Swiss Re

Predict.
Prepare.
Protect.

Financial Review 2018

Contents

This 2018 Financial Review of the Swiss Re Group contains updates on our business and results and preliminary unaudited financial information for 2018. The updates on our business and results will be included in our 2018 Annual Report, together with our audited financial statements for 2018 and other disclosures we are required to include or historically have included in an annual report. This Financial Review is not intended to be a substitute for the full 2018 Annual Report, which will be published on the Swiss Re website on 14 March 2019.

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	

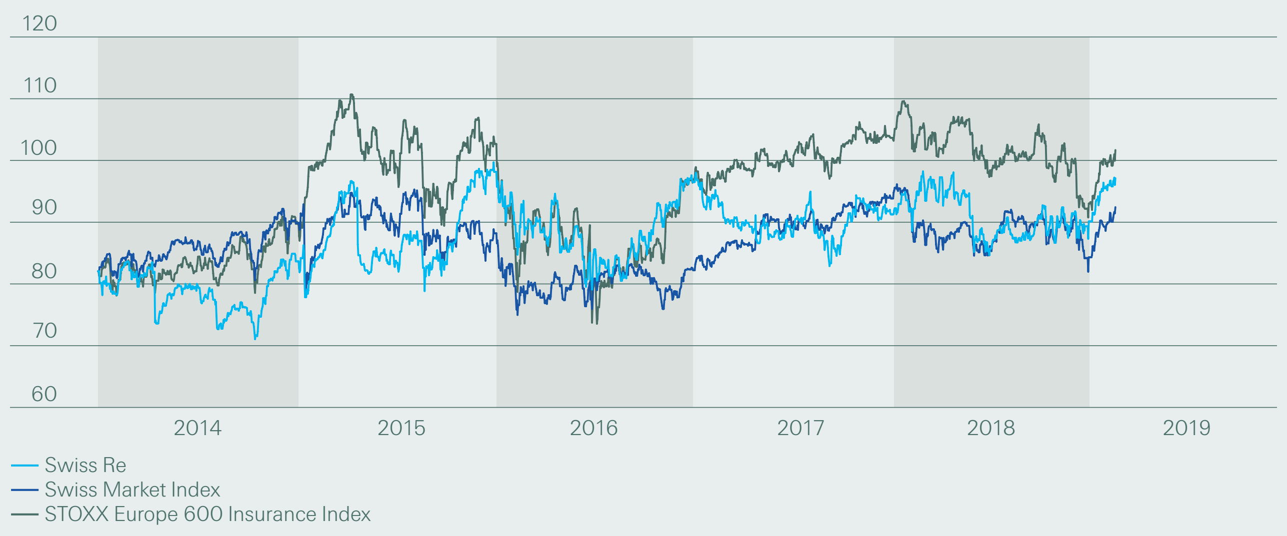
[1] Return on equity is calculated by dividing net income/loss attributable to common shareholders by average common shareholders' equity.
[2] Regular staff.
[3] Gross cash generation is the change in excess capital available over and above the target capital position, with the target capital being the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

FINANCIAL STRENGTH RATINGS

Standard & Poor's	Moody's	A.M. Best
AA–	Aa3	A+
stable	stable	stable
(as of 24.10.2018)	(as of 19.12.2017)	(as of 13.12.2018)

Share information

SHARE PRICE (CHF)



SHARE INFORMATION

As of 15 February 2019	
Share price in CHF	97.12
Market capitalisation in CHF millions	32 887

SHARE PERFORMANCE

Share performance in %	1 January 2014 – 15 February 2019 (p.a.)	2018
Swiss Re	3.3	**–1.2**
Swiss Market Index	2.4	**–10.2**
STOXX Europe 600 Insurance Index	4.3	**–10.1**

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.

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,

"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."

Proposed regular dividend per share for 2018
(CHF)

5.60

(CHF 5.00 for 2017)

Capital returned to shareholders
in USD billions

2.9

in the form of dividends and 2017–2018 share buybacks 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 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.

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 Member of the Management Board at T-Systems International. Her strategic technology knowledge and a 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.

"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."

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 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.

> "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)

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.

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.

Estimated large claims
in USD billions, 2018

3.0

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.

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

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

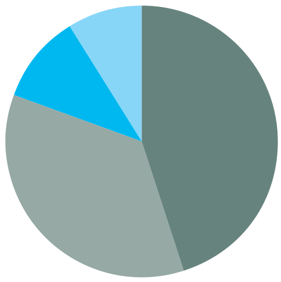
* Excludes for reference only, the impact of the new US GAAP guidance on recognition and measurement of financial instruments, which was effective for the Group as of 1 January 2018 and was not retroactively applied.

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

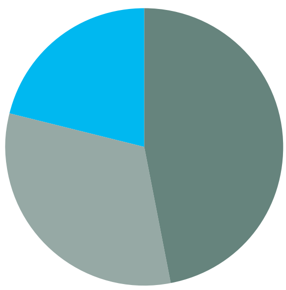
Net premiums earned and fee income by business segments
(Total USD 34.5 billion)

- 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



Summary of financial statements

INCOME STATEMENT

USD millions	2017	2018	Change in %
Revenues			
Gross premiums written	34 775	36 406	5
Net premiums written	32 316	34 042	5
Change in unearned premiums	803	–167	–
Premiums earned	33 119	33 875	2
Fee income from policyholders	586	586	0
Net investment income – non-participating business	3 708	4 075	10
Net realised investment gains/losses – non-participating business	1 727	65	–96
Net investment result – unit-linked and with-profit business	3 315	–1 593	–
Other revenues	32	39	22
Total revenues	42 487	**37 047**	–13
Expenses			
Claims and claim adjustment expenses	–16 730	–14 855	–11
Life and health benefits	–11 083	–11 769	6
Return credited to policyholders	–3 298	1 033	–
Acquisition costs	–6 977	–6 919	–1
Operating expenses	–3 308	–3 432	4
Total expenses before interest expenses	–41 396	**–35 942**	–13
Income before interest and income tax expense	1 091	**1 105**	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	35 634	34 124	–4
Net income attributable to common shareholders	331	421	27
Dividends	–1 559	–1 592	2
Change in unrealised gains/losses on securities, net	287	–2 841	–
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	–1 100	–1 402	27
Other changes in equity	2	–423	–
Total shareholders' equity as of 31 December	34 124	**27 930**	–18
Non-controlling interests	170	797	–
Total equity as of 31 December	34 294	**28 727**	–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.

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.

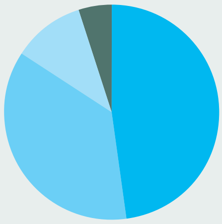
Investment result and expenses

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.

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



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

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 3300 clients in 150 countries, while Corporate Solutions' payments totalled ca. USD 2.5 billion in over 50000 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

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 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.

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%)

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.

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.

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.

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

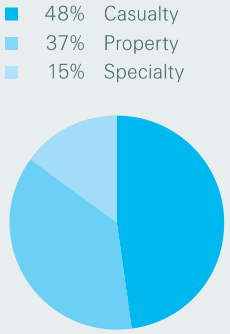
Renewals of loss-affected natural catastrophe business experienced rate increases. We had opportunities to grow our natural catastrophe business in North America at attractive terms. In non-loss-affected markets, rates remain stable overall, with some minor volatility.

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



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-participa-ting 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.

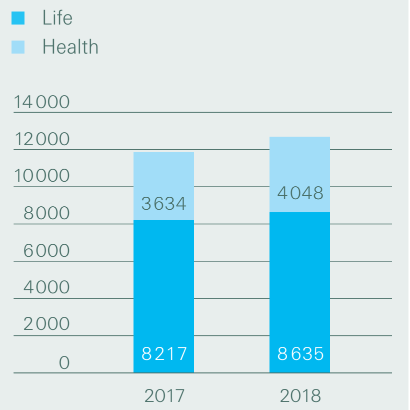
Outlook

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

Total: USD 12.7 billion (2018)



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

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 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.

CORPORATE SOLUTIONS RESULTS

USD millions	2017	**2018**	Change in %
Revenues			
Gross premiums written	4193	4694	12
Net premiums written	3600	4122	15
Change in unearned premiums	51	–197	–
Premiums earned	3651	**3925**	8
Net investment income	161	207	29
Net realised investment gains/losses	128	16	–88
Other revenues	5	3	–40
Total revenues	3945	**4151**	5
Expenses			
Claims and claim adjustment expenses	–3558	–3241	–9
Acquisition costs	–554	–607	10
Operating expenses	–759	–763	1
Total expenses before interest expenses	–4871	**–4611**	–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	

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.

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

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 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.

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

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.

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		–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 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 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		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		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 condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (US GAAP). All significant intra-group transactions and balances have been eliminated on consolidation. The accompanying condensed consolidated financial statements contain preliminary, unaudited financial information for the annual period ended 31 December 2018. The 2017 year-end balance sheet data presented was derived from audited financial statements. These condensed financial statements do not include all disclosures that US GAAP requires on an annual basis and therefore they should be read in conjunction with the Swiss Re Group's audited consolidated financial statements for the year ended 31 December 2017. The Swiss Re Group's audited consolidated financial statements for the year ended 31 December 2018 will be published on 14 March 2019.

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.

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.

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 has not provided any collateral on financial instruments in excess of its own market value estimates.

Subsequent events

Subsequent events for the current reporting period have been evaluated up to 20 February 2019. This is the date on which the condensed unaudited 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 is 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 in 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. For unrealised gains/losses on available-for-sale securities, the Group releases the stranded tax effects to earnings on a straight-line basis over the average duration of the relevant available-for-sale 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. 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. These stranded tax charges related to the Tax Cuts and Jobs Act. 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.

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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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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.

6 Deferred acquisition costs (DAC) and acquired present value of future profits (PVFP)

As of 31 December, the DAC were as follows:

2017 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 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 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 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	Unit-linked	2017 With-profit	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 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 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 USD millions	Less than 12 months Fair value	 Unrealised losses	12 months or more Fair value	 Unrealised losses	Total 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 USD millions	Less than 12 months Fair value	 Unrealised losses	12 months or more Fair value	 Unrealised losses	Total 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 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 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 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 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 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 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 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 USD millions	Remaining contractual maturity of the agreements 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 USD millions	Remaining contractual maturity of the agreements 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 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 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 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 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 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 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 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 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 8 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 fifteen 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 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.

14 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.

15 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, which currently holds a 15% minority stake in ReAssure, will have 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.

Cautionary note
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 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 macro-economic 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 about 80 office locations in more than 30 countries. For a full list of our office locations and service offerings, please visit www.swissre.com.

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Corporate calendar

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
Investor's Day, Zurich

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