments measured at net asset value as practical expedient | Total |
|---|---|---|---|---|---|
| **Assets** | | | | | |
| Fixed income securities: | | | | | |
| Debt securities issued by the US government and government agencies | 32 | 209 | | | 241 |
| Debt securities issued by non-US governments and government agencies | | 1 227 | | | 1 227 |
| Corporate debt securities | | 1 769 | 10 | | 1 779 |
| Residential mortgage-backed securities | | 16 | | | 16 |
| Commercial mortgage-backed securities | | 1 | | | 1 |
| Agency securitised products | | 7 | | | 7 |
| Other asset-backed securities | | 3 | | | 3 |
| Equity securities: | | | | | |
| Equity securities held for proprietary investment purposes | 901 | 308 | | | 1 209 |
| Short-term investments | | 48 | | | 48 |
| Derivative financial instruments | | 10 | | | 10 |
| Real estate | | | 721 | | 721 |
| Other assets | | 91 | | 659 | 750 |
| **Total assets at fair value** | **933** | **3 689** | **731** | **659** | **6 012** |
| Cash | 84 | | | | 84 |
| **Total plan assets** | **1 017** | **3 689** | **731** | **659** | **6 096** |

### Assets measured at fair value using significant unobservable inputs (level 3)

For the years ended 31 December, the reconciliation of fair value of pension plan assets using significant unobservable inputs were as follows:

| 2017<br>USD millions | Real estate | Other assets | Total |
|---|---|---|---|
| Balance as of 1 January | 612 | 106 | 718 |
| Realised/unrealised gains/losses: | | | |
| Relating to assets still held at the reporting date | 34 | –26 | 8 |
| Relating to assets sold during the period | | 19 | 19 |
| Purchases, issuances and settlements | 19 | 11 | 30 |
| Transfers in and/or out of level 3 | | | 0 |
| Impact of foreign exchange movements | 27 | 3 | 30 |
| **Closing balance as of 31 December** | 692 | 113 | 805 |

| **2018**<br>USD millions | Real estate | Other assets | Total |
|---|---|---|---|
| Balance as of 1 January | 692 | 113 | 805 |
| Realised/unrealised gains/losses: | | | |
| Relating to assets still held at the reporting date | 27 | –14 | 13 |
| Relating to assets sold during the period | | 27 | 27 |
| Purchases, issuances and settlements | 10 | –11 | –1 |
| Transfers in and/or out of level 3 | | –103 | –103 |
| Impact of foreign exchange movements | –8 | –2 | –10 |
| **Closing balance as of 31 December** | **721** | **10** | **731** |

### Expected contributions and estimated future benefit payments

The employer contributions expected to be made in 2019 to the defined benefit pension plans are USD 122 million and to the post-retirement benefit plan are USD 17 million.

As of 31 December 2018, the projected benefit payments, which reflect expected future service, not adjusted for transfers in and for employees' voluntary contributions, are as follows:

| USD millions | Swiss plan | Foreign plans | Other benefits | Total |
|---|---|---|---|---|
| 2019 | 214 | 89 | 17 | 320 |
| 2020 | 210 | 93 | 17 | 320 |
| 2021 | 204 | 96 | 17 | 317 |
| 2022 | 200 | 98 | 17 | 315 |
| 2023 | 194 | 100 | 18 | 312 |
| Years 2024–2028 | 934 | 532 | 89 | 1 555 |

### Defined contribution pension plans

The Group sponsors a number of defined contribution plans to which employees and the Group make contributions. The accumulated balances are paid as a lump sum at the earlier of retirement, termination, disability or death. The amount expensed in 2017 and 2018 was USD 81 million and USD 85 million, respectively.

# 15 Share-based payments

As of 31 December 2017 and 2018, the Group had the share-based compensation plans as described below.

The total compensation cost for share-based compensation plans recognised in net income was USD 55 million and USD 47 million in 2017 and 2018, respectively. The related tax benefit was USD 12 million and USD 10 million, respectively.

### Restricted shares

The Group granted 29 914 and 24 627 restricted shares to selected employees in 2017 and 2018, respectively. Moreover, as an alternative to the Group's cash bonus programme, 276 483 and 194 536 shares were delivered during 2017 and 2018, respectively, which are generally not subject to forfeiture risk.

A summary of the movements in shares relating to outstanding awards granted under the restricted share plans for the year ended 31 December 2018 is as follows:

| | Weighted average grant date fair value in CHF[1] | Number of shares |
|---|---|---|
| Non-vested at 1 January | 88 | 483 844 |
| Granted | 96 | 219 163 |
| Forfeited | 87 | –462 |
| Vested | 88 | –322 238 |
| **Outstanding as of 31 December** | **93** | **380 307** |

[1] Equal to the market price of the shares at grant.

### Leadership Performance Plan

The Leadership Performance Plan (LPP) awards are expected to be settled in shares, and the requisite service as well as the maximum contractual term are three years. For LPP 2015, LPP 2016, LPP 2017 and LPP 2018 awards, an additional two-year holding period applies for all members of the Group EC and other key executives. At grant date, the award is split equally into two underlying components — Restricted Share Units (RSUs) and Performance Share Units (PSUs). The RSUs are measured against a return on equity performance condition and will vest within a range of 0–100%. The PSUs are based on relative total shareholder return, measured against a pre-defined group of peers and will vest within a range of 0–200%. The fair values of both components are measured separately, based on stochastic models.

The fair value assumptions in the grant valuations include market estimates for dividends (and an additional special dividend of CHF 3.00 for the LPP 2015) and the risk-free rate based on the average of the 5-year US Treasury bond rate (for LPP 2015) and the average of the 10-year US Treasury bond rate (for LPP 2016, LPP 2017 and LPP 2018) taken monthly over each year in the performance period. This resulted in risk-free rates between 1.8% and 3.1% for all LPP awards.

For the year ended 31 December 2018, the outstanding units were as follows:

| RSUs | LPP 2015 | LPP 2016 | LPP 2017 | LPP 2018 |
|---|---|---|---|---|
| Non-vested at 1 January | 310 080 | 348 339 | 511 141 | |
| Granted | | | | 353 171 |
| Forfeited | –7 395 | –25 188 | –23 788 | –7 914 |
| Vested | –302 685 | | | |
| **Outstanding as of 31 December** | **0** | **323 151** | **487 353** | **345 257** |
| **Grant date fair value in CHF** | **67.65** | **67.91** | **47.41** | **70.18** |

| PSUs | | | | |
|---|---|---|---|---|
| Non-vested at 1 January | 341 955 | 472 628 | 696 804 | |
| Granted | | | | 286 193 |
| Forfeited | –8 150 | –34 180 | –32 426 | –6 413 |
| Vested | –333 805 | | | |
| **Outstanding as of 31 December** | **0** | **438 448** | **664 378** | **279 780** |
| **Grant date fair value in CHF** | **61.37** | **50.04** | **34.78** | **86.62** |

### Unrecognised compensation cost

As of 31 December 2018, the total unrecognised compensation cost (net of forfeitures) related to non-vested, share-based compensation awards was USD 49 million and the weighted average period over which that cost is expected to be recognised is 1.9 years.

The number of shares authorised for the Group's share-based payments to employees was 4 411 532 and 4 172 886 as of 31 December 2017 and 2018, respectively. The Group's policy is to ensure that sufficient treasury shares are available at all times to settle future share-based compensation plans.

### Global Share Participation Plan

In June 2013, Swiss Re introduced the Global Share Participation Plan, which is a share purchase plan that was rolled out for the benefit of employees of companies within the Group. Swiss Re makes a financial contribution to participants in the plan, by matching the commitment that they make during the plan cycle with additional Swiss Re shares.

If the employee is still employed by Swiss Re at the end of a plan cycle, the employee will receive an additional number of shares equal to 30% of the total number of purchased and dividend shares held at that time. In 2017 and 2018, Swiss Re contributed USD 11 million and USD 11 million to the plans and authorised 162 487 and 197 194 shares as of 31 December 2017 and 2018, respectively.

# 16 Compensation, participations and loans of members of governing bodies

The disclosure requirements under Swiss Law in respect of compensation and loans to the members of the Board of Directors and of the Group Executive Committee, as well as closely related persons, are detailed in the Compensation Report on pages 165–170 of the Financial Report of the Swiss Re Group.

The disclosure requirements under Swiss Law in respect of participations of members of the Board of Directors and the Group Executive Committee, as well as closely related persons, are detailed on pages 318–319 of the Annual Report of Swiss Re Ltd.

# 17 Related parties

The Group defines the following as related parties to the Group: subsidiaries of Swiss Re Ltd, entities in which the Group has significant influence, pension plans, members of the Board of Directors (BoD) and the Group Executive Committee (EC) and their close family members, and entities which are directly and indirectly controlled by members of governing bodies of the Group and their close family members.

As part of the consolidation process, transactions between Swiss Re Ltd and subsidiaries are eliminated in consolidation and are not disclosed in the notes.

As of 31 December 2017 and 2018, the Group's investment in mortgages and other loans included USD 301 million and USD 373 million, respectively, of loans due from employees, and USD 181 million and USD 212 million, respectively, due from officers. These loans generally consist of mortgages offered at variable and fixed interest rates.

Contributions made to defined benefit pension plans and post-retirement benefit plans are disclosed in Note 14 "Benefit plans". Plan assets of the defined benefit pension plans include Swiss Re common stock of USD 6 million (0.1% of total plan assets) and USD 4 million (0.1% of total plan assets) as of 31 December 2017 and 2018, respectively.

The total number of shares, options and related instruments held by members of the BoD and the Group EC and persons closely related to, amounts to less than 1% of the shares issued by Swiss Re Ltd. None of the members of BoD and the Group EC has any significant business connection with Swiss Re Ltd or any of its Group companies. The Group BoD member Susan L. Wagner is also a board member of BlackRock, Inc. BlackRock, Inc. is acting as external asset manager for the Group.

Share in earnings and dividends received from equity-accounted investees for the years ended 31 December, were as follows:

| USD millions | 2017 | **2018** |
|---|---|---|
| Share in earnings of equity-accounted investees | 100 | 166 |
| Dividends received from equity-accounted investees | 170 | 170 |

## 18 Commitments and contingent liabilities

### Leasing commitments

As part of its normal business operations, the Group enters into a number of lease agreements. As of 31 December 2018, such agreements, which are operating leases, total the following obligations for the next five years and thereafter:

| USD millions | 2018 |
|---|---|
| 2019 | 86 |
| 2020 | 78 |
| 2021 | 63 |
| 2022 | 57 |
| 2023 | 49 |
| After 2023 | 255 |
| **Total operating lease commitments** | **588** |
| Less minimum non-cancellable sublease rentals | 12 |
| **Total net future minimum lease commitments** | **576** |

Minimum rentals for all operating leases (except those with terms of one month or less that were not renewed) for the years ended 31 December 2017 and 2018 were USD 94 million and USD 86 million, respectively. Sublease rental income for the years ended 31 December 2017 and 2018 was USD 2 million and USD 2 million, respectively.

### Other commitments

As a participant in limited and other investment partnerships, the Group commits itself to making available certain amounts of investment funding, callable by the partnerships for periods of up to ten years. The total commitments remaining uncalled as of 31 December 2018 were USD 1 954 million.

The Group enters into a number of contracts in the ordinary course of reinsurance and financial services business which, if the Group's credit rating and/or defined statutory measures decline to certain levels, would require the Group to post collateral or obtain guarantees. The contracts typically provide alternatives for recapture of the associated business.

### Legal proceedings

In the normal course of business operations, the Group is involved in various claims, lawsuits and regulatory matters. In the opinion of management, the disposition of these matters is not expected to have a material adverse effect on the Group's business, consolidated financial position, results of operations or cash flows.

# 19 Significant subsidiaries and equity investees

| | | Share capital (millions) | Affiliation in % as of 31.12.2018 | Method of consolidation |
|---|---|---|---|---|
| **Europe** | | | | |
| **Germany** | | | | |
| Swiss Re Germany GmbH, Munich | EUR | 45 | 100 | f |
| **Ireland** | | | | |
| Ark Life Assurance Company dac, Dublin | EUR | 19 | 100 | f |
| **Jersey** | | | | |
| ReAssure Holdings Limited, St Helier | GBP | 0 | 100 | f |
| ReAssure Jersey One Limited, St Helier | GBP | 1 | 85 | f |
| ReAssure Jersey Two Limited, St Helier | GBP | 3 | 100 | f |
| Swiss Re ReAssure Limited, St Helier | GBP | 3 | 100 | f |
| Swiss Re ReAssure Midco Limited, St Helier | GBP | 0 | 100 | f |
| **Liechtenstein** | | | | |
| Elips Life AG, Triesen | CHF | 12 | 100 | f |
| Elips Versicherungen AG, Triesen | CHF | 5 | 100 | f |
| **Luxembourg** | | | | |
| iptiQ Life S.A., Luxembourg | EUR | 6 | 100 | f |
| Swiss Re Europe Holdings S.A., Luxembourg | EUR | 105 | 100 | f |
| Swiss Re Europe S.A., Luxembourg | EUR | 350 | 100 | f |
| Swiss Re Funds (Lux) I, Senningerberg[1] | EUR | 13 271 | 100 | f |
| Swiss Re International SE, Luxembourg | EUR | 182 | 100 | f |
| **Switzerland** | | | | |
| Swiss Pillar Investments Ltd, Zurich | CHF | 0 | 100 | f |
| Swiss Re Corporate Solutions Ltd, Zurich | CHF | 100 | 100 | f |
| Swiss Re Direct Investments Company Ltd, Zurich | CHF | 0 | 100 | f |
| Swiss Re Investments Company Ltd, Zurich | CHF | 0 | 100 | f |
| Swiss Re Investments Holding Company Ltd, Zurich | CHF | 0 | 100 | f |
| Swiss Re Investments Ltd, Zurich | CHF | 1 | 100 | f |
| Swiss Re Life Capital Ltd, Zurich | CHF | 0 | 100 | f |
| Swiss Re Life Capital Reinsurance Ltd, Zurich | CHF | 10 | 100 | f |
| Swiss Re Management Ltd, Adliswil | CHF | 0 | 100 | f |
| Swiss Re Principal Investments Company Ltd, Zurich | CHF | 0 | 100 | f |
| Swiss Re Reinsurance Holding Company Ltd, Zurich | CHF | 0 | 100 | f |
| Swiss Reinsurance Company Ltd, Zurich | CHF | 34 | 100 | f |
| **United Kingdom** | | | | |
| IptiQ Holdings Limited, Shropshire | GBP | 0 | 100 | f |
| ReAssure FSH UK Limited, Shropshire | GBP | 710 | 100 | f |
| ReAssure Group Limited, Shropshire | GBP | 0 | 100 | f |
| ReAssure Limited, Shropshire | GBP | 289 | 100 | f |
| Swiss Re Capital Markets Limited, London | USD | 60 | 100 | f |
| Swiss Re Services Limited, London | GBP | 2 | 100 | f |

[1] Net asset value instead of share capital

| | | Share capital (millions) | Affiliation in % as of 31.12.2018 | Method of consolidation |
|---|---|---|---|---|
| **Americas and Caribbean** | | | | |
| **Barbados** | | | | |
| European Finance Reinsurance Company Ltd., Bridgetown | USD | 5 | 100 | f |
| European International Reinsurance Company Ltd., Bridgetown | USD | 1 | 100 | f |
| Milvus I Reassurance Limited, Bridgetown | USD | 481 | 100 | f |
| **Bermuda** | | | | |
| CORE Reinsurance Company Limited, Hamilton | USD | 0 | 100 | f |
| **Brazil** | | | | |
| Sul America S.A., Rio de Janeiro | BRL | 3 320 | 15 | e |
| Swiss Re Brasil Resseguros S.A., São Paulo | BRL | 295 | 100 | f |
| Swiss Re Corporate Solutions Brasil Seguros S.A., São Paulo | BRL | 318 | 60 | f |
| **Cayman Islands** | | | | |
| FWD Group Ltd, Grand Cayman | USD | 1 | 15 | e |
| PEP SR I Umbrella L.P., George Town | USD | 484 | 100 | f |
| **Colombia** | | | | |
| Compañía Aseguradora de Fianzas S.A. Confianza, Bogotá | COP | 224 003 | 51 | f |
| **United States** | | | | |
| Claret Re Inc., Burlington | USD | 5 | 100 | f |
| Facility Insurance Holding Corporation, Dallas | USD | 0 | 100 | f |
| First Specialty Insurance Corporation, Jefferson City | USD | 5 | 100 | f |
| North American Capacity Insurance Company, Manchester | USD | 4 | 100 | f |
| North American Elite Insurance Company, Manchester | USD | 4 | 100 | f |
| North American Specialty Insurance Company, Manchester | USD | 5 | 100 | f |
| Pecan Re Inc., Burlington | USD | 5 | 100 | f |
| Pillar RE Holdings LLC, Wilmington | USD | 0 | 100 | f |
| SR Corporate Solutions America Holding Corporation, Wilmington | USD | 0 | 100 | f |
| Sterling Re Inc., Burlington | USD | 213 | 100 | f |
| Swiss Re America Holding Corporation, Wilmington | USD | 0 | 100 | f |
| Swiss Re Capital Markets Corporation, New York | USD | 0 | 100 | f |
| Swiss Re Corporate Solutions Global Markets Inc., New York | USD | 0 | 100 | f |
| Swiss Re Financial Markets Corporation, Wilmington | USD | 0 | 100 | f |
| Swiss Re Financial Products Corporation, Wilmington | USD | 0 | 100 | f |
| Swiss Re Life & Health America Holding Company, Wilmington | USD | 0 | 100 | f |
| Swiss Re Life & Health America Inc., Jefferson City | USD | 4 | 100 | f |
| Swiss Re Management (US) Corporation, Wilmington | USD | 0 | 100 | f |
| Swiss Re Risk Solutions Corporation, Wilmington | USD | 0 | 100 | f |
| Swiss Re Treasury (US) Corporation, Wilmington | USD | 0 | 100 | f |
| Swiss Reinsurance America Corporation, Armonk | USD | 10 | 100 | f |
| Washington International Insurance Company, Manchester | USD | 4 | 100 | f |
| Westport Insurance Corporation, Jefferson City | USD | 6 | 100 | f |

| | | Share capital (millions) | Affiliation in % as of 31.12.2018 | Method of consolidation |
|---|---|---|---|---|
| **Africa** | | | | |
| **Ivory Coast** | | | | |
| Société Manzi Finances S.A., Abidjan | XOF | 15 311 | 29 | e |
| **South Africa** | | | | |
| Swiss Re Africa Limited, Cape Town | ZAR | 2 | 100 | f |
| **Asia-Pacific** | | | | |
| **Australia** | | | | |
| Swiss Re Australia Ltd, Sydney | AUD | 845 | 100 | f |
| Swiss Re Life & Health Australia Limited, Sydney | AUD | 980 | 100 | f |
| **China** | | | | |
| Swiss Re Corporate Solutions Insurance China Ltd, Shanghai | CNY | 569 | 100 | f |
| **Singapore** | | | | |
| Swiss Re Asia Holding Pte. Ltd., Singapore | USD | 0 | 100 | f |
| Swiss Re Asia Pte. Ltd., Singapore | USD | 320 | 100 | f |
| **Vietnam** | | | | |
| Vietnam National Reinsurance Corporation, Hanoi | VND | 1 310 759 | 25 | e |

**Method of consolidation**

f full
e equity

# 20 Variable interest entities

The Group enters into arrangements with variable interest entities (VIEs) in the normal course of business. The involvement ranges from being a passive investor to designing, structuring and managing the VIEs. The variable interests held by the Group arise primarily as a result of the Group's involvement in certain insurance-linked securitisations, life and health funding transactions, swaps in trusts, debt financing, investment, senior commercial mortgage and infrastructure loans as well as other entities, which meet the definition of a VIE.

When analysing whether the entity is a VIE, the Group mainly assesses if (1) the equity is sufficient to finance the entity's activities without additional subordinated financial support, (2) the equity holders have the right to make significant decisions affecting the entity's operations and (3) the holders of the voting rights substantively participate in the gains and losses of the entity.

When one of these criteria is not met, the entity is considered a VIE and is assessed for consolidation under the VIE section of the Consolidation Topic.

The party that has a controlling financial interest is called a primary beneficiary and consolidates the VIE. The party is deemed to have a controlling financial interest if it has both:

- the power to direct the activities of the VIE that most significantly impact the entity's economic performance; and
- the obligation to absorb the entity's losses that could potentially be significant to the VIE or the right to receive benefits from the entity that could potentially be significant to the VIE.

For all its variable interests in VIEs, the Group assesses whether it has a controlling financial interest in these entities and, thus, is the primary beneficiary. The Group identifies the activities that most significantly impact the entity's performance and determines whether the Group has the power to direct those activities. In conducting the analysis, the Group considers the purpose, the design and the risks that the entity was designed to create and pass through to its variable interest holders. Additionally, the Group assesses if it has the obligation to absorb losses or if it has the right to receive benefits of the VIE that could potentially be significant to the entity. If both criteria are met, the Group has a controlling financial interest in the VIE and consolidates the entity.

The Group monitors changes to the facts and circumstances of the existing involvement with legal entities to determine whether they require reconsideration of the entity's designation as a VIE or voting interest entity. For VIEs, the Group regularly reassesses the primary beneficiary determination.

**Insurance-linked securitisations**
The insurance-linked securitisations transfer pre-existing insurance risk to investors through the issuance of insurance-linked securities. In insurance-linked securitisations, the securitisation vehicle assumes the insurance risk from a sponsor through insurance or derivative contracts. The securitisation vehicle generally retains the issuance proceeds as collateral, which consists of investment-grade securities. The Group does not have potentially significant variable interest in these vehicles and therefore is not a primary beneficiary.

Typically, the variable interests held by the Group arise through ownership of insurance-linked securities, in which case the Group's maximum loss equals the principal amount of the securities held by the Group.

**Life and health funding vehicles**
The Group participates in certain structured transactions that retrocede longevity and mortality risks to captive reinsurers with an aim to provide regulatory capital credit to a transaction sponsor through creation of funding notes by a separate funding vehicle which is generally considered a VIE. The Group's participation in these transactions is generally limited to providing contingent funding support via a financial contract with a funding vehicle, which represents a potentially significant variable interest in the funding vehicle. The Group does not have power to direct activities of the funding vehicles and therefore is not a primary beneficiary of the funding vehicles in these transactions. The Group's maximum exposure in these transactions equals either the total contract notional or outstanding balance of the funding notes issued by the vehicle, depending on the specific contractual arrangements.

**Swaps in trusts**
The Group provides interest rate and foreign exchange risk hedges to certain asset securitisation trusts which qualify as VIEs. As the Group's involvement is limited to interest rate and foreign exchange derivatives, it does not have power to direct any activities of the trusts and therefore does not qualify as primary beneficiary of any of these trusts. These activities are in run-off.

**Debt financing vehicles**
The Group consolidates a debt-financing vehicle created to collateralise reinsurance coverage provided by the Group. The Group manages the asset portfolio in the vehicle and absorbs the variability of the investment return of the vehicle's portfolio, thereby satisfying both criteria for a controlling financial interest: power over activities most significant to the vehicle's economic performance and significant economic interest.

**Investment vehicles**
The Group consolidates a real estate investment entity, which holds real estate backing annuities business. The Group is its primary beneficiary, because it has both power over the entity's investment decisions as well as a significant variable interest in the entity.

The Group's variable interests in investment partnerships arise through ownership of the limited partner interests. Many investment partnerships are VIEs because the limited partners as a group lack kick-out or participating rights. The Group does not hold the general partner interest in the limited partnerships and therefore does not direct investment activities of the entity. Therefore, the Group lacks power over the relevant activities of the vehicles and, consequently, does not qualify as the primary beneficiary. The Group is exposed to losses when the values of the investments held by the investment vehicles decrease. The Group's maximum exposure to loss equals the Group's share of the investment.

The Group is a passive investor in structured securitisation vehicles issuing residential and commercial mortgage-backed securities (RMBS and CMBS, respectively) and other asset-backed securities (ABS). The Group's investments in RMBS, CMBS and other ABS are passive in nature and do not obligate the Group to provide any financial or other support to the issuer entities. By design, RMBS, CMBS and ABS securitisation entities are not adequately capitalised and therefore considered VIEs. The Group is not the primary beneficiary, because it does not have power to direct most significant activities. These investments are accounted for as available-for-sale as described in the investment note and not included in the tables below.

The Group consolidates an investment vehicle, because the Group holds the entire interest in the entity and makes investment decisions related to the entity. The investment vehicle is a VIE because it is structured as an umbrella company comprised of multiple sub-funds. The majority of the investments held in this vehicle are accounted for as available-for-sale and are disclosed in the investment note and not included in the tables below.

**Investment vehicles for unit-linked business**
Additionally, the Group invests on behalf of the policyholders as a passive investor in a variety of investment funds across various jurisdictions. By design, many of these funds meet a VIE definition. While the Group may have a potentially significant variable interest in some of these entities due to its share of the fund's total net assets, it never has power over the fund's investment decisions or unilateral kick-out rights relative to the decision maker.

The Group is not exposed to losses in the aforementioned investment vehicles, as the investment risk is borne by the policyholder.

**Senior commercial mortgage and infrastructure loans**
The Group also invests in structured commercial mortgage and infrastructure loans, which are held for investment.

The commercial mortgage loans are made to non-recourse special purpose entities collateralised with commercial real estate. The entities are adequately capitalised and generally structured as voting interest entities. Occasionally, the borrower entities can be structured as limited partnerships where the limited partners do not have kick-out or participating rights, which results in the VIE designation.

The infrastructure loans are made to non-recourse special purpose entities collateralised with infrastructure project assets. Some borrower entities may have insufficient equity investment at risk, which results in the VIE designation.

The Group does not have power over the activities most significant to the aforementioned borrower entities designated as VIEs and therefore does not consolidate them.

The Group's maximum exposure to loss from its investments equals the loan outstanding amount.

**Other**
The Group consolidates a vehicle providing reinsurance to its members, because it serves as a decision maker over the entity's investment and underwriting activities, as well as provides retrocession for the majority of the vehicle's insurance risk and receives performance-based fees. Additionally, the Group is obligated to provide the vehicle with loans in case of a deficit. The vehicle is a VIE, primarily because its total equity investment at risk is insufficient and the members lack decision-making rights.

The Group did not provide financial or other support to any VIEs during 2018 that it was not previously contractually required to provide.

## Consolidated VIEs

The following table shows the total assets and liabilities in the Group's balance sheet related to VIEs of which the Group is the primary beneficiary as of 31 December:

| USD millions | 2017 | 2018 |
|---|---|---|
| Fixed income securities available-for-sale | 3 974 | 3 444 |
| Investment real estate | 198 | 166 |
| Short-term investments | 62 | 79 |
| Cash and cash equivalents | 14 | 20 |
| Accrued investment income | 34 | 30 |
| Premiums and other receivables | 29 | 26 |
| Deferred acquisition costs | 4 | 3 |
| Deferred tax assets | 41 | 212 |
| Other assets | 15 | 16 |
| **Total assets** | 4 371 | **3 996** |
| | | |
| Unpaid claims and claim adjustment expenses | 84 | 66 |
| Liabilities for life and health policy benefits | 1 | |
| Unearned premiums | 12 | 8 |
| Reinsurance balances payable | 17 | 15 |
| Deferred and other non-current tax liabilities | 133 | 180 |
| Accrued expenses and other liabilities | 174 | 144 |
| Long-term debt | 2 369 | 2 112 |
| **Total liabilities** | 2 790 | **2 525** |

The assets of the consolidated VIEs may only be used to settle obligations of these VIEs and to settle any investors' ownership liquidation requests. There is no recourse to the Group for the consolidated VIEs' liabilities. The assets of the consolidated VIEs are not available to the Group's creditors.

## Non-consolidated VIEs

The following table shows the total assets and liabilities on the Group's balance sheet related to VIEs in which the Group held a variable interest but was not the primary beneficiary as of 31 December:

| USD millions | 2017 | 2018 |
|---|---|---|
| Fixed income securities available-for-sale | 587 | 935 |
| Equity securities available-for-sale | 700 | |
| Equity securities at fair value through earnings | | 272 |
| Policy loans, mortgages and other loans | 1 035 | 1 313 |
| Other invested assets | 1 831 | 1 953 |
| Investments for unit-linked and with-profit business | 9 223 | 5 999 |
| **Total assets** | 13 376 | **10 472** |
| | | |
| Accrued expenses and other liabilities | 67 | 58 |
| **Total liabilities** | 67 | **58** |

The following table shows the Group's assets, liabilities and maximum exposure to loss related to VIEs in which the Group held a variable interest but was not the primary beneficiary as of 31 December:

| | | | 2017 | | | 2018 |
|---|---|---|---|---|---|---|
| USD millions | Total assets | Total liabilities | Maximum exposure to loss[1] | Total assets | Total liabilities | Maximum exposure to loss[1] |
| Insurance-linked securitisations | 311 | | 314 | 447 | | 462 |
| Life and health funding vehicles | 27 | 1 | 2 052 | 25 | | 2 174 |
| Swaps in trusts | 25 | 66 | –[2] | 76 | 58 | –[2] |
| Investment vehicles | 2 493 | | 2 494 | 2 130 | | 2 130 |
| Investment vehicles for unit-linked business | 9 223 | | | 5 999 | | |
| Senior commercial mortgage and infrastructure loans | 1 297 | | 1 297 | 1 795 | | 1 795 |
| **Total** | 13 376 | 67 | –[2] | **10 472** | **58** | **–[2]** |

[1] Maximum exposure to loss is the loss the Group would absorb from a variable interest in a VIE in the event that all of the assets of the VIE are deemed worthless.
[2] The maximum exposure to loss for swaps in trusts cannot be meaningfully quantified due to their derivative character.

The assets and liabilities for the swaps in trusts represent the positive and negative fair values of the derivatives the Group has entered into with the trusts.

# 21 Subsequent events

**Investment by MS&AD Insurance Group Holdings Inc into ReAssure**

In December 2018, Swiss Re reached an agreement with MS&AD Insurance Group Holdings Inc (MS&AD) for a further investment of GBP 315 million into ReAssure. MS&AD increased its 15% minority stake in ReAssure to a total shareholding of 25% as a result of the transaction, which closed on 20 February 2019.

The Group financial statements and related notes presented in this report are not impacted.

# Report of the statutory auditor

Report of the statutory auditor
to the General Meeting of
Swiss Re Ltd
Zurich

## Report of the statutory auditor on the consolidated financial statements

As statutory auditor, we have audited the accompanying consolidated financial statements of Swiss Re Ltd and its subsidiaries (the 'Company'), which comprise the consolidated balance sheet as of 31 December 2018, and the related consolidated income statement, statement of comprehensive income, statement of shareholders' equity, statement of cash flows and notes for the year ended 31 December 2018.

### Board of Directors' responsibility

The Board of Directors is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with accounting principles generally accepted in the United States of America and the requirements of Swiss law. This responsibility includes designing, implementing and maintaining an internal control system relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error. The Board of Directors is further responsible for selecting and applying appropriate accounting policies and making accounting estimates that are reasonable in the circumstances.

### Auditor's responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with Swiss law, Swiss Auditing Standards and auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers the internal control system relevant to the Company's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control system. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made, as well as evaluating the overall presentation of the consolidated financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### Opinion

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the financial position of the Company at 31 December 2018, the results of operations and the cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America and comply with Swiss law.

### Other matter

Accounting principles generally accepted in the United States of America require that the supplementary information based on the requirements of ASU 2015-09, Disclosures about Short-Duration Contracts, on pages 232 to 240 be presented to supplement the consolidated financial statements. Such information, although not part of the consolidated financial statements, is required by the Financial Accounting Standards Board, which considers it an essential part of financial reporting for placing the consolidated financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the consolidated financial statements and other knowledge we obtained during our audit of the consolidated financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

**Report on key audit matters based on the circular 1/2015 of the Federal Audit Oversight Authority**

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

**Unobservable or interpolated inputs used for the valuation of certain level 2 and 3 investments**

Key audit matter

Investment valuation continues to be an area with inherent risk for certain level 2 and 3 investments that have unobservable or interpolated inputs. The risk is not the same for all investment types and is greatest for those listed below. These investments are more difficult to value because quoted prices are not always available and valuation requires complex valuation models:

- Fixed income securitised products
- Fixed income mortgage and asset-backed securities
- Private placements and infrastructure loans
- Private equities
- Derivatives
- Insurance-related financial products

How our audit addressed the key audit matter

We assessed and tested the design and operating effectiveness of selected key controls around the valuation models for level 2 and 3 investments, including the Company's independent price verification process. We also tested management's data integrity and change management controls relating to the valuation models.

In relation to the matters set out opposite, our substantive testing procedures included the following:

- Challenging the Company's methodology and assumptions, in particular, the yield curves, discounted cash flows, perpetual growth rates and liquidity premiums used in the valuation models.
- Comparing the assumptions used against appropriate benchmarks and investigating significant differences.
- Engaging our own valuation experts to perform independent valuations of selected level 2 and 3 investments.

Based on the work performed, we consider the methodology and assumptions used by management in determining the valuation to be appropriate.

### Valuation of actuarially determined Property & Casualty ('P&C') loss reserves

**Key audit matter**

Valuation of actuarially determined P&C loss reserves involves a high degree of subjectivity and complexity. Reserves for losses and loss adjustment expenses represent estimates of future payments of reported and unreported claims for losses and related expenses at a given date.

Furthermore, on a regular basis, the Company enters into large and/or structured transactions which often have material or complex financial reporting and reserving consequences. The reserving for such transactions is subject to increased risk of error due to the non-routine nature of transactions and the judgemental nature of reserving.

The Company uses a range of actuarial methodologies and methods to estimate these reserves. Actuarially determined P&C loss reserves require significant judgement relating to certain factors and assumptions. Among the most significant reserving assumptions are the A-priori loss ratios, which typically drive the estimates of P&C loss reserves for the most recent contract years. Other key factors and assumptions include, but are not limited to, interest rates, inflation trends, claims trends, regulatory decisions, historical claims information and the growth of exposure.

In particular, loss reserves for 'long tail' lines of business (for example, the Liability, US Asbestos and Environmental, Motor Liability and Workers' Compensation portfolios) are generally more difficult to project. This is due to the protracted period over which claims may be reported as well as the fact that claim settlements are often less frequent but of higher magnitude. Long-tailed lines of business generally rely on many assumptions based on experts' judgement.

Moreover, not all natural catastrophe events and significant man-made losses can be modelled using traditional actuarial methodologies, which increases the degree of judgement needed in establishing reserves for these events.

**How our audit addressed the key audit matter**

We assessed and tested the design and operating effectiveness of selected key controls relating to the application of the actuarial methodology, data collection and analysis, as well as the processes for determining the assumptions used by management in the valuation of actuarially determined P&C loss reserves.

In relation to the matters set out opposite, our substantive testing procedures included the following, which are applicable for both the standard reserving and large and/or structured transactions:

- Testing the completeness and accuracy of underlying data utilised by the Company's actuaries in estimating P&C loss reserves.
- Applying IT audit techniques to analyse claims through the recalculation of claims triangles.
- Involving PwC's internal actuarial specialists to independently test management's estimates of P&C loss reserves, and evaluate the reasonableness of the methodology and assumptions used by comparing them with recognised actuarial practices and by applying our industry knowledge and experience.
- Performing independent projections of selected portfolios. For these portfolios, we compared our calculations of projected reserves with those of the Company taking into account the available corroborating and contrary evidence and challenging management's assumptions as appropriate.
- Assessing the process and related judgements of management in relation to natural catastrophes and other large losses, including using our industry knowledge to assess the reasonableness of market loss estimates and other significant assumptions.
- Performing sensitivity tests to determine the impact of selected key assumptions.
- Evaluating the appropriateness of any significant adjustments made by management to P&C loss reserve estimates.
- Evaluating the appropriateness of the recognition, accounting, and disclosures for large and/or structured transactions

Based on the work performed, we consider the methodologies and assumptions used by management in the valuation of actuarially determined P&C loss reserves to be appropriate.

### Valuation of actuarially determined Life & Health ('L&H') reserves

**Key audit matter**

The Company's valuation of liabilities for L&H policy benefits and policyholder account balances involves complex judgements about future events affecting the business. Actuarial assumptions selected by the Company with respect to interest rates, inflation trends, investment returns, mortality, morbidity, lapse in coverage, longevity, persistency, expenses, stock market volatility and future policyholder behaviour may result in material impacts on the valuation of L&H reserves. The methodology and methods used can also have a material impact on the valuation of actuarially determined L&H reserves.

Furthermore, on a regular basis, the Company enters into large and/or structured transactions which often have material or complex financial reporting and reserving consequences. The reserving for such transactions is subject to increased risk of error due to the non-routine nature of transactions and the judgemental nature of reserving.

The valuation of actuarially determined L&H reserves depends on the use of complex models. The Company continues to migrate actuarial data and models from legacy systems and/or spreadsheets to new actuarial modelling systems. At the same time, management is validating models to ensure that new models are fit for use. Moving from one modelling platform to another is a complex and time-consuming process, frequently taking several years. Any resulting adjustments to reserves need to be assessed in terms of appropriateness and classified as changes in estimates or as an out-of-period adjustment.

**How our audit addressed the key audit matter**

We assessed and tested the design and operating effectiveness of selected key controls relating to the application of actuarial methodology, data collection and analysis, as well as the processes for determining the assumptions used by management in the valuation of actuarially determined L&H reserves.

In relation to the matters set out opposite, our substantive testing procedures included the following, which are applicable for both the standard reserving and large and/or structured transactions:

- Testing the completeness and accuracy of the underlying data by vouching against the source documentation.
- Testing the migration of actuarial data from legacy systems and/or spreadsheets to the new actuarial systems for completeness and accuracy.
- Involving our life insurance actuarial specialists to perform independent model validation procedures, including detailed testing of models, independent recalculations and back testing.
- Challenging the Company's methodology and methods, focusing on changes to L&H actuarial methodology and methods during the year, by applying our industry knowledge and experience to check whether the methodology and methods are consistent with recognised actuarial practices and reporting requirements.
- Evaluating the appropriateness of the recognition, accounting, and disclosures for large and/or structured transactions.

Based on the work performed, we consider that the methodologies and assumptions used by management in the valuation of actuarially determined L&H reserves to be appropriate.

### Completeness and valuation of uncertain tax items

**Key audit matter**

The Company is carrying a provision for uncertain tax items on its books. The valuations of these items are based on management's estimates and management's assessment whether deferred tax assets are more likely than not to be realised. Changes in the estimates of uncertain tax items have an impact (through income tax expense) on the results.

**How our audit addressed the key audit matter**

We assessed and tested the design and operating effectiveness of selected key controls in place to determine the completeness of the uncertain tax items and management's assessment of the items for recognition and valuation.

In relation to the matters set out opposite, our substantive testing procedures included the following:

- Involving our own tax specialists to critically review management's 'more likely than not' tax assessments to evaluate the Company's judgements and estimates of the probabilities and the amounts.
- Assessing how the Company had considered new information or changes in tax law or case law, and assessing the Company's judgement of how these impact the Company's position or measurement of the required provision.
- Examining tax audit documentation to validate the appropriateness of releases of uncertain tax provisions.
- Evaluating the appropriateness of management's assessment of completeness of the uncertain tax provisions.
- Examining material movements within the uncertain tax positions in each jurisdiction.

Based on the work performed, we determined management's assessment of uncertain tax items to be appropriate.

## Report on other legal requirements

We confirm that we meet the legal requirements on licensing according to the Auditor Oversight Act (AOA) and independence (article 728 CO and article 11 AOA) and that there are no circumstances incompatible with our independence.

In accordance with article 728a paragraph 1 item 3 CO and Swiss Auditing Standard 890, we confirm that an internal control system exists which has been designed for the preparation of consolidated financial statements according to the instructions of the Board of Directors.

We recommend that the consolidated financial statements submitted to you be approved.

PricewaterhouseCoopers Ltd

**Roy Clark**
Audit expert
Auditor in charge

**Frank Trauschke**

Zurich, 13 March 2019

# Group financial years 2009–2018

| USD millions | 2009[1] | 2010 | 2011 |
|---|---|---|---|
| **Income statement** | | | |
| | | | |
| **Revenues** | | | |
| Premiums earned | 22 664 | 19 652 | 21 300 |
| Fee income | 847 | 918 | 876 |
| Net investment income | 6 399 | 5 422 | 5 469 |
| Net realised investment gains/losses | 875 | 2 783 | 388 |
| Other revenues | 178 | 60 | 50 |
| **Total revenues** | 30 963 | 28 835 | 28 083 |
| | | | |
| **Expenses** | | | |
| Claims and claim adjustment expenses | –8 336 | –7 254 | –8 810 |
| Life and health benefits | –8 639 | –8 236 | –8 414 |
| Return credited to policyholders | –4 597 | –3 371 | –61 |
| Acquisition costs | –4 495 | –3 679 | –4 021 |
| Other operating costs and expenses | –3 976 | –3 620 | –3 902 |
| **Total expenses** | –30 043 | –26 160 | –25 208 |
| | | | |
| **Income before income tax expense** | 920 | 2 675 | 2 875 |
| Income tax expense | –221 | –541 | –77 |
| **Net income before attribution of non-controlling interests** | 699 | 2 134 | 2 798 |
| | | | |
| Income/loss attributable to non-controlling interests | | –154 | –172 |
| **Net income after attribution of non-controlling interests** | 699 | 1 980 | 2 626 |
| | | | |
| Interest on contingent capital instruments, net of tax | –203 | –1 117 | |
| **Net income attributable to common shareholders** | 496 | 863 | 2 626 |
| | | | |
| **Balance sheet** | | | |
| | | | |
| **Assets** | | | |
| Investments | 151 341 | 156 947 | 162 224 |
| Other assets | 81 407 | 71 456 | 63 675 |
| **Total assets** | 232 748 | 228 403 | 225 899 |
| | | | |
| **Liabilities** | | | |
| Unpaid claims and claim adjustment expenses | 68 412 | 64 690 | 64 878 |
| Liabilities for life and health policy benefits | 39 944 | 39 551 | 39 044 |
| Unearned premiums | 6 528 | 6 305 | 8 299 |
| Other liabilities | 73 336 | 72 524 | 65 850 |
| Long-term debt | 19 184 | 18 427 | 16 541 |
| **Total liabilities** | 207 404 | 201 497 | 194 612 |
| | | | |
| **Shareholders' equity** | 25 344 | 25 342 | 29 590 |
| | | | |
| Non-controlling interests | | 1 564 | 1 697 |
| **Total equity** | 25 344 | 26 906 | 31 287 |
| | | | |
| Earnings/losses per share in USD | 1.46 | 2.52 | 7.68 |
| Earnings/losses per share in CHF | 1.49 | 2.64 | 6.79 |

[1] The Group changed its reporting currency from CHF into USD in 2010. Periods prior to 2010 have been translated to USD for informational purposes only based on the Group's average exchange rates for the income statements and year-end rates for the balance sheets.
[2] The Group updated its balance sheet presentation of deferred tax assets and liabilities. Deferred tax assets and liabilities are presented on a gross basis as per the first quarter 2013. The comparative period has been adjusted accordingly and is consistent with the relevant income tax disclosure in the notes to the financial statements in the prior year.

| 2012[2] | 2013 | 2014 | 2015 | 2016 | 2017 | **2018** |
|---|---|---|---|---|---|---|
| 24 661 | 28 276 | 30 756 | 29 751 | 32 691 | 33 119 | **33 875** |
| 785 | 542 | 506 | 463 | 540 | 586 | **586** |
| 5 302 | 4 735 | 4 992 | 4 236 | 4 740 | 4 702 | **5 077** |
| 2 688 | 3 325 | 1 059 | 1 220 | 5 787 | 4 048 | **–2 530** |
| 188 | 24 | 34 | 44 | 28 | 32 | **39** |
| 33 624 | 36 902 | 37 347 | 35 714 | 43 786 | 42 487 | **37 047** |
| –7 763 | –9 655 | –10 577 | –9 848 | –12 564 | –16 730 | **–14 855** |
| –8 878 | –9 581 | –10 611 | –9 080 | –10 859 | –11 083 | **–11 769** |
| –2 959 | –3 678 | –1 541 | –1 166 | –5 099 | –3 298 | **1 033** |
| –4 548 | –4 895 | –6 515 | –6 419 | –6 928 | –6 977 | **–6 919** |
| –3 953 | –4 268 | –3 876 | –3 882 | –3 964 | –3 874 | **–3 987** |
| –28 101 | –32 077 | –33 120 | –30 395 | –39 414 | –41 962 | **–36 497** |
| 5 523 | 4 825 | 4 227 | 5 319 | 4 372 | 525 | **550** |
| –1 125 | –312 | –658 | –651 | –749 | –132 | **–69** |
| 4 398 | 4 513 | 3 569 | 4 668 | 3 623 | 393 | **481** |
| –141 | –2 | | –3 | 3 | 5 | **–19** |
| 4 257 | 4 511 | 3 569 | 4 665 | 3 626 | 398 | **462** |
| –56 | –67 | –69 | –68 | –68 | –67 | **–41** |
| 4 201 | 4 444 | 3 500 | 4 597 | 3 558 | 331 | **421** |
| 152 812 | 150 075 | 143 987 | 137 810 | 155 016 | 161 897 | **147 302** |
| 68 691 | 63 445 | 60 474 | 58 325 | 60 049 | 60 629 | **60 268** |
| 221 503 | 213 520 | 204 461 | 196 135 | 215 065 | 222 526 | **207 570** |
| 63 670 | 61 484 | 57 954 | 55 518 | 57 355 | 66 795 | **67 446** |
| 36 117 | 36 033 | 33 605 | 30 131 | 41 176 | 42 561 | **39 593** |
| 9 384 | 10 334 | 10 576 | 10 869 | 11 629 | 11 769 | **11 721** |
| 62 020 | 57 970 | 53 670 | 55 033 | 59 402 | 56 959 | **51 581** |
| 16 286 | 14 722 | 12 615 | 10 978 | 9 787 | 10 148 | **8 502** |
| 187 477 | 180 543 | 168 420 | 162 529 | 179 349 | 188 232 | **178 843** |
| 34 002 | 32 952 | 35 930 | 33 517 | 35 634 | 34 124 | **27 930** |
| 24 | 25 | 111 | 89 | 82 | 170 | **797** |
| 34 026 | 32 977 | 36 041 | 33 606 | 35 716 | 34 294 | **28 727** |
| 11.85 | 12.97 | 10.23 | 13.44 | 10.72 | 1.03 | **1.37** |
| 11.13 | 12.04 | 9.33 | 12.93 | 10.55 | 1.02 | **1.34** |

# Annual Report Swiss Re Ltd

Swiss Re Ltd (the Company), domiciled in Zurich, Switzerland, is the ultimate holding company of the Swiss Re Group. Its principal activity is the holding of investments in Swiss Re Group companies.

## Income statement

Net income for 2018 amounted to CHF 3 077 million (2017: CHF 4 043 million) and was mainly driven by cash dividends from subsidiaries and affiliated companies of CHF 3 562 million.

The Company earned trademark license fees of CHF 340 million and reported net realised foreign exchange gains of CHF 70 million, offset by valuation adjustments on investments in subsidiaries and affiliated companies of CHF 776 million and administrative expenses of CHF 133 million.

## Assets

Total assets increased from CHF 24 971 million as of 31 December 2017 to CHF 25 360 million as of 31 December 2018.

Current assets increased by CHF 198 million to CHF 4 156 million as of 31 December 2018, mainly driven by an increase in loans to subsidiaries and affiliated companies, partially offset by a decrease in receivables from subsidiaries and affiliated companies.

Non-current assets increased by CHF 191 million to CHF 21 204 million as of 31 December 2018, mainly driven by an increase in loans to subsidiaries and affiliated companies, partially offset by a decrease in investments in subsidiaries and affiliated companies.

## Liabilities

Total liabilities increased from CHF 726 million as of 31 December 2017 to CHF 890 million as of 31 December 2018.

Short-term liabilities decreased by CHF 434 million to CHF 263 million as of 31 December 2018, mainly driven by a decrease in loans from subsidiaries and affiliated companies.

Long-term liabilities increased by CHF 598 million to CHF 627 million as of 31 December 2018, mainly due to the issuance of convertible debt and an increase in the provision for currency fluctuation.

## Shareholders' equity

Shareholders' equity increased from CHF 24 245 million as of 31 December 2017 to CHF 24 470 million as of 31 December 2018, mainly due to net income of CHF 3 077 million, partially offset by dividends to shareholders of CHF 1 551 million and share buy-back programmes of CHF 1 304 million.

Share capital decreased by CHF 1 million to CHF 34 million as of 31 December 2018 and legal profit reserves decreased by CHF 991 million to CHF 6 294 million as of 31 December 2018 resulting from the cancellation of own shares.

Own shares (directly held by the Company) increased by CHF 310 million to CHF 1 946 million as of 31 December 2018 due to net purchases of own shares of CHF 6 million and share buy-back programmes of CHF 1 304 million, partially offset by the cancellation of own shares of CHF 1 000 million.

# Income statement Swiss Re Ltd

**For the years ended 31 December**

| CHF millions | Notes | 2017 | 2018 |
|---|---|---|---|
| **Revenues** | | | |
| Investment income | 2 | 4 018 | **3 778** |
| Trademark license fees | | 347 | **340** |
| Other revenues | | 2 | **70** |
| **Total revenues** | | 4 366 | **4 188** |
| | | | |
| **Expenses** | | | |
| Administrative expenses | 3 | –126 | **–133** |
| Investment expenses | 2 | –2 | **–870** |
| Other expenses | | –179 | **–107** |
| **Total expenses** | | –307 | **–1 110** |
| | | | |
| **Income before income tax expense** | | 4 059 | **3 078** |
| Income tax expense | | –16 | **–1** |
| **Net income** | | 4 043 | **3 077** |

The accompanying notes are an integral part of Swiss Re Ltd's financial statements.

# Balance sheet Swiss Re Ltd

**As of 31 December**

## Assets

| CHF millions | Notes | 2017 | 2018 |
|---|---|---|---|
| **Current assets** | | | |
| Cash and cash equivalents | | 6 | **1** |
| Short-term investments | 4 | 3 | **39** |
| Receivables from subsidiaries and affiliated companies | | 765 | **442** |
| Other receivables and accrued income | | 5 | **18** |
| Loans to subsidiaries and affiliated companies | | 3 179 | **3 656** |
| **Total current assets** | | 3 958 | **4 156** |
| | | | |
| **Non-current assets** | | | |
| Loans to subsidiaries and affiliated companies | | 98 | **719** |
| Investments in subsidiaries and affiliated companies | 5 | 20 915 | **20 485** |
| **Total non-current assets** | | 21 013 | **21 204** |
| | | | |
| **Total assets** | | 24 971 | **25 360** |

The accompanying notes are an integral part of Swiss Re Ltd's financial statements.

## Liabilities and shareholders' equity

| CHF millions | Notes | 2017 | 2018 |
|---|---|---|---|
| **Liabilities** | | | |
| **Short-term liabilities** | | | |
| Payables to subsidiaries and affiliated companies | | 43 | **120** |
| Other liabilities and accrued expenses | | 225 | **143** |
| Loans from subsidiaries and affiliated companies | | 429 | **–** |
| **Total short-term liabilities** | | 697 | **263** |
| | | | |
| **Long-term liabilities** | | | |
| Provisions | | 29 | **134** |
| Debt | 7 | – | **493** |
| **Total long-term liabilities** | | 29 | **627** |
| | | | |
| **Total liabilities** | | 726 | **890** |
| | | | |
| **Shareholders' equity** | 8 | | |
| Share capital | 10 | 35 | **34** |
| *Legal reserves from capital contributions* | | *192* | ***192*** |
| *Other legal capital reserves* | | *1* | ***0*** |
| Legal capital reserves | | 193 | **192** |
| Legal profit reserves | | 7 285 | **6 294** |
| Reserve for own shares (indirectly held by subsidiaries) | | 16 | **18** |
| Voluntary profit reserves | | 14 305 | **16 797** |
| Retained earnings brought forward | | 4 | **4** |
| Net income for the financial year | | 4 043 | **3 077** |
| Own shares (directly held by the Company) | 9 | –1 636 | **–1 946** |
| **Total shareholders' equity** | | 24 245 | **24 470** |
| | | | |
| **Total liabilities and shareholders' equity** | | 24 971 | **25 360** |

The accompanying notes are an integral part of Swiss Re Ltd's financial statements.

# Notes
# Swiss Re Ltd

## 1 Significant accounting principles

### Basis of presentation
The financial statements are prepared in accordance with Swiss Law.

### Time period
The financial year 2018 comprises the accounting period from 1 January 2018 to 31 December 2018.

### Use of estimates in the preparation of annual accounts
The preparation of the annual accounts requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses as well as the related disclosures. Actual results could differ from these estimates.

### Foreign currency translation
Assets and liabilities denominated in foreign currencies are converted into Swiss francs at year-end exchange rates, with the exception of participations, which are reported in Swiss francs at historical exchange rates. Income and expenses in foreign currencies are converted into Swiss francs at average exchange rates for the reporting year.

### Cash and cash equivalents
Cash and cash equivalents include cash at bank, short-term deposits and certain investments in money market funds with an original maturity of three months or less. Such current assets are held at nominal value.

### Short-term investments
Short-term investments contain investments with an original maturity between three months and one year. Such investments are carried at cost, less necessary and legally permissible depreciation.

### Receivables from subsidiaries and affiliated companies/Other receivables
These assets are generally carried at nominal value. Value adjustments are recorded where the expected recovery value is lower than the nominal value.

Receivables from subsidiaries and affiliated companies/Other receivables also include derivative financial instruments which are carried at the lower of cost or market value.

### Accrued income
Accrued income consists of both other expenditures incurred during the financial year but relating to a subsequent financial year, and revenues relating to the current financial year but receivable in a subsequent financial year.

### Loans to subsidiaries and affiliated companies
Loans to subsidiaries and affiliated companies are carried at nominal value. Value adjustments are recorded where the expected recovery value is lower than the nominal value.

### Investments in subsidiaries and affiliated companies
These assets are carried at cost less necessary value adjustments to reflect other than temporary decreases in the value in use.

### Payables to subsidiaries and affiliated companies/Other liabilities
These liabilities are generally carried at nominal value.

Payables to subsidiaries and affiliated companies/Other liabilities also include derivative financial instruments which are carried at the lower of cost or market value.

### Accrued expenses
Accrued expenses consist of both income received before the balance sheet date but relating to a subsequent financial year, and charges relating to the current financial year but payable in a subsequent financial year.

### Loans from subsidiaries and affiliated companies
Loans from subsidiaries and affiliated companies are carried at nominal value.

### Provisions
Provisions contain provision for currency fluctuation and provision for taxation.

The provision for currency fluctuation comprises the net effect of foreign exchange gains and losses arising from the yearly revaluation of the opening balance sheet and the translation adjustment of the income statement from average to closing exchange rates at year-end. These net impacts are recognised in the income statement over a period of up to three years. Where the provision for currency fluctuation is insufficient to absorb net foreign exchange losses for the financial year, the provision for currency fluctuation is reduced to zero and the excess foreign exchange loss is recognised in the income statement.

The provision for taxation represents an estimate of taxes payable in respect of the reporting year.

### Debt
Debt is held at redemption value.

### Other legal capital reserves
Other legal capital reserves reflect gains and losses from sale of own shares (directly held by the Company).

### Reserve for own shares (indirectly held by subsidiaries)
Reserve for own shares is accounted for at the book value of those shares in the statutory financial statements of the respective subsidiary.

### Own shares (directly held by the Company)
Own shares are carried at cost and presented as a deduction in shareholders' equity.

### Foreign exchange transaction gains and losses
Foreign exchange gains and losses arising from foreign exchange transactions are recognised in the income statement and reported in other expenses or other revenues, respectively.

### Dividends from subsidiaries and affiliated companies
Dividends from subsidiaries and affiliated companies are recognised as investment income in the year in which they are declared.

### Trademark licence fees
Trademark licence fees are charged by the Company to its direct and indirect subsidiaries and their branches that benefit from the use of the Swiss Re brand.

### Capital and indirect taxes
Capital and indirect taxes related to the financial year are included in other expenses. Value-added taxes are included in the respective expense lines in the income statement.

### Income tax expense
As a holding company incorporated in Switzerland, Swiss Re Ltd is exempt from income taxation at cantonal/communal level. On the federal level, dividends from subsidiaries and affiliated companies are indirectly exempt from income taxation (participation relief). However, income tax is payable on trademark licence fees charged to certain subsidiaries and affiliated companies.

### Subsequent events
Subsequent events for the current reporting period have been evaluated up to 13 March 2019. This is the date on which the financial statements are available to be issued.

## 2 Investment income and expenses

| CHF millions | 2017 | 2018 |
|---|---|---|
| Cash dividends from subsidiaries and affiliated companies | 3 832 | **3 562** |
| Realised gains on sale of investments | 46 | **19** |
| Income from short-term investments | 6 | **0** |
| Income from loans to subsidiaries and affiliated companies | 63 | **113** |
| Investment management income | 1 | **0** |
| Other interest revenues | 70 | **84** |
| **Investment income** | 4 018 | **3 778** |

| CHF millions | 2017 | 2018 |
|---|---|---|
| Realised losses on sale of investments | 1 | **66** |
| Valuation adjustments on derivative financial instruments [1] | 0 | **16** |
| Valuation adjustments on investments in subsidiaries and affiliated companies | – | **776** |
| Investment management expenses | 1 | **0** |
| Other interest expenses | 0 | **12** |
| **Investment expenses** | 2 | **870** |

[1] The derivative financial instruments are included in Receivables from subsidiaries and affiliated companies.

## 3 Administrative expenses and personnel information

Swiss Re Ltd receives management and other services from Swiss Re Management Ltd and Swiss Reinsurance Company Ltd and has no employees of its own.

## 4 Securities lending

As of 31 December 2018, securities of CHF 10.7 million were lent to Group companies under securities lending agreements, whereas in 2017 securities of CHF 0.1 million were lent to Group companies. As of 31 December 2018 and 2017, there were no securities lent to third parties.

## 5 Investments in subsidiaries and affiliated companies

As of 31 December 2018 and 2017, Swiss Re Ltd held directly the following investments in subsidiaries and affiliated companies:

| **As of 31 December 2018** | Domicile | Currency | Share capital (millions) | Affiliation in % | Voting interest in % |
|---|---|---|---|---|---|
| Swiss Reinsurance Company Ltd | Zurich | CHF | 34.4 | 100 | 100 |
| Swiss Re Corporate Solutions Ltd | Zurich | CHF | 100.0 | 100 | 100 |
| Swiss Re Life Capital Ltd | Zurich | CHF | 0.1 | 100 | 100 |
| Swiss Re Investments Holding Company Ltd | Zurich | CHF | 0.1 | 100 | 100 |
| Swiss Re Principal Investments Company Ltd | Zurich | CHF | 0.1 | 100 | 100 |
| Swiss Re Management Ltd | Zurich | CHF | 0.1 | 100 | 100 |
| Swiss Re Specialised Investments Holdings (UK) Ltd | London | GBP | 1.0 | 100 | 100 |

| As of 31 December 2017 | Domicile | Currency | Share capital (millions) | Affiliation in % | Voting interest in % |
|---|---|---|---|---|---|
| Swiss Reinsurance Company Ltd | Zurich | CHF | 34.4 | 100 | 100 |
| Swiss Re Corporate Solutions Ltd | Zurich | CHF | 100.0 | 100 | 100 |
| Swiss Re Life Capital Ltd | Zurich | CHF | 0.1 | 100 | 100 |
| Swiss Re Investments Holding Company Ltd | Zurich | CHF | 0.1 | 100 | 100 |
| Swiss Re Principal Investments Company Ltd | Zurich | CHF | 0.1 | 100 | 100 |
| Swiss Re Management Ltd | Zurich | CHF | 0.1 | 100 | 100 |
| Swiss Re Specialised Investments Holdings (UK) Ltd | London | GBP | 1.0 | 100 | 100 |

Further disclosures in respect of investments in significant indirect subsidiaries and affiliated companies are detailed in Note 19 "Significant subsidiaries and equity investees" on pages 290 to 292 in the notes to the Group financial statements, where the voting interests are equal to the affiliations disclosed, except of Sul América S.A. where the voting rights are equal to 10%.

## 6 Commitments

The Company has established subordinated debt facilities which allow the Company to issue subordinated callable notes at any time. The Company pays a fee on the available commitment under the facility and an interest rate on issued notes. Notes, when issued, will be classified as subordinated debt. As of 31 December 2018, no notes have been issued under the facilities.

An overview of the subordinated debt facilities is provided in the following table:

| Instrument | Issued in | Currency | Nominal value in millions | Commitment fee (paid on undrawn amount) | Interest rate on issued notes | Facility first termination date | Issued notes' scheduled maturity date |
|---|---|---|---|---|---|---|---|
| Dated subordinated fixed-to-floating rate callable notes facility | 2015 | USD | 700 | 3.53% | 5.75%[1] | 2025 | 2050 |
| Dated subordinated fixed rate callable notes facility | 2016 | USD | 400 | 3.92% | 6.05%[1] | 2031 | 2056 |
| Dated subordinated fixed-to-floating rate callable notes facility | 2016 | USD | 800 | 3.67% | 5.625%[1] | 2027 | 2052 |
| Perpetual subordinated fixed spread callable notes facility | 2017 | USD | 750 | 2.77% | 4.625%[1] | 2022 | Perpetual[2] |

[1] Until first optional redemption date.
[2] First optional redemption date in 2022 and every five years thereafter.

The Company has entered into subordinated funding facilities with its subsidiary Swiss Reinsurance Company Ltd under which Swiss Reinsurance Company Ltd has the right, among others, to issue subordinated notes to the Company at any time. For its various rights, Swiss Reinsurance Company Ltd owes the Company an unconditional fixed commitment fee on the total facility amount, payable in annual instalments. Annually, Swiss Reinsurance Company Ltd receives a partial reimbursement of the commitment fee on the undrawn facility amount. As of 31 December 2018, the facilities were undrawn.

An overview of the subordinated funding facilities is provided in the following table:

| Instrument | Borrower | Issued in | Currency | Nominal value in millions | Total commitment fee calculated and paid on nominal value | Reimbursement fee paid on undrawn amount | Net commitment fee paid on undrawn amount | Maturity |
|---|---|---|---|---|---|---|---|---|
| Subordinated funding facility | Swiss Reinsurance Company Ltd | 2015 | USD | 700 | 5.80% | 2.22% | 3.58% | 2030 |
| Subordinated funding facility | Swiss Reinsurance Company Ltd | 2016 | USD | 400 | 6.10% | 2.13% | 3.97% | 2036 |
| Subordinated funding facility | Swiss Reinsurance Company Ltd | 2016 | USD | 800 | 5.68% | 1.95% | 3.73% | 2032 |

# 7 Debt

In June 2018, the Company issued a six-year senior unsecured exchangeable instrument with issuer stock settlement. The instrument has a face value of USD 500 million, with a fixed coupon of 3.25% per annum payable semi-annually in arrear until the maturity date (13 June 2024).

To economically offset the settlement of a noteholder initiated exchange (in cash or in Swiss Re Ltd shares), the Company purchased matching call options on Swiss Re Ltd shares with a portion of the proceeds of the offering. Consequently, no new Swiss Re Ltd shares will be issued upon a noteholder initiated exchange. Further information are detailed in Note 11 Debt and contingent capital instruments on page 271 in the 2018 Financial Report.

As of 31 December 2018, Swiss Re Ltd had outstanding debts of CHF 493 million (2017: CHF 0) due after five years.

| Instrument | Issued in | Currency | Nominal in millions | Interest rate | Maturity | Book value CHF millions |
|---|---|---|---|---|---|---|
| Convertible debt | 2018 | USD | 500 | 3.25% | 2024 | 493 |

# 8 Change in shareholders' equity

| CHF millions | Share capital | Legal capital reserves[3] | Legal profit reserves | Reserves for own shares | Voluntary profit reserves | Retained earnings brought forward | Net income for the financial year | Own shares | Total shareholders' equity |
|---|---|---|---|---|---|---|---|---|---|
| Shareholders' equity 1.1.2018 | 35 | 193 | 7 285 | 16 | 14 305 | 4 | 4 043 | –1 636 | 24 245 |
| Allocations relating to the dividend paid | | | | | 4 043 | | –4 043 | | 0 |
| Dividend for the financial year 2017 | | | | | –1 551 | | | | –1 551 |
| Net income for the financial year | | | | | | | 3 077 | | 3 077 |
| Share buy-back programme 2017[1] | | | | | | | | –415 | –415 |
| Share cancellation[1] | –1 | –10 | –989 | | | | | 1 000 | 0 |
| Share buy-back programme 2018[2] | | | | | | | | –889 | –889 |
| Other movements in own shares | | 9 | –2 | 2 | | | | –6 | 3 |
| **Shareholders' equity 31.12.2018** | **34** | **192** | **6 294** | **18** | **16 797** | **4** | **3 077** | **–1 946** | **24 470** |

| CHF millions | Share capital | Legal capital reserves | Legal profit reserves | Reserves for own shares | Voluntary profit reserves | Retained earnings brought forward | Net income for the financial year | Own shares | Total shareholders' equity |
|---|---|---|---|---|---|---|---|---|---|
| Shareholders' equity 1.1.2017 | 36 | 192 | 8 265 | 17 | 11 890 | 4 | 3 972 | –1 555 | 22 821 |
| Allocations relating to the dividend paid | | | | | 3 972 | | –3 972 | | 0 |
| Dividend for the financial year 2016 | | | | | –1 557 | | | | –1 557 |
| Net income for the financial year | | | | | | | 4 043 | | 4 043 |
| Share buy-back programme 2016 | | | | | | | | –479 | –479 |
| Share cancellation | –1 | –18 | –981 | | | | | 1 000 | 0 |
| Share buy-back programme 2017 | | | | | | | | –585 | –585 |
| Other movements in own shares | | 19 | 1 | –1 | | | | –17 | 2 |
| Shareholders' equity 31.12.2017 | 35 | 193 | 7 285 | 16 | 14 305 | 4 | 4 043 | –1 636 | 24 245 |

[1] At the 153rd Annual General Meeting held on 21 April 2017, the Group's shareholders authorised the Group Board of Directors to repurchase up to a maximum CHF 1 billion purchase value of the Group's own shares prior to the 2018 Annual General Meeting through a public share buy-back programme for cancellation purposes. The buy-back programme was completed on 16 February 2018. The total number of shares repurchased amounted to 10.8 million, of which 6.3 million and 4.5 million shares were repurchased by 31 December 2017 and between 1 January and 16 February 2018, respectively. On 20 April 2018, the 154th Annual General Meeting resolved the cancellation of the repurchased 10.8 million shares by way of share capital reduction. The shares were cancelled on 24 July 2018, after completion of the procedure in respect of a share capital reduction as set forth in Article 732 et seqq of the Swiss Code of Obligations.
[2] At the 154th Annual General Meeting held on 20 April 2018, the Group's shareholders authorised the Group Board of Directors to repurchase up to a maximum CHF 1 billion purchase value of the Group's own shares prior to the 2019 Annual General Meeting through a public share buy-back programme for cancellation purposes.
[3] Under current Swiss tax legislation, CHF 0.7 million of the legal reserves have been confirmed by the Swiss Federal Tax Administration to qualify as reserves out of capital contributions and can be distributed exempt from Swiss federal withholding tax. For Swiss resident individual shareholders holding shares in private wealth, distributions out of the confirmed reserves from capital contributions are also exempt from Swiss income taxes.

# 9 Own shares (directly and indirectly held by the Company)

| Number of own shares | 2017 | 2018 |
|---|---|---|
| *Own shares held by subsidiaries* | *178 233* | ***162 487*** |
| *Own shares held by Swiss Re Ltd directly* | *33 915 601* | ***34 704 029*** |
| Opening balance own shares | 34 093 834 | **34 866 516** |
| Purchase of own shares[1] | 995 183 | **482 229** |
| Sale of own shares[2] | –1 027 501 | **–476 363** |
| Share buy-back programme (152nd AGM 2016)[3] | 5 077 780 | **–** |
| Share buy-back programme (153rd AGM 2017)[4] | 6 347 500 | **4 485 316** |
| Cancellation of shares bought back | –10 620 280 | **–10 832 816** |
| Share buy-back programme (154th AGM 2018)[5] | – | **10 050 442** |
| **Own shares as of 31 December** | 34 866 516 | **38 575 324** |

[1] Purchased at average price CHF 93.17 (2017: CHF 89.91).
[2] Sold at average price CHF 94.49 (2017: CHF 87.31).
[3] Purchased at average price CHF 94.33.
[4] Purchased at average price CHF 92.52 (2017: CHF 92.16).
[5] Purchased at average price CHF 88.50.

# 10 Major shareholders

As of 31 December 2018, there was one shareholder with a participation exceeding the 3% threshold of Swiss Re Ltd's share capital:

| Shareholder | Number of shares | % of voting rights and share capital[1] | Creation of the obligation to notify |
|---|---|---|---|
| BlackRock, Inc | 17 037 445 | 5.03 | 27 December 2018 |

[1] The percentage of voting rights is calculated at the date the obligation was created and notified.

Further information in respect of major shareholders are detailed in "Group structure and shareholders" on page 104 in the 2018 Financial Report.

In addition, Swiss Re Ltd held, as of 31 December 2018, directly and indirectly 38 575 324 (2017: 34 866 516) own shares, representing 11.39% (2017: 9.98%) of voting rights and share capital. Swiss Re Ltd cannot exercise the voting rights of own shares held.

# 11 Release of undisclosed reserves

In 2018 and 2017, no net undisclosed reserves were released.

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# 12 Share ownership, options and related instruments of governing bodies

This section is in line with Articles 663c para. 3 and 959c para. 2 cif. 11 of the Swiss Code of Obligations, which requires disclosure of shareholdings, options and related instruments held by members of the Board of Directors and Group Executive Committee (Group EC) at the end of the reporting year and of share-based compensation for the Board of Directors during the reporting year. Further disclosures in respect of compensation for the members of the Board of Directors and the Group EC, and persons closely related, are detailed in the Compensation Report on pages 165 to 170 of the Financial Report of the Swiss Re Group.

### Share ownership

The number of shares held as of 31 December were:

| Members of the Group EC | 2017 | **2018** |
|---|---|---|
| Christian Mumenthaler, Group CEO | 68 775 | 71 733 |
| David Cole, former Group Chief Financial Officer[1] | 82 982 | n/a |
| John R. Dacey, Group Chief Financial Officer | 23 671 | 27 124 |
| Guido Fürer, Group Chief Investment Officer | 61 077 | 66 007 |
| Agostino Galvagni, CEO Corporate Solutions | 94 591 | 99 521 |
| Jean-Jacques Henchoz, former CEO Reinsurance EMEA[2] | 49 020 | n/a |
| Russell Higginbotham, CEO Reinsurance EMEA | n/a | 3 918 |
| Thierry Léger, CEO Life Capital | 49 841 | 53 785 |
| Moses Ojeisekhoba, CEO Reinsurance | 36 194 | 38 998 |
| Jayne Plunkett, CEO Reinsurance Asia | 34 288 | 36 264 |
| Patrick Raaflaub, Group Chief Risk Officer | – | 3 944 |
| Edouard Schmid, Group Chief Underwriting Officer | 29 161 | 30 936 |
| J. Eric Smith, CEO Reinsurance Americas | 21 400 | 24 004 |
| Thomas Wellauer, Group Chief Operating Officer | 105 390 | 110 520 |
| **Total** | 656 390 | **566 754** |

[1] The number of shares held on 31 March 2018 when David Cole stepped down from the Group EC was 82 982.
[2] The number of shared held on 22 August 2018 when Jean-Jacques Henchoz stepped down from the Group EC was 53 168.

| Members of the Board of Directors | 2017 | **2018** |
|---|---|---|
| Walter B. Kielholz, Chairman | 399 987 | 407 523 |
| Renato Fassbind, Vice Chairman, Chair Audit Committee | 23 854 | 27 593 |
| Raymond K.F. Ch'ien, Member | 21 472 | 22 946 |
| Mary Francis, former Member[1] | 6 509 | n/a |
| Karen Gavan, Member[2, 3] | n/a | 1 512 |
| Rajna Gibson Brandon, former Member[1] | 23 194 | n/a |
| C. Robert Henrikson, former Chair Compensation Committee[1] | 13 248 | n/a |
| Trevor Manuel, Member | 3 972 | 5 558 |
| Jay Ralph, Member | 868 | 2 115 |
| Joerg Reinhardt, Member | 1 168 | 14 415 |
| Eileen Rominger, Member[2] | n/a | 813 |
| Philip K. Ryan, Chair Finance and Risk Committee | 8 892 | 11 611 |
| Sir Paul Tucker, Member | 2 530 | 4 004 |
| Jacques de Vaucleroy, Chair Compensation Committee | 868 | 2 706 |
| Susan L. Wagner, Chair Investment Committee | 8 754 | 11 360 |
| Larry Zimpleman, Member[2] | n/a | 813 |
| **Total** | 515 316 | **512 969** |

[1] Term of office expired after the completion of the AGM of 20 April 2018 and did not stand for re-election.
[2] Elected to Swiss Re's Board of Directors at the AGM of 20 April 2018.
[3] Shareholdings for 2018 include 2 500 American Depository Receipts (ADRs), equivalent to 625 shares.

## Share-based compensation

The share-based compensation for the members of the Board of Directors for 2017 and 2018 was:

| Members of the Board of Directors | 2017 Fees in blocked shares[1] (CHF thousands) | 2017 Number of shares[2] | 2018 Fees in blocked shares[1] (CHF thousands) | 2018 Number of shares[2] |
|---|---|---|---|---|
| Walter B. Kielholz, Chairman | 1 663 | 19 674 | 1 547 | 17 536 |
| Renato Fassbind, Vice Chairman, Chairman of the Audit Committee[3] | 330 | 3 900 | 330 | 3 739 |
| Raymond K.F. Ch'ien, Member | 126 | 1 494 | 130 | 1 474 |
| Mary Francis, former Member[4] | 136 | 1 609 | 47 | 552 |
| Karen Gavan, Member[5] | n/a | n/a | 80 | 887 |
| Rajna Gibson Brandon, former Member[4] | 127 | 1 494 | 43 | 513 |
| C. Robert Henrikson, former Chair Compensation Committee[4] | 185 | 2 183 | 63 | 749 |
| Trevor Manuel, Member | 136 | 1 609 | 140 | 1 586 |
| Jay Ralph, Member | 73 | 868 | 110 | 1 247 |
| Joerg Reinhardt, Member | 73 | 868 | 110 | 1 247 |
| Carlos E. Represas, former Member[6] | 34 | 396 | n/a | n/a |
| Eileen Rominger, Member[5] | n/a | n/a | 74 | 813 |
| Philip K. Ryan, Chair Finance and Risk Committee | 233 | 2 758 | 240 | 2 719 |
| Sir Paul Tucker, Member | 126 | 1 494 | 130 | 1 474 |
| Jacques de Vaucleroy, Chair Compensation Committee | 73 | 868 | 163 | 1 838 |
| Susan L. Wagner, Chair Investment Committee | 223 | 2 643 | 230 | 2 606 |
| Larry Zimpleman, Member[5] | n/a | n/a | 74 | 813 |
| **Total** | **3 538** | **41 858** | **3 511** | **39 793** |

[1] Represents the portion (40%) of the total fees for the members of the Board of Directors that is delivered in Swiss Re Ltd shares, with a four-year blocking period.
[2] The number of shares is calculated by dividing the portion (40%) of the total fees with the average closing price of the shares on the SIX Swiss Exchange during the ten trading days preceding the AGM less the amount of any dividend resolved by such AGM.
[3] Acting as the Lead Independent Director.
[4] Term of office expired after the completion of the AGM of 20 April 2018 and did not stand for re-election.
[5] Elected to Swiss Re's Board of Directors at the AGM of 20 April 2018.
[6] Term of office expired after the completion of the AGM of 21 April 2017 and did not stand for re-election.

## Restricted shares

For the years ended 31 December 2017 and 2018, neither the members of the Board of Directors nor the members of the Group EC held any restricted shares.

## Vested options

For the years ended 31 December 2017 and 2018, neither the members of the Board of Directors nor the members of the Group EC held any vested options.

# Proposal for allocation of disposable profit

The Board of Directors proposes to the Annual General Meeting to be held in Zurich on 17 April 2019 to approve the following allocations and dividend payment:

| CHF millions | 2017 | 2018 |
|---|---|---|
| Retained earnings brought forward | 4 | **4** |
| Net income for the financial year | 4 043 | **3 077** |
| **Disposable profit** | 4 047 | **3 081** |
| Allocation to voluntary profit reserves | –4 043 | **–3 077** |
| **Retained earnings after allocation** | 4 | **4** |

| CHF millions | 2017 | 2018 |
|---|---|---|
| Voluntary profit reserves brought forward | 14 305 | **16 797** |
| Allocation from retained earnings | 4 043 | **3 077** |
| Ordinary dividend payment out of voluntary profit reserves | –1 551[1] | **–1 680[2]** |
| **Voluntary profit reserves after allocation and dividend payment** | 16 797 | **18 194** |

[1] Since the Board of Directors' proposal for allocation of disposable profit, included in the Annual Report 2017, the number of registered shares eligible for dividend, at the dividend payment date of 26 April 2018, decreased due to the share buy-back programme of 4 485 316 shares and transfer of 46 926 shares for employee participation purposes from not eligible to eligible for dividend. This resulted in a lower dividend of CHF 22 million, compared to the Board of Directors' proposal, and higher voluntary profit reserves by the same amount.
[2] The Board of Directors' proposal to the Annual General Meeting of 17 April 2019 is based on the number of shares eligible for dividend as of 31 December 2018. The actual dividend payment will depend on the number of shares eligible for dividend as of 18 April 2019.

## Dividend

If the Board of Directors' proposal for allocations and dividend payment is accepted, an ordinary dividend of CHF 5.60 per share will be paid on 25 April 2019 from voluntary profit reserves.

| Share structure per 31 December 2018 | Number of registered shares | Nominal capital in CHF |
|---|---|---|
| Eligible for dividend[1] | 300 044 141 | **30 004 414** |
| Not eligible for dividend | 38 575 324 | **3 857 532** |
| **Total shares issued** | 338 619 465 | **33 861 946** |

[1] The Board of Directors' proposal to the Annual General Meeting of 17 April 2019 is based on the number of shares eligible for dividend as of 31 December 2018. The actual dividend payment will depend on the number of shares eligible for dividend as of 18 April 2019.

Zurich, 13 March 2019

# Report of the statutory auditor

Report of the statutory auditor
to the General Meeting of
Swiss Re Ltd
Zurich

**Report of the statutory auditor on the financial statements**
As statutory auditor, we have audited the accompanying financial statements of Swiss Re Ltd (the "Company"), which comprise the income statement, balance sheet and notes (pages 307 to 319), for the year ended 31 December 2018.

**Board of Directors' responsibility**
The Board of Directors is responsible for the preparation of the financial statements in accordance with the requirements of Swiss law and the Company's Articles of Association. This responsibility includes designing, implementing and maintaining an internal control system relevant to the preparation of financial statements that are free from material misstatement, whether due to fraud or error. The Board of Directors is further responsible for selecting and applying appropriate accounting policies and making accounting estimates that are reasonable in the circumstances.

**Auditor's responsibility**
Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Swiss law and Swiss Auditing Standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers the internal control system relevant to the Company's preparation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control system. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of accounting estimates made, as well as evaluating the overall presentation of the financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

**Opinion**
In our opinion, the financial statements for the year ended 31 December 2018 comply with Swiss law and the Company's Articles of Association.

**Report on a key audit matter based on the circular 1/2015 of the Federal Audit Oversight Authority**
A key audit matter is a matter that, in our professional judgement, was of most significance in our audit of the financial statements of the current period. The matter was addressed in the context of our audit of the financial statements as a whole and in forming our opinion thereon, and we do not provide a separate opinion on this matter.

### Impairment assessment of investments in subsidiaries and affiliated companies

**Key audit matter**

The Company applies individual valuations of investments in subsidiaries and affiliated companies in accordance with Swiss Law.

In performing impairment assessments of investments in subsidiaries and affiliated companies, management uses considerable judgement in determining valuation-method inputs. Management applies a consistent market value method for each investment and applies adjustments to the model based on specific characteristics of the investment.

The impairment assessment is considered a key audit matter due to the considerable judgement in the valuation model and inputs and adjustments applied.

**How our audit addressed the key audit matter**

In relation to the matter set out opposite, our substantive testing procedures included the following:

- Evaluating management's method and assumptions to determine a market value.
- Assessing whether the model applied for each subsidiary is reasonable, including any adjustments applied.
- Understanding judgements applied by management for each investment to ensure they are in accordance with our own expectation based on our knowledge of the business and industry.

On the basis of the work performed, we consider the methods and assumptions used by management to be reasonable.

## Report on other legal requirements

We confirm that we meet the legal requirements on licensing according to the Auditor Oversight Act (AOA) and independence (article 728 CO and article 11 AOA) and that there are no circumstances incompatible with our independence.

In accordance with article 728a paragraph 1 item 3 CO and Swiss Auditing Standard 890, we confirm that an internal control system exists which has been designed for the preparation of financial statements according to the instructions of the Board of Directors.

We further confirm that the proposal for allocation of disposable profit complies with Swiss law and the Company's Articles of Association. We recommend that the financial statements submitted to you be approved.

PricewaterhouseCoopers Ltd

Roy Clark

Frank Trauschke

Audit expert
Auditor in charge

Zurich, 13 March 2019

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Headquartered in Zurich, Switzerland, Swiss Re has operations across the globe. Our success is built on our solid client relationships, capital strength and risk knowledge company approach. We make the world more resilient.

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# Glossary

| | |
|---|---|
| **Acquisition costs** | That portion of an insurance premium which represents the cost of obtaining the insurance business: it includes the intermediaries' commission, the company's sales expense and other related expenses. |
| **Asset-backed securities** | Securities backed by notes or receivables against financial assets such as auto loans, credit cards, royalties, student loans and insurance profits. |
| **Asset-liability management (ALM)** | Management of an insurance business in a way that coordinates investment-related decisions on assets and liabilities. Specifically, the ongoing process of formulating, implementing, monitoring and revising investment strategies related to assets and liabilities in an attempt to achieve financial objectives, while managing exposure to financial market risks, such as interest rates, credit spreads and currency movements. |
| **Aviation insurance** | Insurance of accident and liability risks, as well as hull damage, connected with the operation of aircraft. |
| **Benchmark investment result** | Includes changes in the economic value of liabilities (as represented by the replicating portfolio) as a result of movements in risk-free discount rates, the passage of time, changes in credit spreads, changes in equity prices or changes in the economic value of embedded options and guarantees. |
| **Book value per share** | The ratio of ordinary shareholders' equity to the number of common shares entitled to dividend. |
| **Business interruption** | Insurance covering the loss of earnings resulting from, and occurring after, destruction of property; also known as "loss of profits" or "business income protection insurance". |
| **Capacity** | Maximum amount of risk that can be accepted in insurance. Capacity also refers to the amount of insurance coverage allocated to a particular policyholder or in the marketplace in general. |
| | Type of insurance – mainly comprising accident and liability business – which is separate from property, engineering and life insurance. |
| **Catastrophe bonds** | Securities used by insurance and reinsurance companies to transfer peak insurance risks, including natural catastrophes, to the capital markets. Catastrophe bonds help to spread peak exposures (see insurance-linked securities). |
| **Cession** | Insurance that is reinsured: the passing of the insurer's risks to the reinsurer against payment of a premium. The insurer is referred to as the ceding company or cedent. |
| **Claim** | Demand by an insured for indemnity under an insurance contract. |
| **Claims and benefits** | Claims and benefits in the EVM income statement represent the present value of all estimated future claims and benefits on contracts written during the year. Changes in estimates of claims and benefits payable on contracts written in prior years are reflected in previous years' business profit, along with changes in other underwriting cash flows relating to previous years. |

| | |
|---|---|
| **Claims handling** | Activities in connection with the investigation, settlement and payment of claims from the time of their occurrence until settlement. |
| **Claims incurred and claim adjustment expenses** | All claims payments plus the adjustment in the outstanding claims provision of a business year and claim adjustment expenses. |
| **Claims ratio** | Sum of claims paid and change in the provisions for unpaid claims and claim adjustment expenses in relation to premiums earned. |
| **Coinsurance** | Arrangement by which a number of insurers and/or reinsurers share a risk. |
| **Combined ratio** | The ratio is a combination of the non-life claims ratio and the expense ratio. |
| **Commission** | Remuneration paid by the insurer to its agents, brokers or intermediaries, or by the reinsurer to the insurer, for costs in connection with the acquisition and administration of insurance business. |
| **Commutation** | The termination of a reinsurance contract by agreement of the parties on the basis of one or more lump sum payments by the reinsurer which extinguish its liability under the contract. The payment made by the reinsurer commonly relates to incurred losses under the contract. |
| **Cover** | Insurance and reinsurance protection of one or more specific risk exposures based on a contractual agreement. |
| **Credit insurance** | Insurance against financial losses sustained through the failure, for commercial reasons, of policyholders' clients to pay for goods or services supplied to them. |
| **Credit spreads** | Difference in yield between a fixed income security which has default risk and one which is considered to be risk-free, such as U.S. Treasury securities. |
| **Directors' and officers' liability insurance (D&O)** | Liability insurance for directors and officers of an entity, providing cover for their personal legal liability towards shareholders, creditors, employees and others arising from wrongful acts such as errors and omissions. |
| **Disability insurance** | Insurance against the incapacity to exercise a profession as a result of sickness or other infirmity. |
| **Earnings per share (EPS)** | Portion of a company's profit allocated to each outstanding share of common stock. Earnings per share is calculated by dividing net income by the weighted average number of common shares outstanding during the period. |
| **Economic net worth** | Economic net worth (ENW) is defined as the difference between the market-consistent value of assets and liabilities. ENW is an economic measure of shareholders' equity and the starting point in determining available capital under the Swiss Solvency Test (SST). |
| **EVM** | Economic Value Management (EVM) is Swiss Re Group's proprietary integrated economic valuation and accounting framework for planning, pricing, reserving, and steering our business. |

| | |
|---|---|
| **EVM capital** | EVM capital is the capital required to support uncertainty related to estimated cash flows arising from existing underwriting and investment activities. |
| **EVM profit** | EVM profit is a risk-adjusted measure of performance that can be compared across all business activities. |
| **Expense ratio** | Sum of acquisition costs and other operating costs and expenses, in relation to premiums earned. |
| **G-SIIs** | Globally systemically important insurers. |
| **Gross outperformance** | Defined as the difference between the mark-to-market investment result and the benchmark investment result. |
| **Gross underwriting result – new business** | Gross underwriting result from new business is defined as present value of new business underwriting cash flows (eg premiums, claims, commissions, etc) before internal expenses, taxes and capital costs. |
| **Guaranteed minimum death benefit (GMDB)** | A feature of variable annuity business. The benefit is a predetermined minimum amount that the beneficiary will receive upon the death of the insured. |
| **Health insurance** | Generic term applying to all types of insurance indemnifying or reimbursing for losses caused by bodily injury or sickness or for expenses of medical treatment necessitated by sickness or accidental bodily injury. |
| **Incurred but not reported (IBNR)** | Provision for claims incurred but not reported by the balance sheet date. In other words, it is anticipated that an event will affect a number of policies, although no claims have been made so far, and is therefore likely to result in liability for the insurer. |
| **Insurance-linked securities (ILS)** | Security for which the payment of interest and/or principal depends on the occurrence or severity of an insurance event. The underlying risk of the security is a peak or volume insurance risk. |
| **Layer** | Section of cover in a non-proportional reinsurance programme in which total coverage is divided into a number of consecutive layers starting at the retention or attachment point of the ceding company up to the maximum limit of indemnity. Individual layers may be placed with different insurers or reinsurers. |
| **Liability insurance** | Insurance for damages that a policyholder is obliged to pay because of bodily injury or property damage caused to another person or entity based on negligence, strict liability or contractual liability. |
| **Life insurance** | Insurance that provides for the payment of a sum of money upon the death of the insured, or upon the insured surviving a given number of years, depending on the terms of the policy. In addition, life insurance can be used as a means of investment or saving. |
| **Longevity risk** | The risk to which a pension fund or life insurance company could be exposed as a result of higher-than-expected payout ratios. Increasing life expectancy trends among policyholders and pensioners can result in payout levels that are higher than originally expected. |
| **Marine insurance** | Line of insurance which includes coverage for property in transit (cargo), means of transportation (except aircraft and motor vehicles), offshore installations and valuables, as well as liabilities associated with marine risks and professions. |
| **Mark-to-market** | Adjustment of the book value or collateral value of a security, portfolio or account to current fair market value. |

**Mark-to-market investment result** — Includes net investment income, realised gains and losses and changes in unrealised gains and losses reported under the accounting principles generally accepted in the United States of America (US GAAP). In addition, it includes changes in market value of investment positions carried at amortised cost under US GAAP. It excludes the following US GAAP items: investment income from cedants, unit-linked and with-profit business and certain loans as well as minority interest and depreciation on real estate.

**Market value margin** — The market value margin (MVM) represents the minimum cost of holding capital after the one-year SST period until the end of a potential run-off period.

**Motor insurance** — Line of insurance which offers coverage for property, accident and liability losses involving motor vehicles.

**Net outperformance** — Defined as the gross outperformance after deducting the actual costs incurred by managing our actual investment portfolio in excess of the internal fee paid by underwriting for the purchase and maintenance of the investment portfolio replicating the best-estimate liability and backing the associated capital requirements.

**Net reinsurance assets** — Receivables related to deposit accounting contracts (contracts which do not meet risk transfer requirements) less payables related to deposit contracts.

**Net underwriting result – new business** — Net underwriting result from new business is defined as the gross underwriting result from new business net of the present value of internal expenses allocated to new business but before taxes and capital costs.

**Non-life insurance** — All classes of insurance business excluding life insurance.

**Non-proportional reinsurance** — Form of reinsurance in which coverage is not in direct proportion to the original insurer's loss; instead the reinsurer is liable for a specified amount which exceeds the insurer's retention; also known as "excess of loss reinsurance".

**Operating margin ratio** — The operating margin is calculated as operating result divided by total operating revenues. The operating result is before interest expenses, taxes and net realised gains/losses.

**Operating revenues** — Premiums earned plus net investment income plus other revenues.

**Operational risk** — Risk arising from failure of operational processes, internal procedures and controls leading to financial loss.

**Premium** — The payment, or one of the periodical payments, a policyholder agrees to make for an insurance policy.

**Premiums and fees** — Premiums and fees in the EVM income statement represent the present value of all estimated future premiums and fees on contracts written during the year. Gross premiums and fees represent premiums and fees before external retrocessions. Gross premiums and fees in the EVM income statement of the business segments also exclude retrocessions to other segments of the Group.

**Premiums earned** — Premiums an insurance company has recorded as revenues during a specific accounting period.

**Premiums written** — Premiums for all policies sold during a specific accounting period.

**Present value of future profits (PVFP)** — Intangible asset primarily arising from the purchase of life and health insurance companies or portfolios.

**Principal Investments and Acquisitions**
Principal Investments and Acquisitions is a unit of Swiss Re that manages all strategic acquisition activities of the Group as well as a portfolio of minority holdings in primarily insurance and insurance-related businesses with the goal of generating long-term value.

**Product liability insurance**
Insurance covering the liability of the manufacturer or supplier of goods for damage caused by their products.

**Professional indemnity insurance**
Liability insurance cover which protects professional specialists such as physicians, architects, engineers, lawyers, accountants and others against third-party claims arising from activities in their professional field; policies and conditions vary according to profession.

**Profit margin**
Profit margin is calculated for new business, previous years' business and investment activities. The new business profit margin is the ratio of new business profit/loss to EVM capital allocated to new business over the lifetime of the business. The previous years' business profit margin is the ratio of previous years' business profit/loss to EVM capital allocated to previous years' business in the current year. Investment profit margin is the ratio of investment profit/loss to EVM capital allocated to investment activities in the current year. These ratios can be used to compare profitability across all underwriting and investment activities on a consistent, risk-adjusted basis.

**Property insurance**
Collective term for fire and business interruption insurance as well as burglary, fidelity guarantee and allied lines.

**Proportional reinsurance**
Form of reinsurance arrangement in which the premiums earned and the claims incurred of the cedent are shared proportionally by the cedent and the reinsurer.

**Provision for capital costs**
Frictional capital costs provide compensation to shareholders for agency costs, costs for potential financial distress and regulatory (illiquidity) costs. Frictional capital costs include risk capital costs and funding costs. Risk capital costs are charged at 4.5% of eligible economic capital which consists of ENW and eligible hybrid debt. Funding costs are charged or credited at the legal entity level depending on the liquidity the respective legal entity uses or generates. In addition, the provision for capital costs includes an allowance for double taxation on the risk free return on capital allocated to underwriting activities.

**Quota share reinsurance**
Form of proportional reinsurance in which a defined percentage of the premiums earned and the claims incurred by the cedent in a specific line is reinsured for a given period. Quota share reinsurance arrangements represent a sharing of business in a fixed ratio or proportion.

**Reinsurance**
Insurance which lowers the risk carried by primary insurance companies. Reinsurance includes various forms such as facultative, financial, non-proportional, proportional, quota share, surplus and treaty reinsurance.

**Reserves**
Amount required to be carried as a liability in the financial statements of an insurer or reinsurer to provide for future commitments under outstanding policies and contracts.

**Retention**
Amount of risk which the policyholder or insurer does not insure or reinsure but keeps for its own account.

**Retrocession**
Amount of the risk accepted by the reinsurer which is then passed on to other reinsurance companies.

**Return on equity**
Net income as a percentage of time-weighted shareholders' equity.

**Return on investments**
Investment related operating income as a percentage of invested assets. Invested assets include investments, securities in transit, certain financial liabilities and exclude policy loans, minority interests, cash and cash equivalents, as well as assets related to securities lending, repurchase agreements and collateral balances.

| | |
|---|---|
| **Risk** | Condition in which there is a possibility of injury or loss; also used by insurance practitioners to indicate the property insured or the peril insured against. |
| **Risk management** | Management tool for the comprehensive identification and assessment of risks based on knowledge and experience in the fields of natural sciences, technology, economics and statistics. |
| **Running yield** | Net investment income on long-term fixed income positions, including coupon income and amortisation, as a percentage of the average market value of the long-term fixed income portfolio. |
| **Securitisation** | Financial transaction in which future cash flows from financial assets (or insurable risks) are pooled, converted into tradable securities and transferred to capital market investors. The financial assets are commonly sold to a special-purpose entity, which purchases them with cash raised through the issuance of beneficial interests (usually debt instruments) to third-party investors. |
| **Solvency II** | Regulatory framework for EU re/insurance solvency rules. Solvency II is a comprehensive, economic and risk-based regulation and includes prudential requirements on solvency capital, risk modelling, supervisory control and disclosure. |
| **SST risk-bearing capital** | The SST risk-bearing capital (SST RBC) is the amount of capital that is available to protect the policyholders of an entity in case of a large and unexpected adverse event |
| **SST target capital** | Amount of capital that is required to support the risks assumed by an entity. It is based on the entity's total risk. |
| **Stop-loss reinsurance** | Form of reinsurance that protects the ceding insurer against an aggregate amount of claims over a period, in excess of either a stated amount or a specified percentage of estimated benefit costs. An example of this is employer stop-loss (ESL) coverage, which is used by US companies to cap losses on self-funded group health benefit programmes. The stop-loss can apply to specific conditions or aggregate losses. |
| **Surety insurance** | Sureties and guarantees issued to third parties for the fulfilment of contractual liabilities. |
| **Surplus reinsurance** | Form of proportional reinsurance in which risks are reinsured above a specified amount. |
| **Swiss Solvency Test (SST)** | An economic and risk-based insurance regulation, similar to the objectives of Solvency II to which all insurance and reinsurance companies writing business in Switzerland are subject. Since 1 January 2011, the SST-based target capital requirement is in force and companies must achieve economic solvency. |
| **Tail VaR** | See "Value at risk". |
| **Top-down investment strategy approach** | An investment strategy process which analyses trends in the global economy and the associated impact on financial markets to assess the overall financial market outlook as well as their implications for various asset classes and risk exposures. |
| **Total contribution to ENW** | Total contribution to ENW is the total return generated for shareholders and includes the release of capital costs. Total contribution to ENW is therefore not a risk-adjusted performance measure. |
| **Treaty reinsurance** | Participation of the reinsurer in certain sections of the insurer's business as agreed by treaty, as opposed to single risks. |
| **Underwriting result** | Premiums earned less the sum of claims paid, change in the provision for unpaid claims and claim adjustment expenses and expenses (acquisition costs and other operating costs and expenses). |

**Unearned premium**

Part of written premium (paid or owed) which relates to future coverage and for which services have not yet been provided; this is carried in an unearned premium reserve and may be refundable if the contract is cancelled before expiry.

**Unit-linked policy**

A life insurance contract which provides policyholder funds linked to an underlying investment product or fund. The performance of the policyholder funds is for the account of the policyholder.

**US GAAP**

United States generally accepted accounting principles.

**Value at risk (VaR)**

Maximum possible loss in market value of an asset portfolio within a given time span and at a given confidence level. 99% VaR measures the level of loss likely to be exceeded in only one year out of a hundred, while 99.5% VaR measures the loss likely to be exceeded in only one year out of two hundred. 99% tail VaR estimates the average annual loss likely to occur with a frequency of less than once in one hundred years.

**With-profit policy**

An insurance contract that has additional amounts added to the sum insured, or paid/credited separately to the policyholder as a bonus, which result from a share of the profit generated by the with-profits insurance funds, including these funds' interests in other blocks of business.

Some of the terms included in the glossary are explained in more detail in Note 1 to the Group financial statements.

Swiss Re uses some of the term definitions provided by the glossary of the International Association of Insurance Supervisors (IAIS).

# **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", "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 the Group'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:

- the frequency, severity and development of insured claim events, particularly natural catastrophes, man-made disasters, pandemics, acts of terrorism and acts of war;
- mortality, morbidity and longevity experience;
- the cyclicality of the insurance and reinsurance sectors;
- instability affecting the global financial system;
- deterioration in global economic conditions;
- 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 the Group's investment assets;
- changes in the Group's investment result as a result of changes in the Group's investment policy or the changed composition of the Group's investment assets, and the impact of the timing of any such changes relative to changes in market conditions;
- the Group'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 the Group's financial strength or otherwise;
- any inability to realise amounts on sales of securities on the Group's balance sheet equivalent to their values recorded for accounting purposes;
- changes in legislation and regulation, and the interpretations thereof by regulators and courts, affecting us or the Group's ceding companies, including as a result of shifts away from multilateral approaches to regulation of global operations;
- the outcome of tax audits, the ability to realise tax loss carryforwards, 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, and the overall impact of changes in tax regimes on business models;
- failure of the Group's hedging arrangements to be effective;
- the lowering or loss of one of the financial strength or other ratings of one or more Swiss Re Group companies, and developments adversely affecting the Group's ability to achieve improved ratings;
- uncertainties in estimating reserves;
- policy renewal and lapse rates;
- uncertainties in estimating future claims for purposes of financial reporting, particularly with respect to large natural catastrophes and certain large man-made losses, 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;
- extraordinary events affecting the Group's clients and other counterparties, such as bankruptcies, liquidations and other credit-related events;
- 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, lower-than-expected benefits, or other issues experienced in connection with any such transactions;
- changing levels of competition, including from new entrants into the market; and
- operational factors, including the efficacy of risk management and other internal procedures in managing the foregoing risks and the ability to manage cyber security risks.

These factors are not exhaustive. The Group 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.

# Note on risk factors

## General impact of adverse market conditions

The operations of Swiss Re Ltd ("Swiss Re") and its subsidiaries (collectively, the "Group") as well as its investment returns are subject to market volatility and macroeconomic factors, which are outside of the Group's control and are often inter-related.

Financial, credit and foreign exchange markets are experiencing continued periods of volatility reflecting a range of political, economic and other uncertainties, some of the more significant of which are inter-related. These include the planned withdrawal of the United Kingdom from the European Union and significant uncertainty regarding the basis of that withdrawal and the future relationship between the United Kingdom and the European Union; the possible emergence of trade barriers and other protection policies across a range of economies, including a sustained trade war between the United States and China; geopolitical tensions more broadly; a prolonged slowdown in one or more of the principal global economies, particularly in China, and possible recession; continued challenges faced by the Eurozone; the tightening of monetary policy; sustained challenges to multilateral institutions and frameworks; the domestic political situation in the United States, various member states of the European Union and potentially other countries; and heightened scrutiny of technology companies.

Further adverse developments or the continuation of adverse trends that, in turn, have a negative impact on financial markets and economic conditions could limit the Group's ability to access the capital markets and bank funding markets, could adversely affect the ability of counterparties to meet their obligations to the Group and could adversely affect the confidence of the ultimate buyers of insurance and reinsurance.

Any of the foregoing factors, developments and trends could have an adverse effect on the Group's investment results, which in the current low interest rate environment and soft insurance cycle could have a material adverse effect on the Group's overall results, make it difficult to determine the value of certain assets in the Group's portfolio, make it more difficult to acquire suitable investments to meet its risk and return criteria and otherwise have a material adverse effect on its business and operations.

## Regulatory changes

Swiss Re and its subsidiaries operate in a highly regulated environment. The regulatory regimes to which members of the Group are subject have changed significantly in recent years and are expected to continue to evolve. During this period, there has been a noticeable trend to extend the scope of reforms and oversight, which initially targeted banks, beyond such institutions to cover insurance and reinsurance operations.

While some regulation is national in scope, the global nature of the Group's business means that its operations are subject in effect to a patchwork of global, national and regional standards. Swiss Re and its subsidiaries are subject to group supervision and Swiss Re's subsidiaries are also subject to applicable regulation in each of the jurisdictions in which they conduct business, particularly Switzerland, the United States, the United Kingdom, Luxembourg and Germany. The Group is subject to the Swiss Solvency Test and, through its legal entities organised in the EEA, Solvency II.

While certain regulatory processes are designed in part to foster convergence and achieve recognition of group supervisory schemes, the Group continues to face risks of extra-territorial application of regulations, particularly as to group supervision and group solvency requirements. In addition, regulators in jurisdictions beyond those where the Group has core operations increasingly are playing a far greater oversight role, requiring more localised resources and, despite a predominantly local focus, also raise issues of a cross-border nature. Furthermore, evolving regulatory schemes and requirements may be inconsistent or may conflict with each other, thereby subjecting the Group, particularly in light of the increasing focus on legal entities in isolation, to higher compliance and legal costs, as well as the possibility of higher operational, capital and liquidity costs. The effect of these trends could be exacerbated to the extent that the current political environment results in a return to more bilateral, and less harmonised, cross-border regulatory efforts.

While in recent years there has been an evolving focus on classifying certain insurance companies as systemically important, it is unclear whether and, if so, in what form reforms will be enacted. The Group could be designated as a global systemically important financial institution ("SIFI") under the framework for SIFIs developed by the Financial Stability Board, or as a systemically important insurer by the Financial Stability Oversight Council ("FSOC") in the United States. The International Association of Insurance Supervisors, an international body that represents insurance regulators and supervisors, has published and since refined its methodology for identifying global systemically important insurers ("G-SIIs"). Were the Group to be designated as a G-SII, it could be subject to one or both of the resulting regimes, including capital standards (the basic capital requirement for G-SIIs), which would have various implications for the Group, including additional compliance costs, reporting obligations and capital costs (in the form of capital charges or high loss absorption capacity), as well as heightened regulatory scrutiny in various jurisdictions. In addition, the Group ultimately will be subject to oversight of its Swiss regulator in respect of recovery and resolution planning.

The Group cannot predict which legislative and/or regulatory initiatives will be enacted or promulgated, what the scope and content of these initiatives ultimately will be, when they will be effective and what the implications will be for the industry, in general, and for the Group, in particular. The Group may be subject to changes in views of its regulators in respect of the models that the Group uses for capital and solvency purposes, and could be adversely affected if, for example, it is required to use standard models rather than internal models. Generally, legal and regulatory changes could have a material impact on the Group's business. Uncertainty regarding the future relationship between the UK and the EU could also impact the legislative and/or regulatory regimes to which the Group is subject, both in the United Kingdom and in the European Union.

In addition, regulatory changes could occur in areas of broader application, such as competition policy and tax laws. Changes in tax laws, for example, could increase the taxes the Group pays, the attractiveness of products offered by the Group, the Group's investment activities and the value of deferred tax assets. Any number of these changes could apply to the Group and its operations. Changes to the US tax regime enacted in early 2018 prompted us to modify our operating model for our US business. These changes, or inconsistencies between the various regimes that apply to the Group, could increase the costs of doing business (including due to increased capital requirements), reduce access to liquidity, limit the scope of current or future business or affect the competitive balance, or could make reinsurance less attractive to primary insurers.

**Market risk**

Volatility and disruption in the global financial markets could expose the Group to significant financial and capital markets risk, including changes in interest rates, credit spreads, equity prices and foreign currency exchange rates, which may adversely impact the Group's financial condition, results of operations, liquidity and capital position. The Group's exposure to interest rate risk is primarily related to the market price and cash flow variability associated with changes in interest rates. In general, a low interest rate environment, such as the one experienced in recent years, poses significant challenges to the insurance and reinsurance industries, with earnings capacity under stress unless lower investment returns from fixed income assets can be offset by lower combined ratios or higher returns from other asset classes. Exposure to credit spreads primarily relates to market price and cash flow variability associated with changes in credit spreads. When credit spreads widen, the net unrealised loss position of the Group's investment portfolio can increase, as could other-than-temporary impairments.

The Group is exposed to changes in the level and volatility of equity prices, as they affect the value of equity securities themselves as well as the value of securities or instruments that derive their value from a particular equity security, a basket of equity securities or a stock index. The Group is also subject to equity price risk to the extent that the values of life-related benefits under certain products and life contracts, most notably variable annuity business, are tied to financial market values; to the extent market values fall, the financial exposure on guarantees related to these contracts would increase to the extent this exposure is not hedged. While the Group has an extensive hedging programme covering its existing variable annuity business that it believes is sufficient, certain risks cannot be hedged, including actuarial, basis and correlation risks. Exposure to foreign exchange risk arises from exposures to changes in spot prices and forward prices as well as to volatile movements in exchange rates.

These risks can have a significant effect on investment returns and market values of securities positions, which in turn may affect both the Group's results of operations and financial condition. The Group continues to focus on asset-liability management for its investment portfolio, but pursuing even this strategy has its risks – including possible mismatch – that in turn can lead to reinvestment risk. The Group seeks to manage the risks inherent in its investment portfolio by repositioning the portfolio from time to time, as needed, and to reduce risk and fluctuations through the use of hedges and other risk management tools.

**Credit risk**

If the credit markets were again to deteriorate and further asset classes were to be impacted, the Group could experience losses. Changes in the market value of the underlying securities and other factors impacting their price could give rise to market value losses. If the credit markets were to deteriorate again, the Group could also face write-downs in other areas of its portfolio, including other structured instruments, and the Group and its counterparties could face difficulties in valuing credit-related instruments. Differences in opinion with respect to valuations of credit-related instruments could result in legal disputes among the Group and its counterparties as to their respective obligations, the outcomes of which are difficult to predict and could be material.

The Group is also subject to credit and other risks in its credit business, including reliance on banks that underwrite and monitor facilities in which the Group participates and potential default by borrowers under those facilities.

**Liquidity risks**

The Group's business requires, and its clients expect, that it has sufficient capital and sufficient liquidity to meet its re/insurance obligations, and that this would continue to be the case following the occurrence of any foreseeable event or series of events, including extreme catastrophes, that would trigger insurance or reinsurance coverage obligations. The Group's uses of funds include obligations arising in its insurance and reinsurance businesses (including claims and other payments as well as insurance provision repayments due to portfolio transfers, securitisations and commutations), which may include large and unpredictable claims (including catastrophe claims), funding of capital requirements and operating costs, payment of principal and interest on outstanding indebtedness and funding of acquisitions. The Group also has unfunded capital commitments in its private equity and hedge fund investments, which could result in funding obligations at a time when it is subject to liquidity constraints. In addition, the Group has potential collateral requirements in connection with a number of reinsurance arrangements, the amounts of which may be material and the meeting of which could require the Group to liquidate cash equivalents or other securities.

The Group manages liquidity and funding risks by focusing on the liquidity stress that is likely to result from extreme capital markets scenarios or from extreme loss events or combinations of the two. Generally, the ability to meet liquidity needs could be adversely impacted by factors that the Group cannot control, such as market dislocations or interruptions, adverse economic conditions, severe disruption in the financial and worldwide credit markets and the related increased constraints on the availability of credit; changes in interest rates, foreign exchange rates and credit spreads; or by perceptions among market participants of the extent of the Group's liquidity needs.

Unexpected liquidity needs (including to meet collateral calls) could require the Group to incur indebtedness or liquidate investments or other assets. The Group may not be able to secure new sources of liquidity or funding, should projected or actual liquidity fall below levels it requires. The ability to meet liquidity needs through asset sales may be constrained by market conditions and the related stress on valuations, and through third-party funding may be limited by constraints on the general availability of credit and willingness of lenders to lend. In addition, the Group's ability to meet liquidity needs may also be constrained by regulatory requirements that require regulated entities to maintain or increase regulatory capital, or that restrict intra-group transactions, the timing of dividend payments from subsidiaries or the fact that certain assets may be encumbered or otherwise non-tradable. Failure to meet covenants in lending arrangements could give rise to collateral-posting or defaults, and further constrain access to liquidity. Finally, any adverse ratings action could trigger a need for further liquidity (for example, by triggering termination provisions or collateral delivery requirements in contracts to which the Group is a party) at a time when the Group's ability to obtain liquidity from external sources is limited by such ratings action.

### Counterparty risks

The Group is exposed to the risk of defaults, or concerns about defaults, by its counterparties. Securities trading counterparties, counterparties under swaps and other derivative contracts, and financial intermediaries may default on their obligations due to bankruptcy, insolvency, lack of liquidity, adverse economic conditions, operational failure, fraud or other reasons, which could have a material adverse effect on the Group.

The Group could also be adversely affected by the insolvency of, or other credit constraints affecting, counterparties in its insurance and reinsurance operations. Moreover, the Group could be adversely affected by liquidity issues at ceding companies or at third parties to whom the Group has retroceded risk, and such risk could be exacerbated to the extent any such exposures are concentrated.

### Risks relating to credit rating downgrades

Ratings are an important factor in establishing the competitive position of reinsurance companies. Third-party rating agencies assess and rate the financial strength of reinsurers and insurers. These ratings are intended to measure a company's ability to repay its obligations and are based upon criteria established by the rating agencies. Ratings may be revised downward or revoked at the sole discretion of the rating agencies.

The Group's ratings reflect the current opinion of the relevant rating agencies. One or more of its ratings could be downgraded or withdrawn in the future, and market conditions could increase the risk of downgrade. Rating agencies may increase the frequency and scope of ratings reviews, revise their criteria or take other actions that may negatively impact the Group's ratings. In addition, changes to the process or methodology of issuing ratings, or the occurrence of events or developments affecting the Group, could make it more difficult for the Group to achieve improved ratings which it would otherwise have expected.

As claims paying and financial strength ratings are key factors in establishing the competitive position of reinsurers, a decline in ratings alone could make reinsurance provided by the Group less attractive to clients relative to reinsurance from competitors with similar or stronger ratings. A decline in ratings could also cause the loss of clients who are required by policy or regulation to purchase reinsurance only from reinsurers with certain ratings. Certain larger reinsurance contracts contain terms that would allow the ceding companies to cancel the contract if the Group's ratings or those of its subsidiaries are downgraded beyond a certain threshold. Moreover, a decline in ratings could impact the availability and terms of unsecured financing and obligate the Group to provide collateral or other guarantees in the course of its business or trigger early termination of funding arrangements, potentially resulting in a need for additional liquidity. As a ratings decline could also have a material adverse impact on the Group's costs of borrowing or ability to access the capital markets, the adverse implications of a downgrade could be more severe. These same factors could also impact the Group's insurance business.

**Legal and regulatory risks**

In the ordinary course of business, the Group is involved in lawsuits, arbitrations and other formal and informal dispute resolution procedures, the outcomes of which determine rights and obligations under insurance, reinsurance and other contractual agreements. From time to time, the Group may institute, or be named as a defendant in, legal proceedings, and the Group may be a claimant or respondent in arbitration proceedings. These proceedings could involve coverage or other disputes with ceding companies, disputes with parties to which the Group transfers risk under reinsurance arrangements, disputes with other counterparties or other matters. The Group cannot predict the outcome of any of the foregoing, which could be material for the Group.

The Group is also involved, from time to time, in investigations and regulatory proceedings, which could result in adverse judgments, settlements, fines and other outcomes. The number of these investigations and proceedings involving the financial services industry has increased in recent years, and the potential scope of these investigations and proceedings has also increased, not only in respect of matters covered by the Group's direct regulators, but also in respect of compliance with broader business conduct rules, including those in respect of market abuse, bribery, money laundering, trade sanctions and data protection and privacy. The Group also is subject to audits and challenges from time to time by tax authorities, which could result in increases in tax costs, changes to internal structures and interest and penalties. Tax authorities may also actively pursue additional taxes based on retroactive changes to tax laws. The Group could be subject to risks arising from alleged, or actual, violations of any of the foregoing, and could also be subject to risks arising from potential employee misconduct, including non-compliance with internal policies and procedures and malfeasance, such as undertaking or facilitating cyber attacks on internal systems. Substantial legal liability could materially adversely affect the Group's business, financial condition or results of operations or could cause significant reputational harm, which could seriously affect its business.

**Insurance, operational and other risks**

As part of the Group's ordinary course operations, the Group is subject to a variety of risks, including risks that reserves may not adequately cover future claims and benefits; risks that catastrophic events (including hurricanes, windstorms, floods, earthquakes, acts of terrorism, man-made disasters such as industrial accidents, explosions, and fires, and pandemics) may expose the Group to unexpected large losses (and related uncertainties in estimating future claims in respect of such events); changes in the insurance industry that affect ceding companies, particularly those that further increase their sensitivity to counterparty risk; competitive conditions (including as a result of consolidation and the availability of significant levels of alternative capacity); cyclicality of the industry; risks related to emerging claims and coverage issues; macro developments giving rise to emerging risks, such as climate change and technological developments (including greater exposure to cyber risks, which could have a range of consequences from operational disruption, to loss of proprietary or customer data, to greater regulatory burdens and potential liability); risks arising from the Group's dependence on policies, procedures and expertise of ceding companies; risks related to investments in emerging markets; and risks related to the failure of, or attacks directed at, the Group's operational systems and infrastructure, including its information technology networks and systems. Any of the foregoing, as well as the occurrence of future risks that the Group's risk management procedures fail to identify or anticipate, could have a material adverse effect on the Group, and could also give rise to reputational risk.

**Use of models; accounting matters**

The Group is subject to risks relating to the preparation of estimates and assumptions that management uses, including as part of its risk models as well as those that affect the reported amounts of assets, liabilities, revenues and expenses in the Group's financial statements, including assumed and ceded business. For example, the Group estimates premiums pending receipt of actual data from ceding companies, which actual data could deviate from the estimates. In addition, particularly with respect to large natural catastrophes, it may be difficult to estimate losses, and preliminary estimates may be subject to a high degree of uncertainty and change as new information becomes available. Deterioration in market conditions could have an adverse impact on assumptions used for financial reporting purposes, which could affect possible impairment of present value of future profits, fair value of assets and liabilities, deferred acquisition costs or goodwill. Moreover, regulators could require the use of standard models instead of permitting the use of internal models. To the extent that management's estimates or assumptions prove to be incorrect, it could have a material impact on underwriting results (in the case of risk models) or on reported financial condition or results of operations, and such impact could be material.

The Group's results may be impacted by changes in accounting standards, or changes in the interpretation of accounting standards. Changes in accounting standards could impact future reported results or require restatement of past reported results. The Group's results may also be impacted if regulatory authorities take issue with any conclusions the Group may reach in respect of accounting matters.

The Group uses non-GAAP financial measures in its external financial reporting, including in this report. These measures are not prepared in accordance with US GAAP or any other comprehensive set of accounting rules or principles, and should not be viewed as substitutes for measures prepared in accordance with US GAAP. Moreover, these may be different from, or otherwise inconsistent with, non-GAAP financial measures used by other companies. These measures have inherent limitations, are not required to be uniformly applied and are not audited.

The Group includes in its annual report a section in respect of its results, including financial statements, prepared in accordance with the Group's proprietary economic value management ("EVM") principles ("EVM report"). Financial information included in the EVM report contains non-GAAP financial measures. The EVM principles differ significantly from US GAAP and, accordingly, the Group's results prepared in accordance with US GAAP will differ from its EVM results, and those differences could be material. The Group's annual EVM results can be more volatile than the US GAAP results because, among other things, assets and liabilities are measured on a market-consistent basis, profit recognition on new contracts is recognised at inception rather than over the life time of the contract, and life and health actuarial assumptions are on a best estimate basis as opposed to generally being locked-in. The Group's EVM financial statements should not be viewed as a substitute for the Group's US GAAP financial statements.

**Risks related to the Swiss Re corporate structure**

Swiss Re is a holding company, a legal entity separate and distinct from its subsidiaries, including Swiss Reinsurance Company Ltd. As a holding company with no operations of its own, Swiss Re is dependent upon dividends and other payments from Swiss Reinsurance Company Ltd and its other principal operating subsidiaries. The Group expects that, over time, its structure will continue to evolve. In the future it may, for example, elect again (having accepted an equity investment within its Life Capital Business Unit from a third party) to partner with minority investors in or within one or more of the Group's Business Units or sub-groups within its Business Units, which could alter historical approaches taken in respect of capital, liquidity, funding and/or dividends, as well as other governance matters, including strategy for such Business Unit or sub-group, or may elect otherwise to dispose of interests in Group businesses or portions thereof, or to grow through acquisitions. To the extent it undertakes acquisitions, it is subject to the risks inherent in acquiring and integrating new operations.

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Swiss Re has over 80 office locations in 30 countries. For a full list of our office locations and service offerings, please visit www.swissre.com

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# Corporate calendar

**2019**

**17 April 2019**
155th Annual General Meeting

**3 May 2019**
First quarter 2019 key financial data

**31 July 2019**
Half-year 2019 results

**31 October 2019**
Nine months 2019 key financial data

**25 November 2019**
Investors' Day, Zurich

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