Swiss Re

2016

Financial Review

For a resilient future

Key information

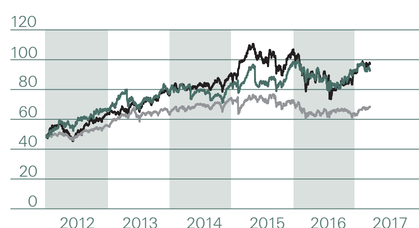
Financial highlights

For the years ended 31 December

USD millions, unless otherwise stated	2015	2016	Change in %
Group			
Net income attributable to common shareholders	4 597	**3 558**	–23
Premiums earned and fee income	30 214	**33 231**	10
Earnings per share in CHF	12.93	**10.55**	–18
Common shareholders' equity	32 415	**34 532**	7
Return on equity in %[1]	13.7	**10.6**	
Return on investments in %	3.5	**3.4**	
Net operating margin in %[2]	17.1	**13.0**	
Number of employees[3]	12 767	**14 053**	10
Property & Casualty Reinsurance			
Net income attributable to common shareholders[4]	3 008	**2 100**	–30
Premiums earned	15 090	**17 008**	13
Combined ratio in %[2,4]	85.7	**93.5**	
Net operating margin in %[2,4]	22.5	**15.4**	
Return on equity in %[1,4]	22.4	**16.4**	
Life & Health Reinsurance			
Net income attributable to common shareholders[4,5]	968	**807**	–17
Premiums earned and fee income[5]	10 616	**11 527**	9
Net operating margin in %[2,4,5]	12.2	**10.4**	
Return on equity in %[1,4,5]	16.2	**12.8**	
Corporate Solutions			
Net income attributable to common shareholders[4]	357	**135**	–62
Premiums earned	3 379	**3 503**	4
Combined ratio in %[4]	93.2	**101.1**	
Net operating margin in %[4]	14.1	**4.2**	
Return on equity in %[1,4]	15.5	**6.0**	
Life Capital			
Net income attributable to common shareholders[4,5]	424	**638**	50
Premiums earned and fee income[5]	1 129	**1 193**	6
Gross cash generation[6]	543	**721**	33
Net operating margin in %[4,5]	17.8	**27.0**	
Return on equity in %[1,4,5]	7.5	**10.4**	

[1] Return on equity is calculated by dividing net income attributable to common shareholders by average common shareholders' equity.
[2] Letter of credit fees of USD 55 million in 2015, thereof USD 45 million in Life & Health Reinsurance and USD 10 million in Property & Casualty Reinsurance, have been reclassified from "Operating expenses" to "Interest expenses".
[3] Regular staff.
[4] The Group's new internal service cost framework resulted in a reallocation of operating expenses to Group items from the business segments. Comparative information for 2015 has been adjusted accordingly.
[5] As of 1 January 2016, the primary life and health insurance business (individual and group) is reported in the Life Capital segment instead of the Life & Health Reinsurance segment. Comparative information for 2015 has been adjusted accordingly.
[6] 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.

Share price (CHF)



— Swiss Re
— Swiss Market Index
— STOXX Europe 600 Insurance Index

Financial strength ratings

As of 17 February 2017	Standard & Poor's	Moody's	A.M. Best
Rating	AA-	Aa3	A+
Outlook	Stable	Stable	Stable
Last update	25 November 2016	15 December 2015	16 December 2016

Share information

As of 17 February 2017	
Share price in CHF	92.75
Market capitalisation in CHF millions	33 397

Share performance

in %	1 January 2012 – 17 February 2017 (p.a.)	2016
Swiss Re	13.8	–1.7
Swiss Market Index	7.3	–6.8
STOXX Europe 600 Insurance Index	14.8	–5.6

Contents

Message from the Chairman 2
A conversation with the Group CEO 6

Group strategy 8
Group results 10
Group underwriting 12
Group investments 14
Summary of financial statements 16
Reinsurance 18
Property & Casualty 20
Life & Health 22
Corporate Solutions 24
Life Capital 26

Condensed Group Financial Statements (unaudited) 28

Income statement 28
Statement of comprehensive income 29
Balance sheet 30
Statement of shareholders' equity 32
Statement of cash flow 34

Notes to the Group financial statements 36

Note 1 Organisation and summary of significant accounting policies 36
Note 2 Information on business segments 40
Note 3 Insurance information 51
Note 4 Premiums written 56
Note 5 Unpaid claims and claim adjustment expenses 57
Note 6 Deferred acquisition costs (DAC) and acquired present value of future profits (PVFP) 60
Note 7 Investments 62
Note 8 Fair value disclosures 70
Note 9 Derivative financial instruments 81
Note 10 Acquisitions and disposals 85
Note 11 Debt and contingent capital instruments 88
Note 12 Earnings per share 91
Note 13 Commitments and contingent liabilities 92
Note 14 Variable interest entities 94

General information 100

Cautionary note on forward-looking statements 100
Note on risk factors 102
Contacts 110
Corporate calendar 111

This 2016 Financial Review of the Swiss Re Group contains updates on our business and results and preliminary unaudited financial information for 2016. The updates on our business and results will be included in our 2016 Annual Report, together with our audited financial statements for 2016 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 2016 Annual Report, which will be published on the Swiss Re website on 16 March 2017.

Message from the Chairman

Swiss Re can thrive — also in turbulent times.

"In the course of our 153 years of experience, we have shown an undisputed ability to operate successfully in ever-changing and highly challenging situations."

Dear shareholders,
2016 was a year of profound changes. However, despite many difficulties, Swiss Re was able to stay on course and deliver good results. In brief: Property & Casualty Reinsurance and Life & Health Reinsurance have continued to generate sound returns. Our direct insurance unit Corporate Solutions faced a very difficult market environment, which is reflected in the results. Meanwhile, our newest Business Unit, Life Capital, which is still in development, had great success in integrating the acquired Guardian Financial Services portfolio in 2016.

Strategic challenges — in turbulent times

In the summer of 2016, as in every other year, I discussed the main strategic challenges of the coming years with our global top management, presenting to them both the viewpoint of the Board of Directors and my personal assessment. We on the Board of Directors address this matter on a continual basis, of course, and discuss the relevant questions intensively and thoroughly. In this context, we see four main topics taking centre stage in the coming years — on top of the current negative price cycles in the property and casualty businesses:

- Significantly higher geopolitical risk
- Transformation of business models in the insurance sector due to limitless possibilities opened up by digitalisation
- The shift in the monetary policies of major central banks, perhaps even a restructuring of the roles of these institutions
- The effects of global climate change

In the second half of 2016, the situation was greatly aggravated in many respects.

In my view, the geopolitical environment is becoming less predictable, with the UK's vote to leave the EU (Brexit) and the US presidential election showing how wrong 'conventional wisdom' can be. Other geopolitical circumstances that have been taken as a given for years seem to now be in question. Those aspects include security alliances, European integration, global trade, even globalisation in general, and the international regulation of financial markets and their institutions, including insurance regulation — not to mention the place of liberal values and the recognition of human rights.

Digitalisation, which is often assumed to be the new industrial revolution, is now also transforming the service sector — including the business model of the insurance industry. It is difficult to predict exactly where this is leading. However, it is certain that insurance risks will change — to some extent dramatically; the distribution of insurance products will be revolutionised and the development of relevant services will take a completely different form. In this context, banks are relatively progressive and have partly reinvented themselves already in recent years; yet, such changes in the insurance industry may potentially have a much more severe impact.

Since the financial crisis, central banks have played an extraordinarily dominant role from a historical perspective, to the extent that they were sometimes the 'only game in town'. However, the end of this period seems foreseeable now. Politicians are making every effort to get events under control and exert more influence over economic policy. But, it remains unclear how this paradigm shift will develop and how much upheaval it will cause. As major institutional investors, insurance companies are on the front line of this development in my view.

Let's talk about climate change: global climate change is a fact, even if it is readily questioned by politicians in the so-called 'post-factual' era. While the political discussion mainly centres on questions of causation, the insurance industry, and reinsurers in particular, are concerned with providing solutions for both the prevention and management of losses.

Against this backdrop, we focus on closing what is known as the 'protection gap', referring to the huge global discrepancy between uninsured and unprotected risks, on the one hand, and the potentially high economic losses on the other. For this, we rely on cooperation with political authorities and international organisations. If these parties are impeded by a political discourse that does not focus on solutions, or if they are even prevented from cooperating, this doesn't bode well — certainly for the people affected.

Swiss Re can thrive even under complex conditions

Our main strategic task is to decide which risks we want to underwrite and hold on our books, and under which conditions. In other words, how much capital are we willing to invest to assume certain risks? This is capital that you, as Swiss Re shareholders, provide to us.

The uncertainties outlined make this task increasingly challenging. This is particularly true at a time when the regulatory environment in many parts of the world is diverging in an uncoordinated manner, leading to greater unpredictability. Meanwhile, the spectre of protectionist measures may return and suddenly become politically acceptable again, with the potential of provoking quick and sharp changes in monetary policy. If the political consensus on how to handle environmental risks also breaks down and the traditional business model comes under fundamental attack, institutions such as Swiss Re will be the best-positioned in the global insurance market when it comes to tackling these complex challenges.

In the course of our 153 years of experience, we have shown an undisputed ability to operate successfully in ever-changing and highly challenging situations. Just think of the problems that our forerunners had to deal with in the 20th century alone. The organisation of the Group is set up in a way that we can operate as a local competitor in key markets — this has been the case not only recently, but for a very long time. Swiss Re has a strong footing in its markets and risk segments: we have experienced local staff across the globe, and a highly loyal client base in virtually every country in the world. Few competitors can offer anything similar.

Swiss Re is very strong in terms of capital, which allows us to thrive also under increasingly volatile market conditions. And we have designed our strategic asset allocation taking into account potential upheaval in the financial markets. We remain aware that the extraordinary monetary policy environment was and is not sustainable and the Board of Directors, and in particular the Investment Committee, keep a very close eye on market developments and analyse the relevant trends in coordination with the Group Chief Investment Officer and his team. Hence, we are confident that Swiss Re is ideally positioned to respond quickly and flexibly to respective changes.

In recent years, we have also purposefully set up the Group to allow for an agile response to fundamental shifts in primary-market structures. These measures were intended to ensure that, even in the event of changes in the primary insurance markets, we always have access to risks that we wish to underwrite and where we can invest our shareholders' capital in the most profitable way.

To a large extent this is already possible thanks to our investment in this very flexibility in recent years, as demonstrated by the organisation of our two Business Units Corporate Solutions and Life Capital.

Our activities in high growth markets of Asia, Africa and Latin America are primarily geared towards closing the aforementioned 'protection gap' in close collaboration with our clients. In these markets, which face above-average exposure to natural hazards, insurance coverage compared to potential economic losses is highly inadequate.

In addition to all these strategic challenges, we also need to address the price cycle in the Property & Casualty Reinsurance markets. Our Group CEO, Christian Mumenthaler, and the CEOs of the individual Business Units, will address this in greater detail in the Annual Report. The Board of Directors supports the long-term underwriting policy of the Group Executive Committee, the partial withdrawal from conventional business that does not meet our pricing standards, and the stronger focus on larger individual transactions, which are of great strategic importance for the clients concerned. We monitor the performance of these individual transactions very carefully over their entire life cycle.

While we decisively invest in our business and actively address the challenges mentioned, we stay committed — in the context of our capital management priorities — to return capital to you if we do not identify any better investment opportunities. For this reason, we will increase the regular dividend to CHF 4.85 and, at the upcoming Annual General Meeting, we will again propose a share buy-back programme of up to CHF 1 billion.

The Swiss Re Institute — research, knowledge and expertise set us apart
We aim to shape, anticipate and understand the future; with research, knowledge and expertise, we can offer our clients added value that helps them succeed. To keep expanding our leading position as a 'risk knowledge company' and strengthen this competitive advantage, we have created the Swiss Re Institute — a very important milestone when it comes to preparing Swiss Re for the future. In the Swiss Re Institute, we are pooling our extensive research and development activities and will

- coordinate our diverse projects and research activities more efficiently
- put our research and development to targeted use for forward-looking capital allocation; ie, use our research even more effectively to aid decisions about the risks in which we want to invest, and
- offer our clients and partners research-based assistance, providing sound support for their business decisions.

Our knowledge and its practical application to our business have been key to our success for the last 153 years. In a world that is changing ever more rapidly, a lead based on outstanding research and development will give us the crucial advantage necessary to identify and assess trends early on. We are convinced that the Swiss Re Institute will be a decisive factor setting Swiss Re apart from competitors. The Swiss Re Institute will in our view undoubtedly make a key contribution to the further improvement of revenue from our risk portfolios.

The challenges for the coming years must not be underestimated, but our strategic priorities are clear, and we are well-positioned to thrive, shape the industry, and provide our clients with proficient and loyal support even in rocky times. It is a privilege to have worked for so long with many of our clients, in some cases for over 100 years now. Day after day, our clients motivate us to put our convictions into practice and strive to make the world more resilient on a shared and sustainable basis.

Let me end with some personnel announcements. We are pleased to be able to propose the election of Jay Ralph and Joerg Reinhardt to the Board of Directors at our upcoming Annual General Meeting. We believe their international experience and diverse backgrounds will be an important asset for Swiss Re. On behalf of my colleagues, I would like to thank Carlos E. Represas, who has decided not to stand for re-election after serving on the Board since 2010.

Finally I regret to announce that Matthias Weber, currently our Group Chief Underwriting Officer, will step down from his current role as of 30 June 2017 to focus on his family and begin a new chapter in his life. Throughout his 25-year career with Swiss Re, Matthias Weber has consistently stood for core Swiss Re strengths such as disciplined underwriting and a focus on the long term. The Board of Directors and I will miss his wise counsel, tireless commitment and good humour. We look forward to continuing our relationship with Matthias Weber in whatever form suits him.

The only consolation is that we have a strong pipeline of talent to draw from. Edouard Schmid, currently Head Property & Specialty Reinsurance, is the ideal candidate to take on the role, especially due to his strong underwriting background in various lines of business across Reinsurance and Corporate Solutions, in catastrophe modelling and in a number of markets. He was also a key contributor in developing Insurance Linked Securities. I have every confidence that Edouard Schmid will succeed in the role and we wish Matthias Weber all the best for the future.

On behalf of the Board of Directors, I would like to thank our 14 000 employees around the world, in all areas of the company, for their commitment — once again, it is them who drive Swiss Re's success.

Many thanks to you, valued shareholders, for your support and for placing your confidence in us to lead your company successfully into the future.

Zurich, 23 February 2017

Walter B. Kielholz
Chairman of the Board of Directors

A conversation with the Group CEO

Swiss Re is rapidly evolving. Christian Mumenthaler explains his vision for the future.

"Swiss Re has always been one of the industry leaders, accumulating knowledge and data. This is now even more important than in the past."

Q You took over as Group CEO in July last year. How have things evolved for the company since then?

A The current environment is challenging. There is nothing we can do to completely avoid these challenges, but we are prepared for them. We see low economic growth around the world in a low interest rate environment, persistent pricing pressure on the Property & Casualty side and political uncertainties in many regions. But we still had a good performance in 2016 and that shows the strength of our franchise.

Q How did Swiss Re perform in 2016?

A It was the first full year for our newest Business Unit, Life Capital, opening up many opportunities to grow in life and health. Even though Corporate Solutions had a challenging year, we made progress with our growth strategy: we bought IHC Risk Solutions in the US, opened an office in Kuala Lumpur, obtained an insurance license in Hong Kong, and signed an agreement with Bradesco Seguros, which will make us a leading commercial large-risk insurer in Brazil once the joint venture transaction is closed. In Reinsurance, large and tailored transactions continued to support growth.

Q What makes Swiss Re's business model successful in this environment?

A We need to distinguish among the different Business Units, but the common denominator is that Swiss Re has always been one of the industry leaders, accumulating knowledge and data. This is now even more important than in the past, because pure capital is, and will stay, plentiful. I am convinced that proprietary risk knowledge creates competitive advantage. In Reinsurance, our major strength is clearly the access we have to our clients' C-suite, our financial strength and how we use knowledge to help clients grow.
In Corporate Solutions, our knowledge helps us do better underwriting and select better risks. And for Life Capital, it's the deep knowledge we have around biometric risk, paired with efficient technology-led systems and processes that focus on clients.

Q So what differentiates Swiss Re from others?

A Swiss Re has a large amount of risk knowledge on topics such as pandemics, nuclear pools and natural catastrophes. Our teams have a deep understanding of medical indications, biometric trends and political risk. We may think that is normal, but it is not — it sets Swiss Re apart. The Swiss Re Institute is an evolution to structure our knowledge and deploy this strength to our clients. We are transitioning into a risk knowledge company that invests into risk pools with long-term growth potential.

Q What are 'risk pools' and how will the company access them?

A Risk pools are the original risks, both people and goods, that can be insured. With global GDP growth, these pools are growing, especially in high growth markets, and this trend is likely to continue. The question is: who will insure these risks? As a reinsurer, we only access a fraction of the risk through our clients, so building access to risk pools is a key part of our strategy. One way is through Corporate Solutions, which has direct access to commercial clients. Another way is through Life Capital, where we are targeting the retail life risk pool. All of Life Capital's activities, from ReAssure buying inforce books, to insuring pools of individuals with elipsLife and building up iptiQ as a very lean insurance company, create access to this risk pool.

Q How do reinsurance clients react to Swiss Re building up iptiQ?

A IptiQ is a tool we put in the hands of insurance companies who are, for example, seeking access to markets. These clients want to profit from our technology and knowledge, but distribute products under their brand. We are not competing with our clients. Actually, we are supporting them.

Q Let's take a step back. How do you see Swiss Re's future prospects?

A I think the long-term trends for the industry are positive. Insurance penetration is still low in many parts of the world, especially in high growth markets but also in industrialised countries. We are keen to close these protection gaps, which have different root causes. A first gap is where insurance is not available at all. In those regions, we work with governments or local institutions to insure people. The second gap is where insurance is available but people cannot afford it. In these areas, penetration is going up quite quickly and we support our insurance clients with our products. The third gap — the largest in terms of GDP impact — is in industrialised countries, where insurance is available and people can afford it but are still not buying it. California earthquake insurance is a good example: less than 12% of homeowners have insurance against earthquakes even though they are a major risk in the region.

Q Why is that?

A We don't know for sure. A possible explanation is the following: there is a widespread conviction that insurance is expensive, while in fact, surveys show people would be prepared to pay more than the actual price. There is also a belief that the state will help in case something like a major earthquake happens. And finally, people generally don't like to think about insurance. This is a challenge for the insurance industry. The only way we can overcome it is by looking at the sales process and simplifying it. I think the day everybody has digital advisors, on a smartphone for example, is the day more people will start buying insurance. The personal digital assistant is going to make rational decisions for them, based on their individual behaviours and situation. They will advise, recommend, select and purchase directly — that's my digital assistant hypothesis. This, combined with simplified processes and more cost-effective offers, will help close the protection gap.

Q Swiss Re's vision is to make the world more resilient. What does that mean in reality?

A Every claim we pay for a family who lost somebody helps them to continue a more or less normal life — financially at least. Every payment in P&C helps to rebuild something that has been destroyed. One of the most visible examples in 2016 were the Canadian wildfires. They lasted for a long time and there was uncertainty about the damage, but we worked very closely with our customers in Canada, making payments as fast as possible so they could start the reconstruction. Every bit helps, but we have more work to do. For instance in Italy, a country I know very well for family reasons, only about 1% of residential buildings are insured against earthquakes and most of the destruction we saw in 2016 was not covered.

Q What is your personal vision for Swiss Re?

A I would like to see Swiss Re positioned differently than just as an ordinary traditional reinsurance company. Ideally, in the future, when people hear 'Swiss Re', they will think of all our incredible knowledge that is so relevant for the future. We should never lose sight of where we want to go. Swiss Re is well positioned to be a long-term thinker and I am convinced that every activity focusing on the long term will be an advantage in a few years.

Zurich, 23 February 2017

Group Chief Executive Officer

Group strategy

A strategy to help meet our financial targets and to make the world more resilient.

SWISS RE'S STRATEGIC FRAMEWORK

1. Systematically allocate capital to risk pools/revenue streams

Capital allocation is at the core of our Group's strategy. We allocate capital to risk pools and measure performance over time. We believe disciplined and agile capital allocation is the key to outperformance and the engine to pursue our strategic ambitions.

To support that capital allocation we devote substantial resources to developing state-of-the-art knowledge of the risks we underwrite and assets we invest in, looking at both historical performance and future outlook.

Over time Swiss Re has been an agile capital allocator and we are continuing to steer capital toward lines of business where the outlook is most positive and pruning in lines where trends are unfavourable.

2. Broaden and diversify client base to increase access to risk

Many lines of business face shrinking cession rates and competition is increasing overall. At the same time, new risks are emerging while other underinsured risks continue to grow. We believe new client segments and distribution channels — both of which have been enhanced by technology — can strengthen our position as the supply and demand equilibrium shifts.

3. Optimise resources and platforms to support capital allocation

We have more than doubled our workforce in key high growth markets since 2011 and invested in strengthening our IT architecture, adding smart analytics and cognitive computing to our toolset. We are also investing in our financial steering and reporting capabilities to become an industry leader in financial management.

4. Emphasise differentiation

We continue to build on the aspects that set Swiss Re apart: our financial strength, our client relationships and our status as a knowledge company.

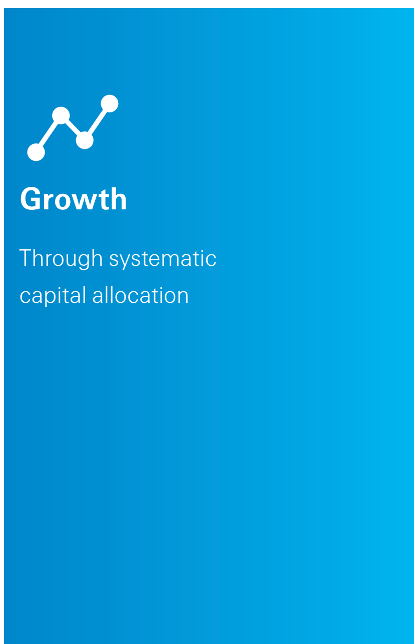
In 2016 we took another step forward by announcing the creation of the Swiss Re Institute, which we believe will further differentiate us from our peers. The Swiss Re Institute will leverage and steer our research and development activities, building on our role as a knowledge partner for clients.

Technological innovation is another source of differentiation, especially when we can deliver unique products and solutions, such as CatNet. CatNet plots hazard, loss, exposure and insurance information over maps and satellite imagery to help visualise the risk of individual locations or entire client portfolios.

Such examples illustrate the superior service and unique approach that we strive to deliver to our clients.

FINANCIAL TARGETS (OVER THE CYCLE)

Return on equity	**Economic net worth (ENW) per share**
At least 700 basis points greater than Swiss Re's designated risk-free rate, currently ten-year US government bonds.	10% growth per annum per share, using year-end ENW plus dividends, divided by prior year-end ENW.



NEAR-TERM PRIORITIES

- Large & tailored transactions
- Corporate Solutions
- Life Capital
- High growth markets

- Research & development
- Technology
- People & culture

Our near-term priorities focus on achieving growth in targeted areas and sustaining the risk knowledge that underpins our capital allocation overall.

Growth
Reinsurance is our core business. Market conditions are challenging, however, and prices have reached unsustainable levels in some lines of business and markets. We therefore emphasise to investors, clients, employees and others that we remain committed to disciplined underwriting and long-term success.

One way to achieve growth in a challenging reinsurance market is through large and tailored transactions, where margins are seen as more favourable. We can also achieve growth by getting closer to policyholders, such as corporate customers of Corporate Solutions and life and health policyholders through Life Capital. Finally we are increasing our presence in high growth markets, where we expect substantial, long-term growth.

Risk knowledge
Swiss Re is a knowledge company. In 2016 we announced the creation of the Swiss Re Institute to defend and even enlarge this source of competitive advantage. We have long employed leading experts in the perils we insure and the activities we undertake, investing over 3 200 man-years in research & development over the past 25 years. We believe this advantage is virtually impossible for new players to replicate within a reasonable time frame. We are especially eager to capitalise on the enormous technological opportunities before us and have prioritised activities in this area as well.

Group results

Our Group delivered a good net income of USD 3.6 billion.

Swiss Re reported a good net income of USD 3.6 billion for 2016, compared to USD 4.6 billion for 2015. The Group's return on equity for 2016 was 10.6%, down from 13.7% for 2015. Common shareholders' equity increased to USD 34.5 billion as of 31 December 2016, up by 6.5% compared to the end of 2015.

Reinsurance delivered net income of USD 2.9 billion, compared to USD 4.0 billion in 2015.

Property & Casualty Reinsurance contributed USD 2.1 billion in 2016, down from USD 3.0 billion in 2015. The current year's performance demonstrated the benefit of continued solid underwriting against the backdrop of higher large losses and a lower contribution from positive prior-year development. The net operating margin was 15.4%, compared to 22.5% in 2015.

Life & Health Reinsurance accounted for net income of USD 807 million in 2016, down from USD 968 million in 2015, when the result benefited from more favourable valuation adjustments. Current year results were impacted by lower performance in the UK portfolio. The net operating margin decreased to 10.4% in 2016 from 12.2% in the previous year.

Corporate Solutions delivered net income of USD 135 million in 2016, compared to USD 357 million in 2015. The 2016 result was impacted by continued pricing pressure and large man-made losses. The net operating margin for Corporate Solutions was 4.2% and 14.1% for 2016 and 2015, respectively.

Life Capital, which includes ReAssure (formerly Admin Re®) and, as of 6 January 2016, the operations formerly known as Guardian Financial Services (Guardian), reported net income of USD 638 million in 2016, compared to USD 424 million in 2015. The increase was driven by investment performance, mainly from the Guardian portfolio, and solid business performance. Life Capital's net operating margin increased to 27.0% in 2016, compared to 17.8% for 2015.

The Group's net operating margin for 2016 was 13.0%, down from 17.1% for 2015.

Common shareholders' equity, excluding non-controlling interests and the impact of contingent capital instruments, increased to USD 34.5 billion at the end of 2016, up from USD 32.4 billion at the end of 2015. The rise was driven by net income and an increase in unrealised gains on fixed income securities, partially offset by payments to shareholders for the 2015 regular dividend of USD 1.6 billion and the public share buy-back programmes of USD 1.1 billion.

Swiss Re achieved a return on equity of 10.6% for 2016, compared to 13.7% for 2015. Earnings per share for 2016 were CHF 10.55 or USD 10.72, compared to CHF 12.93 (USD 13.44) for the previous year.

Book value per common share increased to USD 105.93 or CHF 107.64 at the end of 2016, compared to USD 95.98 or CHF 96.04 at the end of 2015. 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 totalled USD 33.2 billion in 2016, an increase of 10.0% from USD 30.2 billion in 2015. At constant exchange rates, premiums and fees rose by 12.1%, reflecting growth in selected markets and lines of business, often through large and tailored transactions.

Premiums earned by Property & Casualty Reinsurance amounted to USD 17.0 billion in 2016, an increase of 12.7% from USD 15.1 billion in 2015. The rise was driven by large and tailored transactions in the US and in Europe. The Property & Casualty Reinsurance combined ratio was 93.5% in 2016, up from 85.7% in 2015. The increase was mainly driven by a higher large loss burden, continued price softening and a lower contribution from positive prior-year development compared to 2015. The prior year also benefited from particularly benign natural catastrophe experience.

Life & Health Reinsurance premiums earned and fee income totalled USD 11.5 billion in 2016, an increase of 8.6% from USD 10.6 billion year-on-year, driven by transactions in the US and successful renewals and new business wins in Asia. At constant exchange rates, premiums earned and fees increased by 11.3%.

Corporate Solutions premiums earned were USD 3.5 billion for 2016, an increase of 3.7% compared to the previous year, driven by the acquisition of IHC Risk Solutions. The Corporate Solutions combined ratio was 101.1% in 2016, up from 93.2% in the previous year, primarily impacted by large man-made losses.

Gross cash generation for Life Capital amounted to USD 721 million in 2016, up from USD 543 million in 2015 despite the unfavourable impact of decreasing interest rates in the UK across the year.

Investment result and expenses

The return on investments for 2016 was strong at 3.4%, compared to 3.5% in 2015, with the decrease reflecting slightly lower investment-related net realised gains on an increased asset base, in addition to the impact of lower reinvestment yields.

The Group's non-participating net investment income increased to USD 3.7 billion in 2016, compared to USD 3.4 billion in 2015, largely driven by net asset inflows. The Group reported non-participating net realised investment gains of USD 1.5 billion in 2016, compared to USD 1.2 billion in 2015, reflecting a positive impact from interest rate derivatives.

Acquisition costs for the Group amounted to USD 6.9 billion in 2016, up from USD 6.4 billion in 2015. The increase mainly reflected large transactions in Reinsurance and a higher share of proportional business in Property & Casualty Reinsurance.

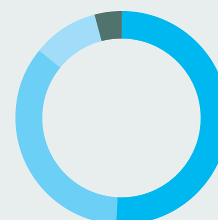
Operating expenses of USD 3.4 billion in 2016 increased by 3.4%, or 6.5% at constant exchange rates, reflecting a slightly lower expense ratio on a higher premium base compared to 2015.

Interest expenses were USD 606 million, a small reduction compared to 2015.

The Group reported a tax charge of USD 749 million on a pre-tax income of USD 4.4 billion for 2016, compared to a tax charge of USD 651 million on a pre-tax income of USD 5.3 billion for the same period in 2015. This translated into an effective tax rate in the current and prior-year reporting periods of 17.1% and 12.2%, respectively. The tax rate in 2016 was largely driven by benefits from the effective settlement of tax audits in certain jurisdictions and releases of valuation allowances on net operating losses, partially offset by tax on profits earned in higher tax jurisdictions. The lower tax rate in 2015 was largely driven by a tax benefit arising from a local statutory accounting adjustment for restructuring of subsidiaries and higher tax benefits from foreign currency translation differences between statutory and US GAAP accounts.

Net premiums and fees earned by business segment, 2016
(Total: USD 33.2 billion)

- 51% P&C Reinsurance
- 35% L&H Reinsurance
- 10% Corporate Solutions
- 4% Life Capital



Group Underwriting

Competitive advantage in underwriting

The investing community debates whether an alpha or beta investment strategy has a higher likelihood of success. The alpha investor tries to actively outperform the benchmark of a segment by picking the right stocks within this segment. The beta investor tries to pick the right segments and asset classes.

The same concept applies to underwriting. An underwriter who tries to outperform the competition by:

- selecting good risks and avoiding bad ones,
- structuring policies and contracts to achieve contract certainty and better align policyholders' interests with those of the re/insurance company,
- more precisely quantifying the costs associated with the acceptance of risks, and
- achieving higher prices for the risks assumed

is the underwriting equivalent of an investor seeking alpha.

The underwriting equivalent of a beta investor is a re/insurance company that tries to outperform competitors by allocating more or less capital to individual portfolio segments depending on the perceived attractiveness of each segment. In the insurance industry, typical "beta" strategies include portfolio steering, cycle management, and capacity or capital allocation.

At Swiss Re, we believe that both superior bottom-up transactional underwriting and top-down capital allocation — or portfolio steering — are absolutely key. To be successful, we need to be able to forecast insurance loss-relevant developments. We therefore conduct research to understand, for example, economic, legal, political and societal changes, all of which are highly relevant for the assessment of casualty risks. We focus on identifying trend patterns related to natural catastrophes, cyber-threats, credit defaults, mortality or morbidity to better understand the potential for future losses for these perils. We apply advanced analytics to large amounts of data and work together with universities, government organisations, NGOs, consultants, investment management firms, law firms and many more. Findings related to loss, premium or exposure trends are used to underwrite individual risks and strategically allocate capital, both of which — if done well — create value for shareholders. The Swiss Re Institute will further strengthen and steer our R&D activities across the organisation.

Underwriting performance in 2016

The Group's overall underwriting performance was solid, with technical profitability across all businesses. Influenced by the softening market environment, the Group's claims ratio for property and casualty increased from 53.3% in 2015 to 61.2% in 2016.

Both periods benefited from a lower-than-expected level of natural catastrophe losses. The 2016 loss burden amounted to USD 0.8 billion, still below the expected value but clearly higher than the 2015 loss number of USD 0.2 billion. The largest natural catastrophe losses in 2016 were the wildfires in Canada (USD 229 million net), the Kaikoura earthquake in New Zealand (USD 184 million net), and Hurricane Matthew (USD 113 million net).

For accident year 2016, large man-made losses came in below the expected level, while 2015 was impacted by an above-average amount of large man-made losses due to the Tianjin loss in China.

The total life and health benefits increased from USD 8.0 billion in 2015 to USD 9.0 billion in 2016. The increase was mainly supported by large transactions in the US in early 2016, a large transaction won in Australia in 2015, other new business wins in Asia in 2016, partially offset by lower performance in the UK life and health portfolio.

For more on the underwriting performance of all Business Units, see pages 18–27.

Market environment and outlook

Global exposure growth will continue to develop unevenly in line with economic trends. Loss trends in property and casualty are likely to accelerate in some markets. The property and casualty market is generally softening; however, given that prospective returns are approaching the cost of capital, rate decreases are slowing down in many lines of business.

In the short term we expect challenging market conditions to persist until demand and supply of capacity start to balance out. In such an environment underwriting outperformance remains key. We will therefore seek to exploit our competitive advantage in risk selection and capital allocation to protect our bottom line. We will continue to reduce capacity for some natural catastrophe scenarios and prune our reinsurance motor portfolio in selected regions.

Growth opportunities will be assessed with caution. We will focus on large and tailored transactions and pursue a small number of opportunities presented by major demographic, socioeconomic and technological trends, including the long-term rise of high growth markets, or the expanding need for health protection in ageing societies. In addition, we expect to write some new business in the public sector and in areas where protection gaps are threatening the resilience of society.

Group Investments

Strategy

Swiss Re continues to maintain a high-quality investment portfolio while delivering strong and sustainable financial results. During 2016, Swiss Re increased its overall credit allocation through the Guardian acquisition. The allocation across government bonds and cash and short-term investments remained relatively steady, while the overall allocation to equities and alternative investments has been reduced. Swiss Re maintained a strong focus on real assets with a continued increase in its infrastructure debt and real estate allocation, strengthening the quality of earnings through further diversification of our sources of investment income.

Financial markets overview

Financial markets continued to face high volatility throughout 2016, driven by monetary policy and political uncertainties. The year started in a "risk-off" mode on the back of continued oil price declines and China growth concerns, before recovering from February onwards. The improved sentiment was supported by the recovery in oil markets, improving US labour conditions, and stabilising growth in China. Having suffered persistent capital outflows since mid-2013, emerging markets started to enjoy inflows again from February onwards. Core government bond yields fell further in the first half of the year, some into negative territory, and hit historic lows after the unexpected outcome of the vote in favour of "Brexit" in late June. Meanwhile, Donald Trump's victory in the US presidential election in November led to a sharp repricing in financial markets, including higher bond yields due to rising inflation expectations. Meanwhile, uncertainty around trade barriers and other protectionist measures from the new US administration resulted in capital outflows from emerging markets.

Financial markets ended 2016 with more uncertainties than at the beginning of the year. Currently, hopes for fiscal stimulus in the US are positive, yet global growth remains fragile, with the recovery amongst advanced economies being uneven. Looking to 2017, investors can be expected to closely monitor the US administration's policy pronouncements and actions, inflation developments, the European election agenda and the upcoming "Brexit" negotiations.

Investment result

The Group's investment portfolio, excluding unit-linked and with-profit investments, increased to USD 130.5 billion at the end of 2016, compared to USD 116.8 billion at the end of 2015. The increase was driven by the Guardian acquisition and other large transactions as well as the impact of credit spread tightening, partially offset by a negative impact from foreign exchange movements.

3.7

Net investment income

in USD billion, 2016
(2015: USD 3.4 billion)

3.4%

Group return on investments

2016
(2015: 3.5%)

The return on investments for 2016 was strong at 3.4%, with approximately 80% of the result attributable to net investment income and net realised gains from equities and alternative investments. This compared to 3.5% in 2015, with the decrease reflecting slightly lower investment-related net realised gains on an increased asset base in addition to the impact of lower reinvestment yields. The Group's non-participating net investment income increased to USD 3.7 billion in 2016 compared to USD 3.4 billion in 2015, largely driven by net asset inflows. The Group's fixed income running yield of 2.9% was lower than the fixed income running yield of 3.0% for 2015, driven by the continued impact of lower yields for most of the year, partially offset by a positive impact from the Guardian acquisition.

The Group reported non-participating net realised investment gains of USD 1.5 billion in 2016 compared to USD 1.2 billion in 2015, reflecting a positive impact from interest rate derivatives. The total return on investments was 5.3% for 2016 compared to being flat in 2015, reflecting the impact of credit spread tightening and declining interest rates in the UK over the year.

Outlook

Similar to last year, the global outlook for 2017 remains one of moderate economic growth. In particular, advanced economies are expected to grow at a subdued pace of around 2% according to the latest International Monetary Fund (IMF) forecasts. While US economic growth may pick up due to the expected fiscal stimulus, the risks for Europe are skewed to the downside. Clearly, political uncertainty will remain high and will continue to be an important driver of financial market performance. Central bank policy divergence is also set to remain a key theme, with the Federal Reserve expected to raise interest rates further, while monetary policy from the European Central Bank, the Bank of England, and the Bank of Japan are likely to remain extremely accommodative. Finally, growth in emerging markets is forecast to accelerate somewhat, especially with Russia and Brazil exiting recession, while the structural trend of Chinese economic growth is likely to find a more sustainable level.

Against the backdrop of muted global growth and heightened political uncertainty, we will continue to seek to maintain a well-diversified and high-quality investment portfolio.

Summary of financial statements

USD millions	2015	2016	Change in %
Revenues			
Gross premiums written	32 249	35 622	10
Net premiums written	30 442	33 570	10
Change in unearned premiums	–691	–879	27
Premiums earned	29 751	32 691	10
Fee income from policyholders	463	540	17
Net investment income – non-participating business	3 436	3 661	7
Net realised investment gains/losses – non-participating business	1 206	1 484	23
Net investment result – unit-linked and with-profit business	814	5 382	–
Other revenues	44	28	–36
Total revenues	35 714	**43 786**	23
Expenses			
Claims and claim adjustment expenses	–9 848	–12 564	28
Life and health benefits	–9 080	–10 859	20
Return credited to policyholders	–1 166	–5 099	–
Acquisition costs	–6 419	–6 928	8
Operating expenses[1]	–3 248	–3 358	3
Total expenses before interest expenses	–29 761	**–38 808**	30
Income before interest and income tax expense	5 953	**4 978**	–16
Interest expenses[1]	–634	–606	–4
Income before income tax expense	5 319	**4 372**	–18
Income tax expense	–651	–749	15
Net income before attribution of non-controlling interests	4 668	**3 623**	–22
Income/loss attributable to non-controlling interests	–3	3	–
Net income after attribution of non-controlling interests	4 665	**3 626**	–22
Interest on contingent capital instruments	–68	–68	0
Net income attributable to common shareholders	4 597	**3 558**	–23

[1] Letter of credit fees of USD 55 million in 2015 have been reclassified from "Operating expenses" to "Interest expenses".

Changes in equity

USD millions	2015	2016	Change in %
Total shareholders' equity as of 1 January	35 930	33 517	–7
Net income attributable to common shareholders	4 597	3 558	–23
Dividends	–2 608	–1 561	–40
Change in unrealised gains/losses on securities, net	–2 670	1 711	–
Change in other-than-temporary impairment, net of tax	–8	6	–
Change in foreign currency translation	–1 012	–387	–62
Purchase/sale of treasury shares and shares issued under employee plans	–521	–1 084	108
Other changes in equity	–191	–126	–34
Total shareholders' equity as of 31 December	33 517	**35 634**	6
Non-controlling interests	89	82	–8
Total equity as of 31 December	33 606	**35 716**	6

Summary balance sheet

USD millions	2015	**2016**	Change in %
Assets			
Fixed income securities	82 331	93 276	13
Equity securities	4 787	3 435	–28
Other investments	15 046	15 218	1
Short-term investments	7 405	10 909	47
Investments for unit-linked and with-profit business	28 241	32 178	14
Cash and cash equivalents	8 204	9 011	10
Deferred acquisition costs	5 471	6 200	13
Acquired present value of future profits	2 964	2 003	–32
Reinsurance recoverable	6 578	7 461	13
Other reinsurance assets	21 579	21 454	–1
Goodwill	3 862	3 965	3
Other	9 667	9 955	3
Total assets	196 135	**215 065**	10
Liabilities and equity			
Unpaid claims and claim adjustment expenses	55 518	57 355	3
Liabilities for life and health policy benefits	30 131	41 176	37
Policyholder account balances	31 422	34 354	9
Other reinsurance liabilities	16 117	16 086	0
Short-term debt	1 834	1 564	–15
Long-term debt	10 978	9 787	–11
Other	16 529	19 027	15
Total liabilities	162 529	**179 349**	10
Shareholders' equity	33 517	**35 634**	6
Non-controlling interests	89	82	–8
Total equity	33 606	**35 716**	6
Total liabilities and equity	196 135	**215 065**	10

Reinsurance

Our 2016 performance was driven by solid underwriting and progress on strategic goals.

Strategy and priorities

Differentiation is at the core of our strategy. That differentiation is built on deep understanding of our clients. We create that understanding through our advanced interaction model and by focusing on building applied knowledge that helps address the challenges our clients face. We continue to systematically allocate capital towards the risk pools that we expect will grow over the long term in both Property & Casualty (P&C) and Life & Health (L&H) Reinsurance. We believe that broad macro factors such as demographic changes and the expected rise in global GDP will continue to expand these risk pools. These factors work in addition to the significant global protection gap which already exists and which continues to offer opportunities today, especially in high growth markets, which are also an area of focus.

Differentiation is at the core

We stay relevant to our clients by addressing their specific needs, and we can only do this if we spend sufficient time with them to understand their needs and buying preferences. Client segmentation is a foundational element of our differentiation approach and it is built on a deep understanding of our clients, facilitating delivery of tailored offerings. We interact with clients across all levels and functions, enabling strategic discussions between the right people at the right time. This dedicated delivery model — serving global, large, and regional & national clients — continues to be effective.

In P&C Reinsurance, we continue to differentiate ourselves through active cycle management and by managing capacity according to price adequacy. Our P&C portfolio is well balanced and generates attractive economic returns, including long-tail lines. We remain committed to our disciplined underwriting approach. The global protection gap remains a significant opportunity and we continue to work with our clients on solutions to close it.

The business generated in L&H Reinsurance remains strategically attractive for us because we see opportunity to deploy unique knowledge which addresses the needs of our clients in a differentiated way. New business continues to show attractive economic profit, while management of in-force business remains a key priority in delivering returns in line with our target. Our L&H portfolio has also been improved through greater product, duration, and geographic diversification.

High growth markets, a key focus in our strategy

Despite material foreign currency volatility for most high growth markets, our business has continued to thrive because demand for our products and solutions remains high. We remain disciplined in our underwriting approach and have built a diversified portfolio across lines of business and across focus markets of Brazil, China, India, Indonesia, Mexico, Sub-Saharan Africa and other parts of Latin America. From 2010 to 2016, reinsurance premiums in these markets grew at a CAGR of 15% in US dollar terms.

Our knowledge company approach in these focus markets has enabled new product launches, including the largest disaster insurance programme in China's Heilongjiang Province, and the opportunity to be the sole reinsurer of natural catastrophe risks for the economic hub of Guangdong Province, also in China.

We remain committed to developing a strong local talent base to identify opportunities and drive sustainable growth and fully engage with regulators and governments to address challenges faced in these markets. Our workforce in our focus markets has more than doubled since 2011.

Technology is a key enabler

Technology plays an important part in developing solutions for our clients along the entire insurance value chain. We leverage technology to understand risks better, improve underwriting and pricing, and to increase efficiency of the value chain. To help our clients improve their performance, we have developed new solutions such as an end-to-end telematics platform, predictive analytics to identify non-smokers as well as mobile underwriting platforms for life insurance.

We also prioritise internal efficiency. One example is our P&C Business Management Intelligence tool, which leverages big data techniques for claims management. Another is our L&H Underwriting Document Analytics capabilities, which automate content identification and extraction to streamline handling of non-digital and unstructured data inputs. Technology is a critical catalyst for change which we will continue to use in order to address the needs of our clients more effectively.

Property & Casualty Reinsurance

Performance

Net income for 2016 was USD 2.1 billion. The result reflected solid underwriting, a higher large loss burden compared to last year and a lower contribution from positive prior-year development. The investment result was higher in 2016 than in 2015, mainly due to a positive impact from foreign exchange remeasurement.

2016 was impacted by various new large losses, notably wildfires in Canada, an earthquake in New Zealand and Hurricane Matthew. In addition, we strengthened our reserves for the New Zealand earthquakes in 2010 and 2011.

The underwriting result for 2016 was USD 1.1 billion, largely due to the higher large loss burden compared to 2015, a lower contribution from positive prior-year development, and the impact of more proportional business and more casualty business, both of which typically result in a higher combined ratio.

Property & Casualty results

USD millions	2015	**2016**	Change in %
Revenues			
Premiums earned	15 090	17 008	13
Net investment income	1 097	985	–10
Net realised investment gains/losses	445	770	73
Other revenues	45	37	–18
Total revenues	16 677	**18 800**	13
Expenses			
Claims and claim adjustment expenses	–7 892	–10 301	31
Acquisition costs	–3 836	–4 405	15
Operating expenses	–1 198	–1 204	1
Total expenses before interest expenses	–12 926	**–15 910**	23
Income before interest and income tax expense	3 751	**2 890**	–23
Interest expenses	–272	–293	8
Income before income tax expense	3 479	**2 597**	–25
Claims ratio in %	52.3	60.5	
Expense ratio in %	33.4	33.0	
Combined ratio in %	85.7	93.5	

Net premiums earned

Net premiums earned were USD 17.0 billion in 2016, compared to USD 15.1 billion for 2015. The increase was driven by large and tailored transactions in the US and Europe, partially offset by unfavourable foreign exchange movements. At constant exchange rates, premiums earned increased by USD 2.1 billion.

The composition of gross premiums earned by region changed year on year, with a higher share of premiums generated in the Americas and EMEA in 2016 than in 2015. Based on net premiums earned, the share of proportional business was 72% in 2016, compared to 67% in to 2015.

Combined ratio

P&C Reinsurance reported a combined ratio of 93.5% in 2016, compared to 85.7% in the previous year. The increase was mainly driven by a higher burden from large losses, less favourable prior-year development and continued price softening of the market.

The impact from natural catastrophes in 2016 was 3.3 percentage points below the expected level of 7.4 percentage points. Favourable development from prior accident years improved the 2016 combined ratio by 3.0 percentage points.

Administrative expense ratio

The administrative expense ratio decreased to 7.1% in 2016, compared to 7.9% in 2015, driven by higher premium volume period over period.

Lines of business

Property

The property combined ratio increased to 86.6% in 2016, compared to 72.7% in 2015. 2016 was impacted by various large losses, whereas 2015 profited from an exceptionally benign natural catastrophe loss experience and a higher favourable prior-year claims experience.

Casualty

The casualty combined ratio for 2016 was 103.9%, compared to 99.6% in 2015. Both years include reserve strengthening for US asbestos. The prior year benefited from significant reserve releases.

Specialty lines

The specialty combined ratio decreased to 77.8% in 2016, compared to 80.1% in 2015. 2015 included the impact of the explosion in Tianjin, China.

Investment result

The return on investments for 2016 was 3.1% compared to 3.5% in 2015, reflecting a reduction in net investment income stemming from the impact of lower reinvestment yields as well as a lower contribution from equities and alternative investments.

Net investment income decreased by USD 144 million to USD 892 million in 2016, mainly due to reduced income across government bonds and a lower level of equity-accounted income.

Net realised gains were USD 475 million in 2016 compared to USD 497 million in 2015, due to a lower contribution from interest rate derivatives, which was partially offset by additional gains from sales of equities and alternative investments.

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

Shareholders' equity

Common shareholders' equity was USD 12.7 billion as of 31 December 2016 compared to USD 13.0 billion as of 31 December 2015. The decrease was primarily driven by dividends in the amount of USD 2.5 billion paid to Swiss Re Ltd, partly offset by net income for the period and the impact of foreign exchange movements. The return on equity for 2016 was 16.4% compared to 22.4% in 2015. The decrease was mainly due to lower net income in 2016.

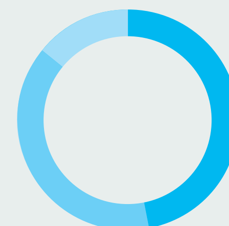
Outlook

While natural catastrophe property rates still experienced pressure due to relatively low loss occurrence and abundant capital in the markets, rate decreases have started to slow down. We deployed less natural catastrophe capacity and will continue to do so where price levels fall below our return hurdles. Specialty lines experienced rate pressure with notable differences by lines of business and markets. Casualty rates overall remained more stable with varying trends based on market and product.

We will continue to pursue our successful differentiation strategy while focusing on the bottom line under current market conditions. This means that we support key partners and expect they will also reflect the support in differential terms. This positions us to access the business we want and achieve above average rates.

Premiums earned by line of business, 2016
(Total: USD 17.0 billion)

- 47% Casualty
- 39% Property
- 14% Specialty



Life & Health Reinsurance

Net income for 2016 was USD 807 million compared to USD 968 million for 2015. Current year results were impacted by lower performance in the UK portfolio versus our expectations. The prior-year result benefited from more favourable valuation adjustments, especially interest rate updates to disabled life reserves. The return on equity was 12.8%, exceeding the upper end of the target range of 10%–12%, though lower than the 16.2% reported for 2015. This was mainly due to the lower net income and an increase in shareholders' equity, driven by higher unrealised gains that reflected a decline in interest rates.

Life & Health results

USD millions	2015	**2016**	Change in %
Revenues			
Premiums earned	10 567	11 486	9
Fee income from policyholders	49	41	–16
Net investment income – non-participating business	1 330	1 279	–4
Net realised investment gains/losses – non-participating business	311	232	–25
Net investment result – unit-linked and with-profit business	42	15	–64
Other revenues	4	5	25
Total revenues	12 303	**13 058**	6
Expenses			
Life and health benefits	–8 012	–8 963	12
Return credited to policyholders	–60	–39	–35
Acquisition costs	–1 965	–1 943	–1
Operating expenses	–774	–763	–1
Total expenses before interest expenses	–10 811	**–11 708**	8
Income before interest and income tax expense	1 492	**1 350**	–10
Interest expenses	–323	–301	–7
Income before income tax expense	1 169	**1 049**	–10
Management expense ratio in %	6.5	6.0	
Net operating margin in %	12.2	10.4	

Net premiums earned and fee income

Premiums earned and fee income increased by 8.6% to USD 11.5 billion compared to USD 10.6 billion for 2015. Premiums were higher stemming from transactions in the US and successful renewals and new business wins in Asia. At constant exchange rates, premiums earned and fee income were 11.4% higher compared to 2015.

Net operating margin

The net operating margin for 2016 was 10.4%, compared to 12.2% in 2015. The current year was impacted by adverse experience in the UK and less favourable valuation adjustments compared to the prior year.

Management expense ratio

The management expense ratio was 6.0%, an improvement over the prior-year period, driven by a slightly lower expense base and higher premiums in the current year.

Lines of business

Life

The Life segment reported income before interest and income tax expense (EBIT) of USD 783 million for 2016, compared to USD 725 million for 2015. The prior year benefited from favourable mortality experience and recapture impact. The current period was mostly supported by favourable valuation updates, partially offset by adverse experience in the UK life portfolio.

Health

The Health segment reported EBIT of USD 352 million for 2016, compared to USD 587 million for 2015. The prior-year period result benefited from favourable valuation adjustments such as interest rate updates to disabled life reserves but was adversely impacted by reserve strengthening in the UK. The current period was impacted by lower performance of the UK health portfolio.

Investment result

The return on investments for 2016 was 3.6% compared to 3.4% in 2015, reflecting an increase in the investment result of USD 110 million.

Net investment income increased by USD 11 million to USD 1 100 million in 2016, driven by the impact of large transactions which increased the invested asset base, partially offset by the impact of lower reinvestment yields. The fixed income running yield for 2016 was 3.4%.

Net realised gains were USD 184 million in 2016 compared to net realised gains of USD 85 million in 2015, which included losses on interest rate derivatives as well as a lower contribution from sales of fixed income securities.

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

Shareholders' equity

Common shareholders' equity was USD 6.8 billion at the end of 2016, compared to USD 5.8 billion as of 31 December 2015. The increase was mainly due to net income for the year and an increase in unrealised gains reflecting a decline in interest rates, partially offset by a dividend payment to the Group of USD 400 million.

Outlook

We expect life and health reinsurance business to be relatively flat in mature markets and to increase in high growth markets.

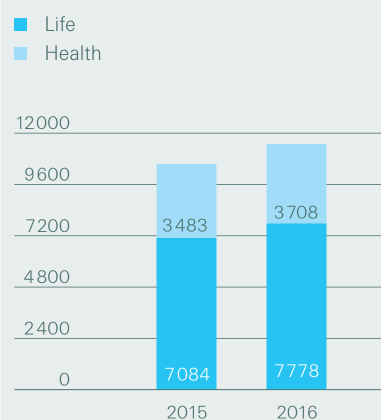
In mature markets the prolonged low interest rate environment continues to have an unfavourable impact on primary sales. Cession rates in the US have decreased and have now generally flattened as primary insurers retain more risk. However, we see a strong focus on capital, risk and balance sheet optimisation in mature markets, leading to positive opportunities for large transactions.

Recent political instability has given rise to uncertainty for growth in many regions of the world that could last two years or more. Market volatility is increasing in the short-term, with uncertain impact on Swiss Re's new business overall.

We believe high growth markets will continue to see strong increases in primary life and, in particular, health volumes, while cession rates are expected to be stable.

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 experience to help reduce the protection gap in all regions.

Premiums earned by line of business, 2016
(Total: USD 11.5 billion)



Corporate Solutions

Corporate Solutions continued on its path of disciplined growth by expanding into primary lead and further broadening its footprint.

Strategy and priorities

Corporate Solutions' distribution network grew to 55 offices in 21 countries, supported by acquisitions. During the year, Corporate Solutions completed the acquisition of IHC Risk Solutions, LLC (IHC), a leading US employer stop-loss underwriter. The IHC acquisition broadens Corporate Solutions capabilities in the small- and middle-market self-funded healthcare benefits segment.

In October 2016, Corporate Solutions and Bradesco Seguros S.A. (Bradesco) signed an agreement under which Bradesco will contribute its commercial large-risk portfolio to Swiss Re Corporate Solutions Brazil Seguros S.A. (SRCSB), subject to regulatory approval. Upon closing the transaction, Bradesco will take a 40% equity stake in SRCSB, while Corporate Solutions will retain the remaining 60%. SRCSB will have exclusive access to Bradesco's distribution network and will become a leading commercial large-risk insurer in Brazil.

Performance

Net income was USD 135 million in 2016, compared to USD 357 million in 2015, with a net operating margin of 4.2%, down from 14.1%. The 2016 result was impacted by continued pricing pressure and large man-made losses, especially in casualty, offset by lower-than-expected natural catastrophe losses, income from investment activities and realised gains from insurance in derivative form.

Net premiums earned

Net premiums were USD 3.5 billion in 2016, an increase of 3.7% compared to 2015. Gross premiums written and premiums for insurance in derivative form, net of internal fronting for the Reinsurance Business Unit, increased 5.8% to USD 4.1 billion in 2016 compared to USD 3.9 billion in 2015. The increase was driven by the IHC acquisition completed in the first quarter of 2016.

Combined ratio

The combined ratio increased to 101.1% in 2016 compared to 93.2% in 2015, impacted by large man-made losses. Lower than expected natural catastrophe losses improved the 2016 combined ratio by 4.2 percentage points.

Lines of business

The property combined ratio for 2016 increased by 8.1 percentage points to 84.4%, mainly due to higher natural catastrophe losses, partially offset by lower large man-made losses compared to 2015.

The casualty combined ratio increased to 115.9% in 2016 compared to 103.5% in 2015, impacted by large man-made losses in North America.

The credit combined ratio for 2016 deteriorated by 16.6 percentage points to 106.9%, driven by a higher frequency of small- and medium-sized losses.

In other specialty lines, the combined ratio for 2016 decreased by 10.2 percentage points to 99.4%, mainly due to lower aviation and satellite losses compared to 2015.

Corporate Solutions results

USD millions	2015	2016	Change in %
Revenues			
Premiums earned	3 379	3 503	4
Net investment income	135	138	2
Net realised investment gains/losses	142	51	–64
Other revenues	9	5	–44
Total revenues	3 665	**3 697**	1
Expenses			
Claims and claim adjustment expenses	–1 955	–2 263	16
Acquisition costs	–459	–517	13
Operating expenses	–734	–760	4
Total expenses before interest expenses	–3 148	**–3 540**	12
Income before interest and income tax expense	517	**157**	–70
Interest expenses	–24	–23	–4
Income before income tax expense	493	**134**	–73
Income tax expense	–134	–1	–99
Net income before attribution of non-controlling interests	359	**133**	–63
Income/loss attributable to non-controlling interests	–2	2	–
Net income attributable to common shareholders	357	**135**	–62
Claims ratio in %	57.9	64.6	
Expense ratio in %	35.3	36.5	
Combined ratio in %	93.2	101.1	

Investment result

The return on investments for 2016 was 2.5% compared to 3.0% in 2015, reflecting a reduction in the investment result of USD 41 million stemming from lower net realised gains.

Net investment income increased by USD 9 million to USD 158 million in 2016, driven by higher income from fixed income securities. Net realised gains were USD 57 million in 2016 compared to USD 107 million in 2015, with the prior period benefiting from additional gains from sales of equity securities.

Insurance-related derivative results and foreign exchange remeasurement are not included in the investment figures above.

Corporate Solutions offers insurance protection against weather perils and other risks, which are accounted for as derivatives. Insurance in derivative form reported net realised gains of USD 16 million in 2016, compared to USD 33 million in 2015, reflecting a more challenging market in 2016.

Shareholders' equity

Common shareholders' equity decreased to USD 2.2 billion since the end of 2015, with a USD 250 million dividend paid to Swiss Re Ltd, partially offset by net income for the year. The return on equity was 6.0% in 2016, compared to 15.5% in 2015.

Outlook

Prices for commercial insurance are under significant pressure, with many segments operating at unattractive rate levels. Underwriting discipline remains a key focus for Corporate Solutions. Thanks to its value proposition, strong balance sheet and selective underwriting approach, Corporate Solutions is well positioned to successfully navigate the current market, but it is not fully insulated from the general market environment.

Life Capital

In 2016 Life Capital made a strong contribution to the Group and delivered against its strategy.

Strategy and priorities

Life Capital's strategy is to create alternative access to attractive life and health risk pools and to profit from disruptive trends in the industry. By bringing together the closed books business with the open books business, Life Capital can leverage synergies of expertise and deeper pools of talent to drive growth and capture the complementary earnings of the various businesses. The ambition is to build a primary life and health powerhouse with attractive returns for shareholders through growth in both the open and closed books.

In closed books, the strategy of ReAssure (formerly Admin Re® UK) remains unchanged. ReAssure is a leading UK life and pension consolidator and continues to provide effective and efficient services to policyholders. Its strategy is to pursue selective growth with a focus on the UK market, which is the most active closed book market in Europe.

In the open books, elipsLife offers employee benefit solutions to partners through an intermediated B2B model, and provides brokers, clients and their policyholders with a seamless digital offering with a simpler, faster and better experience. Our iptiQ business enables individuals to address their protection needs and offers simple, transparent and digital propositions on a white labelled basis. Both businesses we believe are well positioned to capture growth opportunities in Europe and North America.

Technology is a key enabler for our strategy and Life Capital invests heavily in capabilities that provide a good customer experience and offer efficient platforms.

Life Capital had a successful first year and is delivering on its priorities. The ReAssure integration of Guardian is successfully on track. In its open book businesses, growth in Europe has accelerated, with elipsLife premium growth of 30% and iptiQ EMEA more than doubling its policy count. In the US, we established an operational platform for iptiQ, which launched in early 2017.

Performance

During 2016 Life Capital reported net income of USD 638 million compared to USD 424 million in 2015. The increase was driven by investment performance, mainly from the Guardian portfolio, and solid underlying business performance. The comparative period of 2015 benefited from realised gains from sales of government bonds as part of the preparation for Solvency II.

The net operating margin in 2016 was 27.0% compared to 17.8% in the prior year.

Life Capital generated gross cash of USD 721 million in 2016 compared to USD 543 million in the prior-year period. Strong gross cash generated in the year was driven by management actions, despite the unfavourable impact of decreasing interest rates in the UK across the year.

Gross premiums written

Gross premiums written increased by 10.6% to USD 1.5 billion during 2016. The increase was driven by the inclusion of Guardian and growth in open life and health insurance businesses.

Investment result

The return on investments was 4.0% for 2016 compared to 4.7% for 2015, as the impact of a higher invested asset base in the current period alongside a reduction in net realised gains more than offset increased investment income arising from the Guardian investment portfolio.

Net investment income increased by USD 286 million to USD 942 million in 2016, due to net asset inflows from the Guardian acquisition.

Net realised gains decreased by USD 43 million to USD 221 million in 2016, as the prior period included significant gains from sales related to the repositioning of the portfolio ahead of Solvency II, while the current period included gains from the Guardian investment portfolio and reduced gains from sales.

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

Operating expenses

Operating expenses were USD 503 million in 2016 compared to USD 365 million in 2015. The increase in expenses was mainly due to the cost of running and integrating the Guardian business.

Shareholders' equity

Common shareholders' equity increased by USD 2.3 billion to USD 7.3 billion compared to 31 December 2015. The increase was driven by a USD 1.6 billion capital contribution from the Group to partially fund the Guardian acquisition and an increase of USD 1.2 billion from unrealised gains. Life Capital paid a dividend of USD 350 million during the second quarter. The return on equity was 10.4% for 2016, compared to 7.5% for 2015. The year-on-year increase was mainly due to higher net income.

Life Capital results

USD millions	2015	**2016**	Change in %
Revenues			
Premiums earned	715	694	–3
Fee income from policyholders	414	499	21
Net investment income – non-participating business	939	1 256	34
Net realised investment gains/losses – non-participating business	274	503	84
Net investment result – unit-linked and with-profit business	772	5 367	–
Other revenues	1	1	–
Total revenues	3 115	**8 320**	167
Expenses			
Life and health benefits	–1 068	–1 896	78
Return credited to policyholders	–1 106	–5 060	–
Acquisition costs	–159	–63	–60
Operating expenses	–365	–503	38
Total expenses before interest expenses	–2 698	**–7 522**	179
Income before interest and income tax expense	417	**798**	91
Interest expenses	–16	–29	81
Income before income tax expense	401	**769**	92
Income tax expense/benefit	23	–131	–
Net income attributable to common shareholders	424	**638**	50

Outlook

Life Capital continues to pursue selective acquisition opportunities within the closed book market in EMEA and to grow its individual and group life and health business in Europe and the US. Life Capital seeks to optimise capital and asset management to maximise cash generation and return on equity. In the closed book business, the focus remains on achieving operational efficiencies by leveraging our operating platform, while in the open book business, the aim is to grow via innovation and the use of digital technology. Life Capital aims to generate significant cash while continuing to invest in its open book strategy.

Income statement

For the years ended 31 December

USD millions	Note	2015	2016
Revenues			
Gross premiums written	4	32 249	**35 622**
Net premiums written	4	30 442	**33 570**
Change in unearned premiums		–691	**–879**
Premiums earned	3	29 751	**32 691**
Fee income from policyholders	3	463	**540**
Net investment income – non-participating business[1]	7	3 436	**3 661**
Net realised investment gains/losses – non-participating business[2]	7	1 206	**1 484**
Net investment result – unit-linked and with-profit business	7	814	**5 382**
Other revenues		44	**28**
Total revenues		35 714	**43 786**
Expenses			
Claims and claim adjustment expenses	3	–9 848	**–12 564**
Life and health benefits	3	–9 080	**–10 859**
Return credited to policyholders		–1 166	**–5 099**
Acquisition costs	3	–6 419	**–6 928**
Operating expenses[3]		–3 248	**–3 358**
Total expenses before interest expenses		–29 761	**–38 808**
Income before interest and income tax expense		5 953	**4 978**
Interest expenses[3]		–634	**–606**
Income before income tax expense		5 319	**4 372**
Income tax expense		–651	**–749**
Net income before attribution of non-controlling interests		4 668	**3 623**
Income/loss attributable to non-controlling interests		–3	**3**
Net income after attribution of non-controlling interests		4 665	**3 626**
Interest on contingent capital instruments		–68	**–68**
Net income attributable to common shareholders		4 597	**3 558**
Earnings per share in USD			
Basic	12	13.44	**10.72**
Diluted	12	12.28	**9.82**
Earnings per share in CHF[4]			
Basic	12	12.93	**10.55**
Diluted	12	11.81	**9.66**

[1] Total impairments for the years ended 31 December of USD 83 million in 2015 and USD 66 million in 2016, respectively, were fully recognised in earnings.
[2] Total impairments for the years ended 31 December of USD 57 million in 2015 and USD 88 million in 2016, respectively, were fully recognised in earnings.
[3] Letter of credit fees of USD 55 million for the year ended 31 December 2015 have been reclassified from "Operating expenses" to "Interest expenses".
[4] 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	2015	2016
Net income before attribution of non-controlling interests	4 668	**3 623**
Other comprehensive income, net of tax:		
Change in unrealised investment gains/losses	–2 670	**1 711**
Change in other-than-temporary impairment	–8	**6**
Change in cash flow hedges		**–7**
Change in foreign currency translation	–1 012	**–387**
Change in adjustment for pension benefits	–191	**–119**
Total comprehensive income before attribution of non-controlling interests	787	**4 827**
Interest on contingent capital instruments	–68	**–68**
Comprehensive income attributable to non-controlling interests	–3	**3**
Total comprehensive income attributable to common shareholders	716	**4 762**

Reclassification out of accumulated other comprehensive income

For the years ended 31 December

2015 USD millions	Unrealised investment gains/losses[1]	Other-than-temporary impairment[1]	Cash flow hedges[1]	Foreign currency translation	Adjustment from pension benefits[2]	Accumulated other comprehensive income
Balance as of 1 January	5 418	–3	0	–4 675	–825	–85
Change during the period	–2 166	–10		–870	–310	–3 356
Amounts reclassified out of accumulated other comprehensive income	–1 523				74	–1 449
Tax	1 019	2		–142	45	924
Balance as of period end	2 748	–11	0	–5 687	–1 016	–3 966

2016 USD millions	Unrealised investment gains/losses[1]	Other-than-temporary impairment[1]	Cash flow hedges[1]	Foreign currency translation	Adjustment from pension benefits[2]	**Accumulated other comprehensive income**
Balance as of 1 January	2 748	–11	0	–5 687	–1 016	**–3 966**
Change during the period	2 856	6	32	–267	–201	**2 426**
Amounts reclassified out of accumulated other comprehensive income	–704	2	–39		61	**–680**
Tax	–441	–2		–120	21	**–542**
Balance as of period end	**4 459**	**–5**	**–7**	**–6 074**	**–1 135**	**–2 762**

[1] Reclassification adjustment included in net income is presented in ''Net realised investment gains/losses – non-participating business''.
[2] Reclassification adjustment included in net income is presented in ''Operating expenses''.

The accompanying notes are an integral part of the Group financial statements.

Balance sheet

As of 31 December

Assets

USD millions	Note	2015	2016
Investments	7, 8, 9		
Fixed income securities:			
Available-for-sale (including 11 897 in 2015 and 10 036 in 2016 subject to securities lending and repurchase agreements) (amortised cost: 2015: 76 155; 2016: 85 171)		79 435	**90 581**
Trading (including 1 729 in 2015 and 1 871 in 2016 subject to securities lending and repurchase agreements)		2 896	**2 695**
Equity securities:			
Available-for-sale (including 605 in 2015 and 23 in 2016 subject to securities lending and repurchase agreements) (cost: 2015: 4 294; 2016: 2 897)		4 719	**3 375**
Trading		68	**60**
Policy loans, mortgages and other loans		3 123	**3 682**
Investment real estate		1 556	**1 925**
Short-term investments (including 1 278 in 2015 and 2 960 in 2016 subject to securities lending and repurchase agreements)		7 405	**10 909**
Other invested assets		10 367	**9 611**
Investments for unit-linked and with-profit business (including fixed income securities trading: 4 069 in 2015 and 5 153 in 2016, equity securities trading: 22 783 in 2015 and 25 807 in 2016)		28 241	**32 178**
Total investments		137 810	**155 016**
Cash and cash equivalents (including 319 in 2015 and 1 169 in 2016 subject to securities lending)		8 204	**9 011**
Accrued investment income		983	**1 108**
Premiums and other receivables		11 709	**13 270**
Reinsurance recoverable on unpaid claims and policy benefits		6 578	**7 461**
Funds held by ceding companies		9 870	**8 184**
Deferred acquisition costs	6	5 471	**6 200**
Acquired present value of future profits	6	2 964	**2 003**
Goodwill		3 862	**3 965**
Income taxes recoverable		191	**291**
Deferred tax assets		5 970	**5 902**
Other assets		2 523	**2 654**
Total assets		196 135	**215 065**

The accompanying notes are an integral part of the Group financial statements.

Liabilities and equity

USD millions	Note	2015	2016
Liabilities			
Unpaid claims and claim adjustment expenses	5	55 518	**57 355**
Liabilities for life and health policy benefits	8	30 131	**41 176**
Policyholder account balances		31 422	**34 354**
Unearned premiums		10 869	**11 629**
Funds held under reinsurance treaties		3 320	**2 544**
Reinsurance balances payable		1 928	**1 913**
Income taxes payable		488	**633**
Deferred and other non-current tax liabilities		8 093	**8 583**
Short-term debt	11	1 834	**1 564**
Accrued expenses and other liabilities		7 948	**9 811**
Long-term debt	11	10 978	**9 787**
Total liabilities		162 529	**179 349**
Equity			
Contingent capital instruments		1 102	**1 102**
Common shares, CHF 0.10 par value 2015: 370 706 931; 2016: 360 072 561 shares authorised and issued		35	**34**
Additional paid-in capital		482	**341**
Treasury shares, net of tax		–1 662	**–1 763**
Accumulated other comprehensive income:			
Net unrealised investment gains/losses, net of tax		2 748	**4 459**
Other-than-temporary impairment, net of tax		–11	**–5**
Cash flow hedges, net of tax			**–7**
Foreign currency translation, net of tax		–5 687	**–6 074**
Adjustment for pension and post-retirement benefits, net of tax		–1 016	**–1 135**
Total accumulated other comprehensive income		–3 966	**–2 762**
Retained earnings		37 526	**38 682**
Shareholders' equity		33 517	**35 634**
Non-controlling interests		89	**82**
Total equity		33 606	**35 716**
Total liabilities and equity		196 135	**215 065**

The accompanying notes are an integral part of the Group financial statements.

Statement of shareholders' equity

For the years ended 31 December

USD millions	2015	2016
Contingent capital instruments		
Balance as of 1 January	1 102	**1 102**
Issued		
Balance as of period end	1 102	**1 102**
Common shares		
Balance as of 1 January	35	**35**
Issue of common shares		
Cancellation of shares bought back		**–1**
Balance as of period end	35	**34**
Additional paid-in capital		
Balance as of 1 January	1 806	**482**
Cancellation of shares bought back		**–176**
Share-based compensation	17	**2**
Realised gains/losses on treasury shares	–61	**33**
Dividends on common shares[1]	–1 280	
Balance as of period end	482	**341**
Treasury shares, net of tax		
Balance as of 1 January	–1 185	**–1 662**
Purchase of treasury shares	–584	**–1 190**
Cancellation of shares bought back		**1 018**
Issuance of treasury shares, including share-based compensation to employees	107	**71**
Balance as of period end	–1 662	**–1 763**
Net unrealised investment gains/losses, net of tax		
Balance as of 1 January	5 418	**2 748**
Changes during the period	–2 670	**1 711**
Balance as of period end	2 748	**4 459**
Other-than-temporary impairment, net of tax		
Balance as of 1 January	–3	**–11**
Changes during the period	–8	**6**
Balance as of period end	–11	**–5**
Cash flow hedges, net of tax		
Balance as of 1 January	0	**0**
Changes during the period		**–7**
Balance as of period end	0	**–7**
Foreign currency translation, net of tax		
Balance as of 1 January	–4 675	**–5 687**
Changes during the period	–1 012	**–387**
Balance as of period end	–5 687	**–6 074**
Adjustment for pension and other post-retirement benefits, net of tax		
Balance as of 1 January	–825	**–1 016**
Changes during the period	–191	**–119**
Balance as of period end	–1 016	**–1 135**
Retained earnings		
Balance as of 1 January	34 257	**37 526**
Net income after attribution of non-controlling interests	4 665	**3 626**
Interest on contingent capital instruments, net of tax	–68	**–68**
Dividends on common shares[1]	–1 328	**–1 561**
Cancellation of shares bought back		**–841**
Balance as of period end	37 526	**38 682**
Shareholders' equity	33 517	**35 634**

USD millions	2015	2016
Non-controlling interests		
Balance as of 1 January	111	**89**
Changes during the period	–25	**–4**
Income attributable to non-controlling interests	3	**–3**
Balance as of period end	89	**82**
Total equity	33 606	**35 716**

[1] The distributions to shareholders in 2015 were paid in the form of a withholding tax exempt repayment of legal reserves from capital contributions.

The accompanying notes are an integral part of the Group financial statements.

Statement of cash flow

For the years ended 31 December

USD millions	2015	2016
Cash flows from operating activities		
Net income attributable to common shareholders	4 597	**3 558**
Add net income attributable to non-controlling interests	3	**–3**
Adjustments to reconcile net income to net cash provided/used by operating activities:		
Depreciation, amortisation and other non-cash items	594	**643**
Net realised investment gains/losses	–1 221	**–5 787**
Income from equity-accounted investees, net of dividends received	202	**135**
Change in:		
Technical provisions and other reinsurance assets and liabilities, net	–121	**5 845**
Funds held by ceding companies and under reinsurance treaties	764	**862**
Reinsurance recoverable on unpaid claims and policy benefits	670	**434**
Other assets and liabilities, net	87	**–37**
Income taxes payable/recoverable	–567	**–24**
Trading positions, net	404	**489**
Net cash provided/used by operating activities	5 412	**6 115**
Cash flows from investing activities		
Fixed income securities:		
Sales	45 552	**38 700**
Maturities	4 529	**4 218**
Purchases	–55 360	**–44 389**
Net purchases/sales/maturities of short-term investments	6 103	**–3 675**
Equity securities:		
Sales	1 790	**3 283**
Purchases	–2 717	**–1 702**
Securities purchased/sold under agreement to resell/repurchase, net	–2 089	**789**
Cash paid/received for acquisitions/disposal and reinsurance transactions, net	404	**318**
Net purchases/sales/maturities of other investments	2 264	**1 293**
Net purchases/sales/maturities of investments held for unit-linked and with-profit business	1 218	**2 762**
Net cash provided/used by investing activities	1 694	**1 597**
Cash flows from financing activities		
Policyholder account balances, unit-linked and with-profit business:		
Deposits	518	**658**
Withdrawals	–2 383	**–3 755**
Issuance/repayment of long-term debt	199	**762**
Issuance/repayment of short-term debt	–1 155	**–1 331**
Purchase/sale of treasury shares	–579	**–1 170**
Dividends paid to shareholders	–2 608	**–1 561**
Net cash provided/used by financing activities	–6 008	**–6 397**
Total net cash provided/used	1 098	**1 315**
Effect of foreign currency translation	–365	**–508**
Change in cash and cash equivalents	733	**807**
Cash and cash equivalents as of 1 January	7 471	**8 204**
Cash and cash equivalents as of 31 December	8 204	**9 011**

Interest paid was USD 729 million and USD 674 million (thereof USD 57 million and USD 51 million for letter of credit fees) for the years ended 31 December 2015 and 2016, respectively. Tax paid was USD 1 190 million and USD 755 million for the years ended 31 December 2015 and 2016, respectively.

The accompanying notes are an integral part of the Group financial statements.

This page intentionally left blank.

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 2016. The 2015 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 2015. The Swiss Re Group's audited consolidated financial statements for the year ended 31 December 2016 will be published on 16 March 2017.

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 2016, 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 22 February 2017. This is the date on which the condensed unaudited financial statements are available to be issued.

Recent accounting guidance

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 new requirements are effective for annual and interim periods beginning after 15 December 2017, and may be applied retrospectively to each prior period presented or with a cumulative effect adjustment to retained earnings as of the date of initial application. The Group is currently assessing the impact of the new requirements.

In August 2014, the FASB issued ASU 2014-13, "Measuring the Financial Assets and the Financial Liabilities of a Consolidated Collateralized Financing Entity – a consensus of the FASB Emerging Issues Task Force", an update to topic 810, "Consolidation". The ASU applies to entities that are required to consolidate a collateralised financing entity (CFE) under the variable interest entity (VIE) consolidation guidance when the entity measures all financial assets and financial liabilities of the CFE at fair value, with changes in fair value recorded in earnings. Before the ASU became effective, if an entity would measure the fair value of assets and liabilities separately following applicable US GAAP rules, the aggregate fair value might have differed. The new guidance allows the use of the more observable of the fair value of the financial assets or the fair value of the financial liabilities of the CFE to measure both. The Group adopted ASU 2014-13 on 1 January 2016. The adoption did not have a material effect on the Group's financial statements.

In August 2014, the FASB issued ASU 2014-15, "Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern", an update to subtopic 205-40, "Presentation of Financial Statements – Going Concern". The ASU requires an entity's management to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the entity's ability to continue as a going concern within one year after the date the financial statements are available to be issued. When management identifies such conditions or events, footnote disclosures need to be provided on the relevant conditions and events identified and on whether management's plans to mitigate those conditions or events will alleviate the substantial doubt. The Group adopted ASU 2014-15 as of year-end 2016. The adoption did not have an impact on the Group's financial statements.

In November 2014, the FASB issued ASU 2014-16, "Determining Whether the Host Contract in a Hybrid Financial Instrument Issued in the Form of a Share Is More Akin to Debt or to Equity – a consensus of the FASB Emerging Issues Task Force", an update to topic 815, "Derivatives and Hedging". The ASU provides guidance on how to assess whether or not a derivative embedded in an instrument in the legal form of a share must be bifurcated and accounted for separately from its host contract. Entities are required to use "the whole instrument approach" to determine whether the nature of the host contract in a hybrid instrument issued in the form of a share is more akin to debt or to equity. Under this approach, an issuer or investor considers all stated and implied substantive terms and features of a hybrid instrument when determining the nature of the host contract. No single term or feature will necessarily determine the nature of the host contract. The Group adopted ASU 2014-16 on 1 January 2016. The adoption did not have a material effect on the Group's financial statements.

In January 2015, the FASB issued ASU 2015-01, "Simplifying Income Statement Presentation by Eliminating the Concept of Extraordinary Items", an update to subtopic 225-20, "Income Statement–Extraordinary and Unusual Items". The ASU eliminates the separate presentation of extraordinary items, net of tax and the related earnings per share. Extraordinary items were events and transactions that were distinguished by their unusual nature and by the infrequency of their occurrence. The ASU does not affect the requirement to disclose material items that are unusual in nature or infrequently occurring. The Group adopted ASU 2015-01 on 1 January 2016 on a prospective basis. The adoption did not have a material effect on the Group's financial statements.

In February 2015, the FASB issued ASU 2015-02, "Consolidation: Amendments to the Consolidation Analysis", an amendment to topic 810, "Consolidation". ASU 2015-02 (i) eliminates the indefinite deferral of the consolidation requirements for certain investment companies and similar entities, (ii) modifies how to evaluate partnerships and other entities under the VIE framework, (iii) eliminates the presumption that a general partner should consolidate a limited partnership, (iv) modifies consolidation analysis, particularly for decision-maker fee arrangements and related party relationships, (v) excludes from the scope of consolidation assessment the entities that are, or operate similar to, money market funds registered under the US Investment Company Act of 1940. The Group adopted ASU 2015-02 on 1 January 2016 following the modified retrospective method. The modified retrospective method does not require the restatement of prior periods. The adoption did not have a material effect on the Group's financial statements; however, it led to an increase in VIEs disclosed in Note 14 Variable interest entities.

In April 2015, the FASB issued ASU 2015-03, "Simplifying the Presentation of Debt Issuance Costs", an update to subtopic 835-30, "Interest – Imputation of Interest". The ASU changes the presentation of debt issuance costs in financial statements by requiring that an entity presents such costs in the balance sheet as a direct deduction from the related debt liability rather than as an asset. Amortisation of the costs is reported as interest expense. The Group adopted ASU 2015-03 on 1 January 2016 on a prospective basis. The adoption did not have an impact on the Group's financial statements.

In May 2015, the FASB issued ASU 2015-07, "Disclosures for Investments in Certain Entities That Calculate Net Asset Value per Share (or Its Equivalent)", an amendment to topic 820, "Fair Value Measurement". ASU 2015-07 removes the requirement to categorise within the fair value hierarchy all investments for which fair value is measured using the net asset value per share practical expedient. The amendments also remove the requirement to make certain disclosures for all investments that are eligible to be measured at fair value using the net asset value per share practical expedient. Rather, those disclosures are limited to investments for which the entity has elected to measure the fair value using that practical expedient. The Group adopted ASU 2015-07 on 1 January 2016 and removed investments for which fair values are measured using the net asset value per share practical expedient from the fair value hierarchy as of the adoption date. The amended disclosures are provided in Note 8 Fair value disclosures.

In May 2015, the FASB issued ASU 2015-09, "Disclosures about Short-Duration Contracts", an update to topic 944, "Financial Services — Insurance". ASU 2015-09 requires an insurance entity to provide additional information about insurance liabilities, including information on the nature, amount, timing, and uncertainty of future cash flows related to insurance liabilities and the effect of those cash flows on the statement of comprehensive income. Requirements include disaggregated incurred and paid claims development information by accident year, on a net basis after risk mitigation, for at least the most recent 10 years with the periods preceding the current period considered required supplementary information. In addition, for each accident year presented in the claims development tables, an insurer has to provide disaggregated information about claim frequency (unless impracticable) and the amounts of incurred but not reported (IBNR) liabilities plus the expected development on reported claims. Required disclosures also include a description of the methods for determining both IBNR and expected development on reported claims as well as information about any significant changes in methods and assumptions used in the computation of the liability for unpaid claims and claim adjustment expenses, including reasons for the changes and the impact of the changes on the most recent reporting period in the financial statements. All aforementioned disclosures have to be provided on an annual basis. In addition, insurance entities must disclose the roll-forward of the liability for unpaid claims and claim adjustment expenses in both interim and annual periods. The Group adopted the annual disclosure requirements as of year-end 2016. The required disclosures will be provided in Note 5 of the Swiss Re Group's audited consolidated financial statements for the year ended 31 December 2016 which will be published on 16 March 2017. The Group will adopt the interim disclosure requirements for the half-year ending on 30 June 2017.

In September 2015, the FASB issued ASU 2015-16, "Simplifying the Accounting for Measurement-Period Adjustments", an amendment to topic 805, "Business Combinations". ASU 2015-16 is on adjustments to provisional amounts from business combinations during the measurement periods. It requires that an acquirer recognises such adjustments in the reporting period in which the adjustment amounts are determined. Further, the ASU requires that the acquirer records, in the same period's financial statements, the effect on earnings of changes in depreciation, amortisation, or other income effects, if any, as a result of the change to the provisional amounts, calculated as if the accounting had been completed at the acquisition date. The Group adopted this guidance on 1 January 2016. The adoption did not have an effect 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 an entity to carry investments in equity securities, including other ownership interests and limited liability companies at fair value through net income, with the exception of equity method investments, investments that result in consolidation or investments for which the entity has elected the practicability exception to fair value measurement. The practicability exception can only be applied by certain entities and only to equity investments without a readily determinable fair value. Investments under the practicability exception will be subject to an indicator-based impairment test. For financial liabilities to which the fair value option has been applied, the ASU also requires an entity to separately present the change in fair value attributable to instrument-specific credit risk in other comprehensive income rather than in net income. Specific exceptions apply to this requirement. 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 AFS in combination with the entity's other DTAs rather than separately from other DTAs. The ASU also introduces changes to disclosure requirements for financial instruments not measured at fair value and introduces new requirements for equity instruments where the practicability exception to fair value measurement is applied. The new requirements are effective for annual and interim periods beginning after 15 December 2017 with early adoption permitted for requirements relating to the presentation of the impact of instrument-specific credit risk on qualifying financial liabilities in other comprehensive income. The Group is currently assessing the impact of the new requirements.

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 new requirements are effective for the Group for annual and interim periods beginning after 15 December 2018. Early application of the ASU is permitted. The Group is currently assessing the impact of the new requirements.

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. The standard requires for financial instruments that are measured at amortised cost and available-for-sale debt securities that an entity recognises as an allowance its estimate of expected credit losses. This standard is effective for the Group for annual and interim periods beginning after 15 December 2020. Early adoption for interim and annual periods after 15 December 2018 is permitted. The Group is currently assessing the impact of the new requirements.

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 current guidance which prohibits the recognition of current and deferred income taxes for an intra-entity asset transfer until the asset has been sold to an outside party. This new standard requires that an entity should recognise the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. The new requirements are effective for the Group for annual and interim periods beginning after 15 December 2017. The Group is currently assessing the impact of the new requirements.

2 Information on business segments

The Group provides reinsurance and insurance throughout the world through its business segments. The business segments are determined by the organisational structure and by the way in which management reviews the operating performance of the Group.

The Group presents four core operating business segments: Property & Casualty Reinsurance, Life & Health Reinsurance, Corporate Solutions and Life Capital (which includes the former Business Unit Admin Re®). 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.

As of 1 January 2016, the primary life and health insurance business (individual and group) is reported in the Life Capital segment instead of the Life & Health Reinsurance segment. Comparative information for 2015 has been adjusted accordingly.

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 was created on 1 January 2016 to manage Swiss Re's primary life and health business. It comprises the closed and open life and health insurance books, including the existing ReAssure business and the existing primary life and health insurance business formerly conducted by Life & Health Reinsurance. 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.

Group items
Items not allocated to the business segments are included in the "Group items" column, which encompasses Swiss Re Ltd, the Groups' 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

2015 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance[1]	Corporate Solutions	Life Capital[1]	Group items	Consolidation	Total
Revenues							
Gross premiums written	16 099	11 942	3 942	1 346		–1 080	32 249
Net premiums written	15 703	10 529	3 494	716			30 442
Change in unearned premiums	–613	38	–115	–1			–691
Premiums earned	15 090	10 567	3 379	715			29 751
Fee income from policyholders		49		414			463
Net investment income – non-participating business	1 097	1 330	135	939	–70	5	3 436
Net realised investment gains/losses – non-participating business	445	311	142	274	34		1 206
Net investment result – unit-linked and with-profit business		42		772			814
Other revenues	45	4	9	1	332	–347	44
Total revenues	16 677	12 303	3 665	3 115	296	–342	35 714
Expenses							
Claims and claim adjustment expenses	–7 892		–1 955		–1		–9 848
Life and health benefits		–8 012		–1 068			–9 080
Return credited to policyholders		–60		–1 106			–1 166
Acquisition costs	–3 836	–1 965	–459	–159			–6 419
Operating expenses[2,3]	–1 198	–774	–734	–365	–495	318	–3 248
Total expenses before interest expenses	–12 926	–10 811	–3 148	–2 698	–496	318	–29 761
Income/loss before interest and income tax expense	3 751	1 492	517	417	–200	–24	5 953
Interest expenses[2]	–272	–323	–24	–16	–23	24	–634
Income/loss before income tax expense/benefit	3 479	1 169	493	401	–223	0	5 319
Income tax expense/benefit	–451	–152	–134	23	63		–651
Net income/loss before attribution of non-controlling interests	3 028	1 017	359	424	–160	0	4 668
Income/loss attributable to non-controlling interests	–1		–2				–3
Net income/loss after attribution of non-controlling interests	3 027	1 017	357	424	–160	0	4 665
Interest on contingent capital instruments	–19	–49					–68
Net income/loss attributable to common shareholders	3 008	968	357	424	–160	0	4 597
Claims ratio in %	52.3		57.9				53.3
Expense ratio in %	33.4		35.3				33.7
Combined ratio in %	85.7		93.2				87.0
Management expense ratio in %		6.5					
Net operating margin in %	22.5	12.2	14.1	17.8	-67.6		17.1

[1] As of 1 January 2016, the primary life and health insurance business (individual and group) is reported in the Life Capital segment instead of the Life & Health Reinsurance segment. Comparative information for 2015 has been adjusted accordingly.
[2] Letter of credit fees of USD 45 million in Life & Health Reinsurance and USD 10 million in Property & Casualty Reinsurance have been reclassified from "Operating expenses" to "Interest expenses".
[3] The Group's new internal service cost framework resulted in a reallocation of operating expenses to Group items from the business segments. Comparative information for 2015 has been adjusted accordingly.

Business segments – income statement
For the year ended 31 December

2016 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Corporate Solutions	Life Capital	Group items	Consolidation	Total
Revenues							
Gross premiums written	18 149	12 801	4 155	1 489		–972	35 622
Net premiums written	17 768	11 459	3 662	681			33 570
Change in unearned premiums	–760	27	–159	13			–879
Premiums earned	17 008	11 486	3 503	694			32 691
Fee income from policyholders		41		499			540
Net investment income – non-participating business	985	1 279	138	1 256	101	–98	3 661
Net realised investment gains/losses – non-participating business	770	232	51	503	–72		1 484
Net investment result – unit-linked and with-profit business		15		5 367			5 382
Other revenues	37	5	5	1	346	–366	28
Total revenues	**18 800**	**13 058**	**3 697**	**8 320**	**375**	**–464**	**43 786**
Expenses							
Claims and claim adjustment expenses	–10 301		–2 263				–12 564
Life and health benefits		–8 963		–1 896			–10 859
Return credited to policyholders		–39		–5 060			–5 099
Acquisition costs	–4 405	–1 943	–517	–63			–6 928
Operating expenses	–1 204	–763	–760	–503	–473	345	–3 358
Total expenses before interest expenses	**–15 910**	**–11 708**	**–3 540**	**–7 522**	**–473**	**345**	**–38 808**
Income/loss before interest and income tax expense	**2 890**	**1 350**	**157**	**798**	**–98**	**–119**	**4 978**
Interest expenses	–293	–301	–23	–29	–79	119	–606
Income/loss before income tax expense/ benefit	**2 597**	**1 049**	**134**	**769**	**–177**	**0**	**4 372**
Income tax expense/benefit	–479	–193	–1	–131	55		–749
Net income/loss before attribution of non-controlling interests	**2 118**	**856**	**133**	**638**	**–122**	**0**	**3 623**
Income/loss attributable to non-controlling interests	1		2				3
Net income/loss after attribution of non-controlling interests	**2 119**	**856**	**135**	**638**	**–122**	**0**	**3 626**
Interest on contingent capital instruments	–19	–49					–68
Net income/loss attributable to common shareholders	**2 100**	**807**	**135**	**638**	**–122**	**0**	**3 558**
Claims ratio in %	60.5		64.6				61.2
Expense ratio in %	33.0		36.5				33.6
Combined ratio in %	93.5		101.1				94.8
Management expense ratio in %		6.0					
Net operating margin in %	15.4	10.4	4.2	27.0	–26.1		13.0

Business segments – balance sheet

As of 31 December

2015 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance[1]	Corporate Solutions	Life Capital[1]	Group items	Consolidation	Total
Assets							
Fixed income securities	32 146	28 850	5 888	15 429	18		82 331
Equity securities	2 231	921	935		700		4 787
Other investments	12 105	1 976	162	1 524	6 077	–6 798	15 046
Short-term investments	3 458	1 052	1 256	588	1 051		7 405
Investments for unit-linked and with-profit business		818		27 423			28 241
Cash and cash equivalents	4 282	280	680	1 586	1 376		8 204
Deferred acquisition costs	2 051	3 020	387	13			5 471
Acquired present value of future profits		1 134		1 830			2 964
Reinsurance recoverable	2 872	1 652	6 438	1 069		–5 453	6 578
Other reinsurance assets	8 879	7 876	2 296	3 766	3	–1 241	21 579
Goodwill	1 873	1 883	106				3 862
Other[2]	8 310	5 875	934	1 213	397	–7 062	9 667
Total assets	78 207	55 337	19 082	54 441	9 622	–20 554	196 135
Liabilities							
Unpaid claims and claim adjustment expenses	39 366	9 468	10 619	1 380		–5 315	55 518
Liabilities for life and health policy benefits		15 472	257	14 409		–7	30 131
Policyholder account balances		1 368		30 187		–133	31 422
Other reinsurance liabilities	10 597	2 202	4 178	785	3	–1 648	16 117
Short-term debt	1 001	2 612			515	–2 294	1 834
Long-term debt	4 074	8 770	496	808		–3 170	10 978
Other[2]	9 799	8 871	1 187	1 925	2 731	–7 984	16 529
Total liabilities	64 837	48 763	16 737	49 494	3 249	–20 551	162 529
Shareholders' equity[2]	13 347	6 574	2 279	4 947	6 373	–3	33 517
Non-controlling interests	23		66				89
Total equity	13 370	6 574	2 345	4 947	6 373	–3	33 606
Total liabilities and equity	78 207	55 337	19 082	54 441	9 622	–20 554	196 135

[1] As of 1 January 2016, the primary life and health insurance business (individual and group) is reported in the Life Capital segment instead of the Life & Health Reinsurance segment. Comparative information for 2015 has been adjusted accordingly.
[2] The Group's new internal service cost framework resulted in a reallocation of operating expenses to Group items from the business segments. The resulted impact on the balance sheet has been adjusted accordingly for the comparative information 2015.

Business segments – balance sheet
As of 31 December

2016 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Corporate Solutions	Life Capital	Group items	Consolidation	Total
Assets							
Fixed income securities	31 574	29 980	6 361	25 350	11		93 276
Equity securities	1 292	867	539		737		3 435
Other investments	11 962	3 355	141	2 421	4 785	–7 446	15 218
Short-term investments	4 672	2 558	1 272	1 456	951		10 909
Investments for unit-linked and with-profit business		548		31 630			32 178
Cash and cash equivalents	4 922	410	472	2 636	571		9 011
Deferred acquisition costs	2 280	3 465	444	11			6 200
Acquired present value of future profits		966		1 037			2 003
Reinsurance recoverable	2 449	1 580	5 698	2 210		–4 476	7 461
Other reinsurance assets	9 620	6 369	2 616	3 949	4	–1 104	21 454
Goodwill	1 852	1 810	173	130			3 965
Other	8 640	4 049	1 279	1 470	1 181	–6 664	9 955
Total assets	**79 263**	**55 957**	**18 995**	**72 300**	**8 240**	**–19 690**	**215 065**
Liabilities							
Unpaid claims and claim adjustment expenses	39 753	10 288	10 271	1 498		–4 455	57 355
Liabilities for life and health policy benefits		15 431	268	25 499		–22	41 176
Policyholder account balances		1 566		32 788			34 354
Other reinsurance liabilities	10 816	1 709	4 310	684	2	–1 435	16 086
Short-term debt	1 202	5 221		80	431	–5 370	1 564
Long-term debt	3 307	5 074	497	1 465	80	–636	9 787
Other	11 124	9 106	1 370	3 014	2 183	–7 770	19 027
Total liabilities	**66 202**	**48 395**	**16 716**	**65 028**	**2 696**	**–19 688**	**179 349**
Shareholders' equity	**13 040**	**7 562**	**2 218**	**7 272**	**5 544**	**–2**	**35 634**
Non-controlling interests	21		61				82
Total equity	**13 061**	**7 562**	**2 279**	**7 272**	**5 544**	**–2**	**35 716**
Total liabilities and equity	**79 263**	**55 957**	**18 995**	**72 300**	**8 240**	**–19 690**	**215 065**

b) Property & Casualty Reinsurance business segment – by line of business

For the year ended 31 December

2015 USD millions	Property	Casualty	Specialty	Unallocated	Total
Revenues					
Gross premiums written	6733	6802	2564		16099
Net premiums written	6436	6767	2500		15703
Change in unearned premiums	–344	–165	–104		–613
Premiums earned	6092	6602	2396		15090
Net investment income				1097	1097
Net realised investment gains/losses				445	445
Other revenues				45	45
Total revenues	6092	6602	2396	1587	16677
Expenses					
Claims and claim adjustment expenses	–2567	–4139	–1186		–7892
Acquisition costs	–1198	–2053	–585		–3836
Operating expenses[1,2]	–664	–385	–149		–1198
Total expenses before interest expenses	–4429	–6577	–1920	0	–12926
Income before interest and income tax expense	1663	25	476	1587	3751
Interest expenses[1]				–272	–272
Income before income tax expense	1663	25	476	1315	3479
Claims ratio in %	42.1	62.7	49.5		52.3
Expense ratio in %	30.6	36.9	30.6		33.4
Combined ratio in %	72.7	99.6	80.1		85.7

[1] Letter of credit fees of USD 10 million in Property & Casualty Reinsurance have been reclassified from "Operating expenses" to "Interest expenses".
[2] The Group's new internal service cost framework resulted in a reallocation of operating expenses to Group Items from the Property & Casualty Reinsurance segment. Comparative information for 2015 has been adjusted accordingly.

Property & Casualty Reinsurance business segment – by line of business
For the year ended 31 December

2016 USD millions	Property	Casualty	Specialty	Unallocated	Total
Revenues					
Gross premiums written	6 794	8 874	2 481		18 149
Net premiums written	6 499	8 833	2 436		17 768
Change in unearned premiums	153	–830	–83		–760
Premiums earned	6 652	8 003	2 353		17 008
Net investment income				985	985
Net realised investment gains/losses				770	770
Other revenues				37	37
Total revenues	**6 652**	**8 003**	**2 353**	**1 792**	**18 800**
Expenses					
Claims and claim adjustment expenses	–3 745	–5 466	–1 090		–10 301
Acquisition costs	–1 351	–2 468	–586		–4 405
Operating expenses	–665	–385	–154		–1 204
Total expenses before interest expenses	**–5 761**	**–8 319**	**–1 830**	**0**	**–15 910**
Income/loss before interest and income tax expense	**891**	**–316**	**523**	**1 792**	**2 890**
Interest expenses				–293	–293
Income/loss before income tax expense	**891**	**–316**	**523**	**1 499**	**2 597**
Claims ratio in %	56.3	68.3	46.4		60.5
Expense ratio in %	30.3	35.6	31.4		33.0
Combined ratio in %	86.6	103.9	77.8		93.5

c) Life & Health Reinsurance business segment – by line of business

For the year ended 31 December

2015 USD millions	Life	Health	Unallocated	Total[1]
Revenues				
Gross premiums written	8 333	3 609		11 942
Net premiums written	7 048	3 481		10 529
Change in unearned premiums	36	2		38
Premiums earned	7 084	3 483		10 567
Fee income from policyholders	49			49
Net investment income – non-participating business	865	465		1 330
Net realised investment gains/losses – non-participating business	89	42	180	311
Net investment result – unit-linked and with-profit business	42			42
Other revenues	2	2		4
Total revenues	8 131	3 992	180	12 303
Expenses				
Life and health benefits	–5 539	–2 473		–8 012
Return credited to policyholders	–60			–60
Acquisition costs	–1 260	–705		–1 965
Operating expenses[2, 3]	–547	–227		–774
Total expenses before interest expenses	–7 406	–3 405	0	–10 811
Income before interest and income tax expense	725	587	180	1 492
Interest expenses[2]			–323	–323
Income/loss before income tax expense	725	587	–143	1 169
Management expense ratio in %	6.8	5.7		6.5
Net operating margin[4] in %	9.0	14.7		12.2

[1] As of 1 January 2016, the primary life and health insurance business (individual and group) is reported in the Life Capital segment instead of the Life & Health Reinsurance segment. Comparative information for 2015 has been adjusted accordingly.
[2] Letter of credit fees of USD 45 million in Life & Health Reinsurance have been reclassified from "Operating expenses" to "Interest expenses".
[3] The Group's new internal service cost framework resulted in a reallocation of operating expenses to Group items from the Life & Health Reinsurance segment. Comparative information for 2015 has been adjusted accordingly.
[4] 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

2016 USD millions	Life	Health	Unallocated	Total
Revenues				
Gross premiums written	9026	3775		12801
Net premiums written	7773	3686		11459
Change in unearned premiums	5	22		27
Premiums earned	7778	3708		11486
Fee income from policyholders	41			41
Net investment income – non-participating business	828	451		1279
Net realised investment gains/losses – non-participating business	21	–4	215	232
Net investment result – unit-linked and with-profit business	15			15
Other revenues	5			5
Total revenues	**8688**	**4155**	**215**	**13058**
Expenses				
Life and health benefits	–6093	–2870		–8963
Return credited to policyholders	–39			–39
Acquisition costs	–1237	–706		–1943
Operating expenses	–536	–227		–763
Total expenses before interest expenses	**–7905**	**–3803**	**0**	**–11708**
Income before interest and income tax expense	**783**	**352**	**215**	**1350**
Interest expenses			–301	–301
Income/loss before income tax expense	**783**	**352**	**–86**	**1049**
Management expense ratio in %	6.2	5.5		6.0
Net operating margin[1] in %	9.0	8.5		10.4

[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 regions for the years ended 31 December

USD millions	2015	**2016**
Americas	13 230	15 102
Europe (including Middle East and Africa)	10 333	10 928
Asia-Pacific	6 651	7 201
Total	30 214	**33 231**

Net premiums earned and fee income from policyholders by country for the years ended 31 December

USD millions	2015	**2016**
United States	10 259	12 401
United Kingdom	3 516	3 759
China	2 516	2 425
Australia	1 639	1 919
Germany	1 217	1 200
Canada	1 190	1 107
Japan	960	1 105
Switzerland	745	902
Ireland	782	754
France	755	733
Republic of Korea	466	498
Other	6 169	6 428
Total	30 214	**33 231**

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

2015 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance[1]	Corporate Solutions	Life Capital[1]	Total
Premiums earned, thereof:					
Direct		39	2 732	1 197	3 968
Reinsurance	15 301	11 353	872	143	27 669
Intra-group transactions (assumed and ceded)	57	595	–57	–595	0
Premiums earned before retrocession to external parties	15 358	11 987	3 547	745	31 637
Retrocession to external parties	–268	–1 420	–168	–30	–1 886
Net premiums earned	15 090	10 567	3 379	715	29 751
Fee income from policyholders, thereof:					
Direct				323	323
Reinsurance		50		91	141
Gross fee income before retrocession to external parties		50		414	464
Retrocession to external parties		–1			–1
Net fee income	0	49	0	414	463

2016 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Corporate Solutions	Life Capital	Total
Premiums earned, thereof:					
Direct		45	2 879	1 293	4 217
Reinsurance	17 166	12 204	968	173	30 511
Intra-group transactions (assumed and ceded)	113	594	–113	–594	0
Premiums earned before retrocession to external parties	17 279	12 843	3 734	872	34 728
Retrocession to external parties	–271	–1 357	–231	–178	–2 037
Net premiums earned	**17 008**	**11 486**	**3 503**	**694**	**32 691**
Fee income from policyholders, thereof:					
Direct				410	410
Reinsurance		40		89	129
Gross fee income before retrocession to external parties		40		499	539
Retrocession to external parties		1			1
Net fee income	**0**	**41**	**0**	**499**	**540**

[1] As of 1 January 2016, the primary life and health insurance business (individual and group) is reported in the Life Capital segment instead of the Life & Health Reinsurance segment. Comparative information for 2015 has been adjusted accordingly.

Claims and claim adjustment expenses

For the year ended 31 December

2015 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance[1]	Corporate Solutions	Life Capital[1]	Group items	Total
Claims paid, thereof:						
Gross claims paid to external parties	–8 651	–8 931	–2 726	–2 310	–38	–22 656
Intra-group transactions (assumed and ceded)	–739	–456	739	456		0
Claims before receivables from retrocession to external parties	–9 390	–9 387	–1 987	–1 854	–38	–22 656
Retrocession to external parties	540	1 168	278	54		2 040
Net claims paid	–8 850	–8 219	–1 709	–1 800	–38	–20 616
Change in unpaid claims and claim adjustment expenses; life and health benefits, thereof:						
Gross – with external parties	567	218	754	726	37	2 302
Intra-group transactions (assumed and ceded)	941	–37	–941	37		0
Unpaid claims and claim adjustment expenses; life and health benefits before impact of retrocession to external parties	1 508	181	–187	763	37	2 302
Retrocession to external parties	–550	26	–59	–31		–614
Net unpaid claims and claim adjustment expenses; life and health benefits	958	207	–246	732	37	1 688
Claims and claim adjustment expenses; life and health benefits	–7 892	–8 012	–1 955	–1 068	–1	–18 928

Acquisition costs

For the year ended 31 December

2015 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance[1]	Corporate Solutions	Life Capital[1]	Total
Acquisition costs, thereof:					
Gross acquisition costs with external parties	–3 898	–2 137	–492	–233	–6 760
Intra-group transactions (assumed and ceded)	–6	–72	6	72	0
Acquisition costs before impact of retrocession to external parties	–3 904	–2 209	–486	–161	–6 760
Retrocession to external parties	68	244	27	2	341
Net acquisition costs	–3 836	–1 965	–459	–159	–6 419

[1] As of 1 January 2016, the primary life and health insurance business (individual and group) is reported in the Life Capital segment instead of the Life & Health Reinsurance segment. Comparative information for 2015 has been adjusted accordingly.

Claims and claim adjustment expenses

For the year ended 31 December

2016 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Corporate Solutions	Life Capital	Total
Claims paid, thereof:					
Gross claims paid to external parties	–8 546	–10 032	–2 563	–3 384	–24 525
Intra-group transactions (assumed and ceded)	–502	–477	502	477	0
Claims before receivables from retrocession to external parties	–9 048	–10 509	–2 061	–2 907	–24 525
Retrocession to external parties	342	1 205	223	227	1 997
Net claims paid	**–8 706**	**–9 304**	**–1 838**	**–2 680**	**–22 528**
Change in unpaid claims and claim adjustment expenses; life and health benefits, thereof:					
Gross – with external parties	–2 014	392	257	833	–532
Intra-group transactions (assumed and ceded)	702	–34	–702	34	0
Unpaid claims and claim adjustment expenses; life and health benefits before impact of retrocession to external parties	–1 312	358	–445	867	–532
Retrocession to external parties	–283	–17	20	–83	–363
Net unpaid claims and claim adjustment expenses; life and health benefits	**–1 595**	**341**	**–425**	**784**	**–895**
Claims and claim adjustment expenses; life and health benefits	**–10 301**	**–8 963**	**–2 263**	**–1 896**	**–23 423**

Acquisition costs

For the year ended 31 December

2016 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Corporate Solutions	Life Capital	Total
Acquisition costs, thereof:					
Gross acquisition costs with external parties	–4 458	–2 094	–589	–137	–7 278
Intra-group transactions (assumed and ceded)	–16	–59	16	59	0
Acquisition costs before impact of retrocession to external parties	–4 474	–2 153	–573	–78	–7 278
Retrocession to external parties	69	210	56	15	350
Net acquisition costs	**–4 405**	**–1 943**	**–517**	**–63**	**–6 928**

Reinsurance recoverable on unpaid claims and policy benefits

As of 31 December 2015 and 2016, the Group had a reinsurance recoverable of USD 6 578 million and USD 7 461 million, respectively. The concentration of credit risk is regularly monitored and evaluated. The reinsurance programme with Berkshire Hathaway and subsidiaries accounted for 52% of the Group's reinsurance recoverable as of year-end 2015 and 40% as of year-end 2016.

Reinsurance receivables

Reinsurance receivables as of 31 December were as follows:

USD millions	2015	**2016**
Premium receivables invoiced	1 441	1 717
Receivables invoiced from ceded re/insurance business	201	177
Assets arising from the application of the deposit method of accounting and meeting the definition of financing receivables	171	141
Recognised allowance	–56	–60

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 2015 and 2016 was 8% and 10%, respectively. The amount of policyholder dividend expense in 2015 and 2016 was USD 126 million and USD 279 million, respectively.

This page intentionally left blank.

4 Premiums written

For the years ended 31 December

2015 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance[1]	Corporate Solutions	Life Capital[1]	Consolidation	Total
Gross premiums written, thereof:						
Direct		40	2 905	1 203		4 148
Reinsurance	15 811	11 302	845	143		28 101
Intra-group transactions (assumed)	288	600	192		–1 080	0
Gross premiums written	16 099	11 942	3 942	1 346	–1 080	32 249
Intra-group transactions (ceded)	–192		–288	–600	1 080	0
Gross premiums written before retrocession to external parties	15 907	11 942	3 654	746		32 249
Retrocession to external parties	–204	–1 413	–160	–30		–1 807
Net premiums written	15 703	10 529	3 494	716	0	30 442

2016 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Corporate Solutions	Life Capital	Consolidation	Total
Gross premiums written, thereof:						
Direct		45	3 056	1 317		4 418
Reinsurance	17 862	12 210	960	172		31 204
Intra-group transactions (assumed)	287	546	139		–972	0
Gross premiums written	18 149	12 801	4 155	1 489	–972	35 622
Intra-group transactions (ceded)	–139		–287	–546	972	0
Gross premiums written before retrocession to external parties	18 010	12 801	3 868	943		35 622
Retrocession to external parties	–242	–1 342	–206	–262		–2 052
Net premiums written	**17 768**	**11 459**	**3 662**	**681**	**0**	**33 570**

[1] As of 1 January 2016, the primary life and health insurance business (individual and group) is reported in the Life Capital segment instead of the Life & Health Reinsurance segment. Comparative information for 2015 has been adjusted accordingly.

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 period is presented as follows:

USD millions	2015[1]	**2016**
Balance as of 1 January	57 954	55 518
Reinsurance recoverable	–5 103	–4 265
Deferred expense on retroactive reinsurance	–14	–340
Net balance as of 1 January	52 837	**50 913**
Incurred related to:		
Current year	20 729	25 825
Prior year	–1 126	–810
Amortisation of deferred expense on retroactive reinsurance and impact of commutations	27	–26
Total incurred	19 630	**24 989**
Paid related to:		
Current year	–8 533	–9 720
Prior year	–12 083	–12 808
Total paid	–20 616	**–22 528**
Foreign exchange	–2 619	–1 317
Effect of acquisitions, disposals, new retroactive reinsurance and other items	1 681	1 043
Net balance as of 31 December	50 913	**53 100**
Reinsurance recoverable	4 265	4 044
Deferred expense on retroactive reinsurance	340	211
Balance as of 31 December	55 518	**57 355**

[1] The Group has adjusted its presentation of the reconciliation to include both non-life and life and health business lines for the current and the comparative reporting period.

Prior-year development

Non-life claims development during 2016 on prior years continued to be driven by favourable experience on most lines of business. Property includes adverse development from the New Zealand earthquakes that occurred in 2010 and 2011. Casualty includes adverse development on US asbestos and environmental claims, while the more recent years were in some cases strengthened in view of the unfavourable prevailing market conditions. Within specialty, the main reserve releases came from marine and engineering business lines.

For life and health lines of business, claims development on prior year business was driven by adverse claim experience across a number of lines of business and geographies. In particular, the UK critical illness portfolio strengthened reserves following adverse trends. This was partially offset by Canadian mortality and disability portfolios which had reserve releases following positive claims experience. 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 is shown below:

USD millions	2015	**2016**
Line of business:		
Property	–539	–335
Casualty	–571	–249
Specialty	–284	–357
Life and health	268	131
Total	–1 126	**–810**

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 2016 the Group carried net reserves for US asbestos and environmental liabilities equal to USD 1 977 million. During 2016, the Group incurred net losses of USD 48 million and paid net against these liabilities of USD 164 million.

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.

The Group maintains an active commutation strategy to reduce exposure. When commutation payments are made, the traditional "survival ratio" is artificially reduced by premature payments which should not imply a reduction in reserve adequacy.

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

As of 31 December, the DAC were as follows:

2015 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance[1]	Corporate Solutions	Life Capital[1]	Total
Opening balance as of 1 January	1 756	2 723	360	1	4 840
Effect of change in Group structure[1]		–12		12	0
Deferred	4 132	1 018	486	35	5 671
Effect of acquisitions/disposals and retrocessions	7	2			9
Amortisation	–3 793	–560	–459	–34	–4 846
Effect of foreign currency translation	–51	–151		–1	–203
Closing balance	2 051	3 020	387	13	5 471

2016 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Corporate Solutions	Life Capital	Total
Opening balance as of 1 January	2 051	3 020	387	13	5 471
Deferred	4 629	893	571	34	6 127
Amortisation	–4 379	–312	–513	–36	–5 240
Effect of foreign currency translation	–21	–136	–1		–158
Closing balance	**2 280**	**3 465**	**444**	**11**	**6 200**

[1] As of 1 January 2016, the primary life and health insurance business (individual and group) is reported in the Life Capital segment instead of the Life & Health Reinsurance segment. Comparative information for 2015 has been adjusted accordingly.

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:

2015 USD millions	Life & Health Reinsurance	Life Capital Positive PVFP	Life Capital Negative PVFP	Life Capital Total	Total
Opening balance as of 1 January	1 294	2 003	0	2 003	3 297
Effect of acquisitions/disposals and retrocessions		2		2	2
Amortisation	–159	–191		–191	–350
Interest accrued on unamortised PVFP	40	84		84	124
Effect of change in unrealised gains/losses		9		9	9
Effect of foreign currency translation	–41	–77		–77	–118
Closing balance	1 134	1 830	0	1 830	2 964

2016 USD millions	Life & Health Reinsurance	Life Capital Positive PVFP	Life Capital Negative PVFP	Life Capital Total	**Total**
Opening balance as of 1 January	**1 134**	1 830	0	**1 830**	**2 964**
Effect of acquisitions/disposals and retrocessions			–603	**–603**	**–603**
Amortisation	**–132**	–198	51	**–147**	**–279**
Interest accrued on unamortised PVFP	**36**	130	–19	**111**	**147**
Effect of change in unrealised gains/losses		1		**1**	**1**
Effect of foreign currency translation	**–72**	–205	50	**–155**	**–227**
Closing balance	**966**	**1 558**	**–521**	**1 037**	**2 003**

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.

In the first quarter 2016, the Group's Business Unit Life Capital acquired Guardian Holdings Europe Limited, the holding company for operations trading under the name Guardian Financial Services ("Guardian"), and recognised negative PVFP. Upon acquisition, PVFP is calculated as the difference between the estimated fair value and established reserves, which is in line with US GAAP accounting policies and assumptions of the Group. The product mix of Guardian is weighted towards annuity business, for which the fair value of insurance and investment contract liabilities significantly exceeds the established US GAAP reserves. This excess is mainly due to differences in discount rates and risk weightings between fair value and US GAAP estimates. Overall, the excess on the annuity business outweighs the estimated future gross profits of other business and synergy expectations included in the fair value of insurance and investment contract liabilities for the business as a whole, resulting in a negative PVFP.

The subsequent measurement of negative PVFP is in alignment with the existing measurement of positive PVFP assets (please refer to Note 1).

The percentage of PVFP which is expected to be amortised in each of the next five years is 10%, 10%, 9%, 9% and 8%.

7 Investments

Investment income

Net investment income by source (excluding unit-linked and with-profit business) was as follows:

USD millions	2015	2016
Fixed income securities	2 553	2 806
Equity securities	105	98
Policy loans, mortgages and other loans	128	156
Investment real estate	158	184
Short-term investments	77	54
Other current investments	155	153
Share in earnings of equity-accounted investees	52	41
Cash and cash equivalents	35	28
Net result from deposit-accounted contracts	95	118
Deposits with ceding companies	462	441
Gross investment income	3 820	**4 079**
Investment expenses	–362	–397
Interest charged for funds held	–22	–21
Net investment income – non-participating business	3 436	**3 661**

Dividends received from investments accounted for using the equity method were USD 254 million and USD 176 million for 2015 and 2016, respectively.

Share in earnings of equity-accounted investees includes an impairment of the carrying amount of an equity-accounted investee of USD 83 million and USD 66 million for 2015 and 2016, respectively.

Realised gains and losses

Realised gains and losses for fixed income, equity securities and other investments (excluding unit-linked and with-profit business) were as follows:

USD millions	2015	2016
Fixed income securities available-for-sale:		
Gross realised gains	889	789
Gross realised losses	–283	–202
Equity securities available-for-sale:		
Gross realised gains	372	371
Gross realised losses	–69	–122
Other-than-temporary impairments	–57	–88
Net realised investment gains/losses on trading securities	64	110
Change in net unrealised investment gains/losses on trading securities	–30	–14
Net realised/unrealised gains/losses on other investments	85	118
Net realised/unrealised gains/losses on insurance-related activities	152	344
Foreign exchange gains/losses	83	178
Net realised investment gains/losses – non-participating business	1 206	**1 484**

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 down-side 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	2015 Unit-linked	2015 With-profit	2016 Unit-linked	2016 With-profit
Investment income – fixed income securities	90	77	100	134
Investment income – equity securities	556	28	735	69
Investment income – other	32	16	28	13
Total investment income – unit-linked and with-profit business	678	121	**863**	**216**
Realised gains/losses – fixed income securities	–75	–58	135	174
Realised gains/losses – equity securities	124	–19	3 631	321
Realised gains/losses – other	28	15	53	–11
Total realised gains/losses – unit-linked and with-profit business	77	–62	**3 819**	**484**
Total net investment result – unit-linked and with-profit business	755	59	**4 682**	**700**

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, a 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	2015	2016
Balance as of 1 January	137	136
Credit losses for which an other-than-temporary impairment was not previously recognised	30	13
Reductions for securities sold during the period	–23	–48
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	7	8
Impact of increase in cash flows expected to be collected	–10	–7
Impact of foreign exchange movements	–5	–5
Balance as of 31 December	136	**97**

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:

2015 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	12 212	612	–92		12 732
US Agency securitised products	2 937	29	–28		2 938
States of the United States and political subdivisions of the states	1 236	55	–10		1 281
United Kingdom	7 514	773	–54		8 233
Canada	3 943	520	–38		4 425
Germany	2 920	239	–31		3 128
France	2 065	223	–18		2 270
Australia	1 590	20	–4		1 606
Other	6 228	242	–142		6 328
Total	40 645	2 713	–417		42 941
Corporate debt securities	30 540	1 448	–530	–11	31 447
Mortgage- and asset-backed securities	4 970	118	–38	–3	5 047
Fixed income securities available-for-sale	76 155	4 279	–985	–14	79 435
Equity securities available-for-sale	4 294	632	–207		4 719

2016 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	13 162	481	–179		13 464
US Agency securitised products	3 415	22	–53		3 384
States of the United States and political subdivisions of the states	1 411	59	–20		1 450
United Kingdom	8 005	1 293	–97		9 201
Canada	3 916	517	–35		4 398
Germany	2 906	325	–15		3 216
France	1 931	277	–10		2 198
Australia	1 967	17	–5		1 979
Other	6 355	287	–96		6 546
Total	43 068	3 278	–510		45 836
Corporate debt securities	37 203	2 733	–181		39 755
Mortgage- and asset-backed securities	4 900	125	–30	–5	4 990
Fixed income securities available-for-sale	**85 171**	**6 136**	**–721**	**–5**	**90 581**
Equity securities available-for-sale	**2 897**	**561**	**–83**		**3 375**

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.

Investments trading

The carrying amounts of fixed income securities and equity securities classified as trading (excluding unit-linked and with-profit business) as of 31 December were as follows:

USD millions	2015	2016
Debt securities issued by governments and government agencies	2 710	2 538
Corporate debt securities	52	45
Mortgage- and asset-backed securities	134	112
Fixed income securities trading – non-participating business	2 896	**2 695**
Equity securities trading – non-participating business	68	**60**

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:

	2015		2016	
USD millions	Unit-linked	With-profit	Unit-linked	With-profit
Fixed income securities trading	2 410	1 659	2 379	2 774
Equity securities trading	21 894	889	23 859	1 948
Investment real estate	691	366	580	298
Other	332		265	75
Total investments for unit-linked and with-profit business	25 327	2 914	**27 083**	**5 095**

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 2015 and 2016, USD 12 725 million and USD 14 640 million, respectively, of fixed income securities available-for-sale were callable.

	2015		2016	
USD millions	Amortised cost or cost	Estimated fair value	Amortised cost or cost	Estimated fair value
Due in one year or less	4 874	4 911	6 607	6 650
Due after one year through five years	19 370	19 671	19 180	19 623
Due after five years through ten years	16 577	17 101	19 240	20 079
Due after ten years	30 611	32 952	35 564	39 562
Mortgage- and asset-backed securities with no fixed maturity	4 723	4 800	4 580	4 667
Total fixed income securities available-for-sale	76 155	79 435	**85 171**	**90 581**

Assets pledged

As of 31 December 2016, investments with a carrying value of USD 7 249 million were on deposit with regulatory agencies in accordance with local requirements, and investments with a carrying value of USD 14 005 million were placed on deposit or pledged to secure certain reinsurance liabilities, including pledged investments in subsidiaries.

As of 31 December 2015 and 2016, securities of USD 15 828 million and USD 16 059 million, respectively, were transferred to third parties under securities lending transactions and repurchase agreements on a fully collateralised basis. Corresponding liabilities of USD 995 million and USD 1 010 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 2016, a real estate portfolio with a carrying value of USD 219 million serves as collateral for a credit facility allowing the Group to withdraw funds up to CHF 650 million.

Collateral accepted which the Group has the right to sell or repledge

As of 31 December 2015 and 2016, the fair value of the equity securities, government and corporate debt securities received as collateral was USD 7 030 million and USD 7 666 million, respectively. Of this, the amount that was sold or repledged as of 31 December 2015 and 2016 was USD 2 429 million and USD 3 469 million, respectively. The sources of the collateral are securities borrowing, reverse repurchase agreements and derivative transactions.

Offsetting of derivatives, financial assets and financial liabilities

Offsetting of derivatives, financial assets and financial liabilities as of 31 December was as follows:

2015 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	2 713	–1 953	760	–13	747
Reverse repurchase agreements	6 401	–3 000	3 401	–3 394	7
Securities borrowing	452		452	–452	0
Total	9 566	–4 953	4 613	–3 859	754

2015 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	–2 179	1 477	–702	81	–621
Repurchase agreements	–2 844	2 475	–369	369	0
Securities lending	–1 151	525	–626	582	–44
Total	–6 174	4 477	–1 697	1 032	–665

2016 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	2 801	–1 580	1 221		**1 221**
Reverse repurchase agreements	7 040	–3 986	3 054	–3 054	**0**
Securities borrowing	483	–314	169	–169	**0**
Total	**10 324**	**–5 880**	**4 444**	**–3 223**	**1 221**

2016 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	–2 610	1 568	–1 042	8	**–1 034**
Repurchase agreements	–3 991	3 461	–530	527	**–3**
Securities lending	–1 319	839	–480	454	**–26**
Total	**–7 920**	**5 868**	**–2 052**	**989**	**–1 063**

Collateral pledged or received between two counterparties with a master netting arrangement in place, but not subject to balance sheet netting is disclosed at fair value. The fair values represent the gross carrying value amounts at the reporting date for each financial instrument received or pledged by the Group. Management believes that master netting agreements provide for legally enforceable set-off in the event of default, which substantially reduces credit exposure. Upon occurrence of an event of default the non-defaulting party may set off the obligation against collateral received regardless if it has been offset on the balance sheet prior to the defaulting event. The net amounts of the financial assets and liabilities presented on the balance sheet were recognised in “Other invested assets”, “Investments for unit-linked and with-profit business” and “Accrued expenses and other liabilities”.

Recognised gross liability for the obligation to return collateral that the Group has the right to sell or repledge
As of 31 December 2015 and 2016, 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.

2015 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	370	2 136	176	135	2 817
Corporate debt securities	3	24			27
Total repurchase agreements	373	2 160	176	135	2 844
Securities lending					
Debt securities issued by governments and government agencies	217		501	433	1 151
Total securities lending	217	0	501	433	1 151
Gross amount of recognised liabilities for repurchase agreements and securities lending					3 995

2016 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	219	3 023	415	334	3 991
Total repurchase agreements	**219**	**3 023**	**415**	**334**	**3 991**
Securities lending					
Debt securities issued by governments and government agencies	237	367	258	426	1 288
Corporate debt securities	13				13
Equity securities	18				18
Total securities lending	**268**	**367**	**258**	**426**	**1 319**
Gross amount of recognised liabilities for repurchase agreements and securities lending					5 310

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.

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 2015 and 2016. As of 31 December 2015 and 2016, USD 161 million and USD 62 million, respectively, of the gross unrealised loss on equity securities available-for-sale relates to declines in value for less than 12 months and USD 46 million and USD 21 million, respectively, to declines in value for more than 12 months.

2015 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	5 993	91	11	1	6 004	92
US Agency securitised products	1 503	23	223	5	1 726	28
States of the United States and political subdivisions of the states	325	9	6	1	331	10
United Kingdom	1 551	52	56	2	1 607	54
Canada	976	14	96	24	1 072	38
Germany	860	25	131	6	991	31
France	502	13	23	5	525	18
Australia	1 085	3	9	1	1 094	4
Other	2 028	108	193	34	2 221	142
Total	14 823	338	748	79	15 571	417
Corporate debt securities	11 246	481	365	60	11 611	541
Mortgage- and asset-backed securities	2 419	32	225	9	2 644	41
Total	28 488	851	1 338	148	29 826	999

2016 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	6 709	179			6 709	179
US Agency securitised products	2 594	53	14	0	2 608	53
States of the United States and political subdivisions of the states	494	18	8	2	502	20
United Kingdom	1 762	87	56	10	1 818	97
Canada	1 759	26	40	9	1 799	35
Germany	1 337	15	100	0	1 437	15
France	703	10			703	10
Australia	461	2	132	3	593	5
Other	2 554	78	247	18	2 801	96
Total	18 373	468	597	42	18 970	510
Corporate debt securities	6 859	172	143	9	7 002	181
Mortgage- and asset-backed securities	1 599	26	147	9	1 746	35
Total	**26 831**	**666**	**887**	**60**	**27 718**	**726**

Mortgages, loans and real estate

As of 31 December, the carrying values of investments in mortgages, policy and other loans, and real estate (excluding unit-linked and with-profit business) were as follows:

USD millions	2015	**2016**
Policy loans	91	95
Mortgage loans	1 946	2 401
Other loans	1 086	1 186
Investment real estate	1 556	1 925

The fair value of mortgage loans as of 31 December 2015 and 2016 was USD 1 946 million and USD 2 411 million, respectively. The fair value of other loans as of 31 December 2015 and 2016 was USD 1 086 million and USD 1 202 million, respectively. The fair value of the real estate as of 31 December 2015 and 2016 was USD 3 211 million and USD 3 576 million, respectively. The carrying value of policy loans approximates fair value.

Depreciation expense related to income-producing properties was USD 36 million and USD 42 million for 2015 and 2016, respectively. Accumulated depreciation on investment real estate totalled USD 504 million and USD 525 million as of 31 December 2015 and 2016, respectively.

Substantially all mortgages, policy loans and other loan receivables are secured by buildings, land or the underlying policies.

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 (e.g. 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 (e.g. 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. 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 2016, 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 asset-backed securities (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 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 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.

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 the 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 the 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.

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:

2015 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]	Total
Assets					
Fixed income securities held for proprietary investment purposes	12 900	69 038	393		82 331
Debt securities issued by US government and government agencies	12 900	1 922			14 822
US Agency securitised products		2 952			2 952
Debt securities issued by non-US governments and government agencies		27 877			27 877
Corporate debt securities		31 119	380		31 499
Mortgage- and asset-backed securities		5 168	13		5 181
Fixed income securities backing unit-linked and with-profit business		4 069			4 069
Equity securities held for proprietary investment purposes	4 753		34		4 787
Equity securities backing unit-linked and with-profit business	22 783				22 783
Short-term investments held for proprietary investment purposes	3 438	3 967			7 405
Short-term investments backing unit-linked and with-profit business		64			64
Derivative financial instruments	25	2 241	447	–1 953	760
Interest rate contracts	6	1 300			1 306
Foreign exchange contracts		318			318
Equity contracts	16	617	334		967
Credit contracts		1	1		2
Other contracts	3	5	112		120
Other invested assets	579	50	1 595		2 224
Funds held by ceding companies		245			245
Total assets at fair value	44 478	79 674	2 469	–1 953	124 668
Liabilities					
Derivative financial instruments	–24	–1 574	–581	1 477	–702
Interest rate contracts	–5	–786			–791
Foreign exchange contracts		–201			–201
Equity contracts	–12	–582	–38		–632
Credit contracts			–19		–19
Other contracts	–7	–5	–524		–536
Liabilities for life and health policy benefits			–165		–165
Accrued expenses and other liabilities	–812	–2 524			–3 336
Total liabilities at fair value	–836	–4 098	–746	1 477	–4 203

[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.

2016 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	13 078	79 016	1 182			93 276
Debt securities issued by US government and government agencies	13 078	2 076				15 154
US Agency securitised products		3 423				3 423
Debt securities issued by non-US governments and government agencies		29 797				29 797
Corporate debt securities		38 625	1 175			39 800
Mortgage- and asset-backed securities		5 095	7			5 102
Fixed income securities backing unit-linked and with-profit business		5 153				5 153
Equity securities held for proprietary investment purposes	3 426	5	4			3 435
Equity securities backing unit-linked and with-profit business	25 807					25 807
Short-term investments held for proprietary investment purposes	5 409	5 500				10 909
Short-term investments backing unit-linked and with-profit business		6				6
Derivative financial instruments	30	2 310	461	–1 580		1 221
Interest rate contracts	14	1 044				1 058
Foreign exchange contracts		765				765
Equity contracts	4	433	341			778
Other contracts		5	120			125
Contracts backing unit-linked and with-profit business	12	63				75
Investment real estate			209			209
Other invested assets	266	183	496		937	1 882
Other investments backing unit-linked and with-profit business		42				42
Funds held by ceding companies		225				225
Total assets at fair value	**48 016**	**92 440**	**2 352**	**–1 580**	**937**	**142 165**
Liabilities						
Derivative financial instruments	–5	–1 941	–664	1 568		–1 042
Interest rate contracts	–3	–709				–712
Foreign exchange contracts		–591				–591
Equity contracts	–1	–569	–39			–609
Other contracts		–5	–625			–630
Contracts backing unit-linked and with-profit business	–1	–67				–68
Liabilities for life and health policy benefits			–144			–144
Accrued expenses and other liabilities	–384	–4 084				–4 468
Total liabilities at fair value	**–389**	**–6 025**	**–808**	**1 568**		**–5 654**

[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 reconciliation of the fair values of assets and liabilities measured on a recurring basis using significant unobservable inputs was as follows:

2015 USD millions	Fixed income securities	Equity securities	Derivative assets	Other invested assets	Total assets	Derivative liabilities	Liabilities for life and health policy benefits	Total liabilities
Assets and liabilities								
Balance as of 1 January	401	39	521	1 812	2 773	–757	–187	–944
Realised/unrealised gains/losses:								
Included in net income	4		–12	–2	–10	190	22	212
Included in other comprehensive income	–14	–5		–42	–61			0
Purchases	31		30	156	217			0
Issuances					0	–90		–90
Sales	–47		–21	–380	–448	15		15
Settlements	–46		–79		–125	62		62
Transfers into level 3[1]	65		8	70	143	–1		–1
Transfers out of level 3[1]					0			0
Impact of foreign exchange movements	–1			–19	–20			0
Closing balance as of 31 December	393	34	447	1 595	2 469	–581	–165	–746

[1] Transfers are recognised at the date of the event or change in circumstances that caused the transfer.

2016 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	393	34	447		1 595	**2 469**	–581	–165	**–746**
Impact of Accounting Standards Updates[2]				274	–1 120	**–846**	–207		**–207**
Realised/unrealised gains/losses:									
Included in net income	3		58	32	–20	**73**	188	20	**208**
Included in other comprehensive income	24	1			6	**31**			**0**
Purchases	577		2		43	**622**	4		**4**
Issuances						**0**	–141		**–141**
Sales	–37		–13	–59	–3	**–112**	101		**101**
Settlements	–59		–39			**–98**	–52		**–52**
Transfers into level 3[1]	302		6		12	**320**	–5		**–5**
Transfers out of level 3[1]	–6	–29				**–35**			**0**
Impact of foreign exchange movements	–15	–2		–38	–17	**–72**	29	1	**30**
Closing balance as of 31 December	**1 182**	**4**	**461**	**209**	**496**	**2 352**	**–664**	**–144**	**–808**

[1] Transfers are recognised at the date of the event or change in circumstances that caused the transfer.
[2] Impact of ASU 2015–02 (Investment real estate and Derivative liabilities) and ASU 2015–07 (Other invested assets). Please refer to Note 1 for more details.

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	2015	2016
Gains/losses included in net income for the period	202	281
Whereof change in unrealised gains/losses relating to assets and liabilities still held at the reporting date	–12	134

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	2015 Fair value	2016 Fair value	Valuation technique	Unobservable input	Range (weighted average)
Assets					
Corporate debt securities	380	**1 175**			
Private placement corporate debt	241	506	Corporate Spread Matrix	Credit spread	62 bps–661 bps (181 bps)
Infrastructure loans	86	486	Discounted Cash Flow Model	Valuation spread	95 bps–242 bps (168 bps)
Private placement credit tenant leases	51	48	Discounted Cash Flow Model	Illiquidity premium	75 bps–175 bps (132 bps)
Derivative equity contracts	334	**341**			
OTC equity option referencing correlated equity indices	334	341	Proprietary Option Model	Correlation	–45%–100% (27.5%)[1]
Investment real estate		**209**	Discounted Cash Flow Model	Discount rate	5% per annum
Liabilities					
Derivative equity contracts	–38	**–39**			
OTC equity option referencing correlated equity indices	–38	–39	Proprietary Option Model	Correlation	–45%–100% (27.5%)[1]
Other derivative contracts and liabilities for life and health policy benefits	–689	**–769**			
Variable annuity and fair valued GMDB contracts	–567	–500	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		–161	Discounted Cash Flow Model	Discount rate	5% per annum
Weather contracts	–82	–41	Proprietary Option Model	Risk Margin	8%–11% (9.7%)
				Correlation	–59%–48% (–19.7%)
				Volatility (power/gas)	23%–104% (43.4%)
				Volatility (temperature)	87–386 (222) HDD/CAT[2]
				Index value (temperature)	440–3890 (1896) 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 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 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 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, respectively, were as follows:

USD millions	2015 Fair value	2016 Fair value	Unfunded commitments	Redemption frequency (if currently eligible)	Redemption notice period
Private equity funds	686	562	125	non-redeemable	n.a.
Hedge funds	135	106		redeemable[1]	45–95 days[2]
Private equity direct	121	80		non-redeemable	n.a.
Real estate funds	203	189	49	non-redeemable	n.a.
Total	1 145	**937**	**174**		

[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 global macro, relative value, event-driven and long/short equity 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.

Other investments backing unit-linked and with-profit business

For operational efficiencies, the Group elected the fair value option for equity-linked deposits from one of its unit-linked businesses. The assets are 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 "Investments for unit-linked and with-profit business".

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.

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	2015	2016
Assets		
Other invested assets	10 367	9 611
of which at fair value pursuant to the fair value option	449	442
Funds held by ceding companies	9 870	8 184
of which at fair value pursuant to the fair value option	245	225
Investments for unit-linked and with-profit business		32 178
of which at fair value pursuant to the fair value option		42
Liabilities		
Liabilities for life and health policy benefits	–30 131	–41 176
of which at fair value pursuant to the fair value option	–165	–144
Accrued expenses and other liabilities		–9 811
of which at fair value pursuant to the fair value option		–161

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	2015	2016
Other invested assets	–32	–19
Funds held by ceding companies	7	6
Investments for unit-linked and with-profit business		9
Liabilities for life and health policy benefits	21	20
Accrued expenses and other liabilities		17
Total	–4	**33**

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 investments for unit-linked and with-profit business are reported in "Net investment result – unit-linked and with-profit". Fair value changes from accrued expenses and other liabilities are reported in "Net realised investment gains/losses – non-participating business". Fair value changes from the GMDB reserves are shown in "Life and health benefits".

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:

2015 USD millions	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Assets			
Policy loans		91	91
Mortgage loans		1 946	1 946
Other loans		1 086	1 086
Investment real estate		3 211	3 211
Total assets	0	6 334	6 334
Liabilities			
Debt	–8 681	–5 674	–14 355
Total liabilities	–8 681	–5 674	–14 355

2016 USD millions	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Assets			
Policy loans		95	95
Mortgage loans		2 411	2 411
Other loans		1 202	1 202
Investment real estate		3 367	3 367
Total assets	**0**	**7 075**	**7 075**
Liabilities			
Debt	–8 201	–4 938	–13 139
Total liabilities	**–8 201**	**–4 938**	**–13 139**

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 do 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 based on 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:

2015 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	63 485	1 306	–791	515
Foreign exchange contracts	14 230	281	–201	80
Equity contracts	16 374	967	–632	335
Credit contracts	188	2	–19	–17
Other contracts	18 113	120	–536	–416
Total	112 390	2 676	–2 179	497
Derivatives designated as hedging instruments				
Foreign exchange contracts	2 151	37		37
Total	2 151	37	0	37
Total derivative financial instruments	114 541	2 713	–2 179	534
Amount offset				
Where a right of set-off exists		–1 162	1 162	
Due to cash collateral		–791	315	
Total net amount of derivative financial instruments		760	–702	58

2016 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	42 622	1 120	–780	340
Foreign exchange contracts	19 138	350	–574	–224
Equity contracts	12 512	788	–609	179
Credit contracts				
Other contracts	16 226	125	–630	–505
Total	**90 498**	**2 383**	**–2 593**	**–210**
Derivatives designated as hedging instruments				
Foreign exchange contracts	9 303	418	–17	401
Total	**9 303**	**418**	**–17**	**401**
Total derivative financial instruments	**99 801**	**2 801**	**–2 610**	**191**
Amount offset				
Where a right of set-off exists		–1 122	1 122	
Due to cash collateral		–458	446	
Total net amount of derivative financial instruments		**1 221**	**–1 042**	**179**

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 2015 and 2016.

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	2015	**2016**
Derivatives not designated as hedging instruments		
Interest rate contracts	51	391
Foreign exchange contracts	435	–116
Equity contracts	–192	–217
Credit contracts	–5	–1
Other contracts	247	181
Total gains/losses recognised in income	536	**238**

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 2015 and 2016, 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 of its issued debt positions and 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:

		2015		**2016**
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	119	–119	250	–250
Total gains/losses recognised in income	119	–119	**250**	**–250**

Cash flow hedges

The Group entered into a cross-currency swap to reduce the exposure to foreign exchange and interest rate volatility for a long-term debt instrument issued in the second quarter of 2016. These derivative instruments are designated as cash flow hedging instruments.

For the year ended 31 December 2016, the Group recorded a gain of USD 32 million on derivatives in accumulated other comprehensive income. For the year ended 31 December 2016, the Group reclassified a gain of USD 39 million from accumulated other comprehensive income into income.

As of 31 December 2016, 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 6 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 2015 and 2016, the Group recorded an accumulated net unrealised foreign currency remeasurement gain of USD 1 631 million and a gain of USD 2 448 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 2015 and 2016 was approximately USD 1 551 million and USD 1 679 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 106 million and USD 107 million as of 31 December 2015 and 2016, respectively. For derivative financial instruments containing credit risk-related contingent features, the Group posted collateral of nil as of 31 December 2015 and 2016, respectively. In the event of a reduction of the Group's credit rating to below investment grade, a fair value of USD 107 million additional collateral would have had to be posted as of 31 December 2016. The total equals the amount needed to settle the instruments immediately as of 31 December 2016.

10 Acquisitions and disposals

IHC Risk Solutions, LLC

On 31 March 2016, the Group acquired IHC Risk Solutions, LLC (IHC), a leading US employer stop loss company and the direct employer stop loss business of Independence Holding Company. The cost of the acquisition was USD 153 million. The transaction includes IHC's operations, its team of experts and business portfolio, including in-force, new and renewal business and is reflected in the Corporate Solutions Business Unit results. This acquisition broadens the Group's current employer stop loss capabilities in the small- and middle-market self-funded healthcare benefits segment.

Qualifying purchased intangible assets, including distribution/customer relationships and goodwill, have been established.

The following table presents details of acquired intangible assets subject to amortisation as of the date of acquisition:

USD millions	Weighted - average amortisation period	Carrying value
Distribution / customer relationship	6 years	67
Other intangibles	1 year	16

The goodwill of USD 65 million relates to the Corporate Solutions Business Unit. The goodwill is expected to be deductible for tax purposes.

Guardian Holdings Europe Limited

On 6 January 2016, the Group acquired 100% of the shares of Guardian Holdings Europe Limited, the holding company for operations trading under the name Guardian Financial Services ("Guardian") from private equity company Cinven. Guardian provides insurance solutions to financial institutions and insurance companies, either through the acquisition of closed books of business or through entering reinsurance agreements with its customers.

The transaction has further demonstrated progress against the strategy of the Group's Business Unit Life Capital (formerly Admin Re®) as a leading closed life book consolidator in the UK, adding approximately 900 000 policies including a mixture of annuities, life insurance and pensions. As a result, the policyholder and asset base of the Group has expanded and Life Capital has diversified its current business mix, with a total of approximately four million policies under administration.

The results of the operations of Guardian have been included in the Group's consolidated financial statements since 6 January 2016. For the period 6 January until 31 December 2016, Guardian generated USD 1 965 million in revenues (including net investment result – unit-linked and with-profit business of USD 1 015 million) and USD 490 million in net income for the Group.

Determination and allocation of the purchase price

The total cost of acquisition as of 6 January 2016 was USD 2.3 billion in cash, paid in the form of the following components:

USD millions	2016
Share purchase	1 211
Debt repayment	1 118
Total cost of acquisition	**2 329**
Goodwill	153
Total net assets acquired	**2 176**

The purchase price has been allocated based on estimated fair values of assets acquired and liabilities assumed as of the date of acquisition. The allocation required significant judgement. The estimated fair values of assets acquired and liabilities assumed as of the date of the acquisition were as follows:

USD millions	2016
Assets	
Fixed income securities	11 321
Equity securities	1
Policy loans, mortgages and other loans	1 240
Short-term investments	117
Other invested assets	590
Investments for unit-linked and with-profit business	8 023
Total investments	**21 292**
Cash and cash equivalents	2 775
Accrued investment income	265
Premiums and other receivables	39
Reinsurance recoverable[1]	1 676
Negative acquired present value of future profits	–641
Deferred tax assets	119
Other assets	11
Total assets acquired	**25 536**
Liabilities	
Unpaid claims and claim adjustment expenses	56
Liabilities for life and health policy benefits[1]	16 460
Policyholder account balances	6 157
Reinsurance balances payable	9
Income taxes payable	6
Deferred and other non-current tax liabilities	294
Accrued expenses and other liabilities	378
Total liabilities assumed	**23 360**
Total net assets acquired	**2 176**

[1] Due to new information obtained in Q2 2016, based on facts and circumstances existing as of the date of acquisition, reinsurance recoverable and liabilities for life and health policy benefits have been adjusted in Q2 2016 with no impact on goodwill. As of Q1 2016, the estimated reinsurance recoverable and liabilities for life and health policy benefits were USD 1 751 million and USD 16 535 million, respectively.

Intangible assets
Historical intangible assets including goodwill have been eliminated. The Group has established negative acquired PVFP, which qualifies as a purchased intangible liability, and goodwill.

The negative PVFP of USD 641 million is amortised over a weighted average amortisation period of 12 years. The residual amount is expected to be nil.

The goodwill of USD 153 million recognised upon acquisition is attributed to the Life Capital Business Unit. It is mainly the result of synergies, which the Group expects to receive from cost savings, capital savings and asset allocation management actions. These do not qualify for separate recognition. The recorded goodwill is not expected to be deductible for tax purposes and, as of 31 December 2016, remained unchanged at constant foreign exchange rates.

Receivables
Receivables acquired consisted of the following:

2016 USD millions	Fair value	Gross contractual amount
Receivables from ceded re/insurance business	39	39
Other debtors	15	15
Total	**54**	**54**

The receivables are expected to be collectible.

Pro forma financial information (unaudited)
The following table shows the Group's unaudited pro forma consolidated financial information for the year ended 31 December 2015, assuming that the acquisition had occurred on 1 January 2015:

USD millions	2015
Total revenues	36 852
Net income	4 794

The pro forma information for the period 1 January 2016 to 5 January 2016 is immaterial.

The pro forma financial information are presented for informational purposes and in order to illustrate the financial effect on the Group's income statement only. Consequently, they neither reflect the results that would have occurred had the acquisition been closed on the assumed date, nor necessarily indicate future results.

Aurora National Life Assurance Company
In the fourth quarter of 2014, the Group entered into an agreement to sell Aurora National Life Assurance Company (Aurora), a US subsidiary, to Reinsurance Group of America, Incorporated (RGA). Aurora primarily consists of bonds and policyholder liabilities. In the second quarter of 2015, the Group completed the sale following the receipt of all necessary regulatory approvals. The purchase price included a cash payment of USD 184 million.

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	2015	2016
Senior financial debt		590
Senior operational debt	765	431
Subordinated financial debt	1 069	543
Short-term debt – financial and operational debt	1 834	**1 564**
Senior financial debt	3 688	3 734
Senior operational debt	467	423
Subordinated financial debt	4 103	3 381
Subordinated operational debt	2 720	2 249
Long-term debt – financial and operational debt	10 978	**9 787**
Total carrying value	12 812	**11 351**
Total fair value	14 355	**13 139**

As of 31 December 2015 and 2016, operational debt, i.e. debt related to operational leverage, amounted to USD 4.0 billion (thereof USD 3.0 billion limited- or non-recourse) and USD 3.1 billion (thereof USD 2.2 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	2015	2016
Due in 2017	1 143	0[1]
Due in 2018	0	0
Due in 2019	2 663	2 367
Due in 2020	204	195
Due in 2021	210	209
Due after 2021	6 758	7 016
Total carrying value	10 978	**9 787**

[1] Balance was reclassified to short-term debt.

Senior long-term debt

Maturity	Instrument	Issued in	Currency	Nominal in millions	Interest rate	Book value in USD millions
2019	Syndicated senior bank loans	2014	GBP	550	variable	680
2019	Senior notes[1]	1999	USD	234	6.45%	254
2019	Bilateral senior bank loans	2016	NGN	6 360	various	21
2022	Senior notes	2012	USD	250	2.88%	249
2023	Senior notes	2016	EUR	750	1.38%	784
2024	EMTN	2014	CHF	250	1.00%	245
2026	Senior notes[1]	1996	USD	397	7.00%	497
2027	EMTN	2015	CHF	250	0.75%	247
2030	Senior notes[1]	2000	USD	193	7.75%	268
2042	Senior notes	2012	USD	500	4.25%	489
Various	Payment undertaking agreements	various	USD	353	various	423
Total senior long-term debt as of 31 December 2016						**4 157**
Total senior long-term debt as of 31 December 2015						4 155

[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
2024	Subordinated contingent write-off loan note	2013	USD	750	6.38%	2019	795
2042	Subordinated fixed-to-floating rate loan note	2012	EUR	500	6.63%	2022	522
2044	Subordinated fixed rate resettable callable loan note	2014	USD	500	4.50%	2024	497
2045	Subordinated contingent write-off securities	2013	CHF	175	7.50%	2020	195
2057	Subordinated private placement (amortising, limited recourse)	2007	GBP	1 819	4.92%		2 250
	Subordinated perpetual loan note	2007	GBP	500	6.30%	2019	617
	Perpetual subordinated fixed-to-floating rate callable loan note	2015	EUR	750	2.60%	2025	754
Total subordinated long-term debt as of 31 December 2016							**5 630**
Total subordinated long-term debt as of 31 December 2015							6 823

Interest expense on long-term debt and contingent capital instruments

Interest expense on long-term debt for the years ended 31 December was as follows:

USD millions	2015	2016
Senior financial debt	118	121
Senior operational debt	13	10
Subordinated financial debt	236	179
Subordinated operational debt	137	122
Total	504	**432**

In addition to the above, interest expense on contingent capital instruments classified as equity was USD 68 million and USD 68 million for the years ended 31 December 2015 and 2016, respectively.

Long-term debt issued in 2016

In May 2016, Swiss Re Admin Re Ltd issued senior notes due 2023. The notes have a face value of EUR 750 million, with a fixed coupon of 1.375% per annum.

Subordinated debt facility established in 2016

In April 2016, Swiss Re Ltd established a subordinated debt facility with a termination date of 15 February 2031. The facility allows Swiss Re Ltd to issue at any time subordinated fixed rate callable notes with a face value of up to USD 400 million, having a first optional redemption date of 15 February 2031 and a scheduled maturity date of 15 February 2056. Swiss Re Ltd pays a fee of 3.92% per annum on the available commitment under the facility. Notes issued under the facility have a fixed coupon of 6.05% per annum.

In June 2016, Swiss Re Ltd established a subordinated debt facility with a termination date of 15 August 2027. The facility allows Swiss Re Ltd to issue at any time subordinated fixed-to-floating rate callable notes with a face value of up to USD 800 million, having a first optional redemption date of 15 August 2027 and a scheduled maturity date of 15 August 2052. Swiss Re Ltd pays a fee of 3.67% per annum on the available commitment under the facility. Notes issued under the facility have a fixed coupon of 5.625% per annum until the first optional redemption date and a floating rate coupon thereafter.

In these financial statements, the facility fees are classified as interest expense. Notes, when issued under these facilities, will be classified as subordinated debt. As of 31 December 2016, no notes have been issued under either facility.

Contingent capital instruments

In February 2012, Swiss Reinsurance Company Ltd issued a perpetual subordinated instrument with stock settlement. The instrument has a face value of CHF 320 million, with a fixed coupon of 7.25% per annum until the first optional redemption date (1 September 2017).

In March 2012, Swiss Reinsurance Company Ltd issued a perpetual subordinated capital instrument with stock settlement. The instrument has a face value of USD 750 million, with a fixed coupon of 8.25% per annum until the first optional redemption date (1 September 2018).

Both instruments may be converted, at the option of the issuer, into Swiss Re Ltd shares at any time through an "at market" conversion using the retrospective five-day volume weighted average share price with a 3% discount or within six months following a solvency event at a pre-set floor price (CHF 26 for the instrument with face value of CHF 320 million and USD 32 for the instrument with face value of USD 750 million, respectively). These instruments are referred to in these financial statements as "contingent capital instruments".

12 Earnings per share

All of the Group's companies prepare statutory financial statements based on local laws and regulations. Most jurisdictions require reinsurers to maintain a minimum amount of capital in excess of 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. In the year ended 31 December 2015, the Group paid a dividend per share of CHF 4.25, as well as an additional special dividend of CHF 3.00, which were paid in the form of withholding tax exempt repayment of legal reserves from capital contributions. In the year ended 31 December 2016, the Group paid a dividend per share of CHF 4.60.

Earnings per share for the years ended 31 December were as follows:

USD millions (except share data)	2015	**2016**
Basic earnings per share		
Net income	4 668	3 623
Non-controlling interests	–3	3
Interest on contingent capital instruments[1]	–68	–68
Net income attributable to common shareholders	4 597	**3 558**
Weighted average common shares outstanding	341 951 654	331 767 651
Net income per share in USD	13.44	**10.72**
Net income per share in CHF[2]	12.93	**10.55**
Effect of dilutive securities		
Change in income available to common shares due to contingent capital instruments[1]	68	68
Change in average number of shares due to contingent capital instruments	35 745 192	35 745 192
Change in average number of shares due to employee options	2 241 636	1 768 217
Diluted earnings per share		
Net income assuming debt conversion and exercise of options	4 665	**3 626**
Weighted average common shares outstanding	379 938 482	369 281 060
Net income per share in USD	12.28	**9.82**
Net income per share in CHF[2]	11.81	**9.66**

[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 151st Annual General Meeting held on 21 April 2015 and at the 152nd Annual General Meeting held on 22 April 2016, 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 through public share buy-back programmes for cancellation purposes prior to the 2016 and 2017 Annual General Meetings, respectively. The buy-back programme prior to the 152nd Annual General Meeting was completed as of 2 March 2016. The total number of shares repurchased amounted to 10.6 million, of which 4.4 million and 6.2 million shares were repurchased as of 31 December 2015 and between 1 January and 2 March 2016, respectively. The 152nd Annual General Meeting resolved the cancellation of the repurchased 10.6 million shares by way of share capital reduction. The shares were cancelled as of 18 July 2016, after completion of the procedure in respect of the share capital reduction as set forth in Article 732 et seqq. of the Swiss Code of Obligations. As of 31 December 2016, 5.5 million shares were repurchased through the buy-back programme launched on 4 November 2016.

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, such agreements, which are operating leases, total the following obligations for the next 5 years and thereafter:

USD millions	2016
2017	82
2018	69
2019	57
2020	51
2021	41
After 2021	297
Total operating lease commitments	**597**
Less minimum non-cancellable sublease rentals	23
Total net future minimum lease commitments	**574**

Minimum rentals for all operating leases (except those with terms of a month or less that were not renewed) for the years ended 31 December 2015 and 2016 were USD 63 million and USD 76 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 2016 were USD 1 234 million.

The Group entered into a real estate construction contract. The commitments under the contract amount to USD 92 million over the next 4 years.

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.

This page intentionally left blank.

14 Variable interest entities

The adoption of ASU 2015-02 as of 1 January 2016 led to an increase in the number of variable interest entities (VIEs), mainly due to the evaluation of partnerships and investment funds.

The Group enters into arrangements with 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 of the following:

- 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 reassesses regularly 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.

The Group consolidates a debt-financing vehicle created to borrow locally part of the funding for a strategic investment. The Group established and capitalised the entity, decided terms of its debt and provides debt guarantee to the lender, thereby satisfying both criteria for a controlling financial interest: power over activities most significant to the vehicle's economic performance and potentially significant economic interest.

As part of a broader run-off transaction, the Group holds equity in and borrows funds from a VIE. The assets held by the VIE consist primarily of investment grade securities and the majority of their returns is absorbed by a third party, minimising the Group's maximum exposure. The Group is not a primary beneficiary of the VIE, because it does not have power over most significant activities of the VIE and its interests are not potentially significant.

Investment vehicles

The ASU 2015-02 implementation resulted in consolidation by the Group of 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 under ASU 2015-02, 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 7 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 under ASU 2015-02, 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 (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 2016 that it was not previously contractually required to provide.

Consolidated VIEs

The following table shows the total assets and liabilities on the Group's balance sheet relating to VIEs of which the Group is the primary beneficiary as of 31 December:

USD millions	2015	2016
Fixed income securities available-for-sale	3 876	3 715
Investment real estate		209
Short-term investments	88	128
Other invested assets	26	
Cash and cash equivalents	147	42
Accrued investment income	42	33
Premiums and other receivables	34	33
Deferred acquisition costs	9	9
Deferred tax assets	38	94
Other assets	8	12
Total assets	4 268	**4 275**
Unpaid claims and claim adjustment expenses	53	65
Unearned premiums	26	25
Reinsurance balances payable	2	6
Deferred and other non-current tax liabilities	96	213
Accrued expenses and other liabilities	17	178
Long-term debt	2 720	2 270
Total liabilities	2 914	**2 757**

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 in 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	2015	2016
Fixed income securities available-for-sale	52	525
Equity securities available-for-sale		492
Policy loans, mortgages and other loans	1	876
Other invested assets	1 706	2 387
Investments for unit-linked and with-profit business		8 770
Premiums and other receivables		3
Total assets	1 759	**13 053**
Accrued expenses and other liabilities	45	78
Total liabilities	45	**78**

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:

			2015			2016
USD millions	Total assets	Total liabilities	Maximum exposure to loss[1]	Total assets	Total liabilities	Maximum exposure to loss[1]
Insurance-linked securitisations	52		52	336		331
Life and health funding vehicles	2	1	1 777	2	1	1 948
Swaps in trusts	146	44	–[2]	164	77	–[2]
Debt financing	361		27	302		22
Investment vehicles	1 009		1 011	2 423		2 424
Investment vehicles for unit-linked and with-profit business				8 770		
Commercial mortgage/infrastructure loans				1 053		1 053
Other	189		189	3		3
Total	1 759	45	–[2]	**13 053**	**78**	**–[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.

This page intentionally left blank.

Cautionary note on forward-looking statements

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

Forward-looking statements typically are identified by words or phrases such as "anticipate", "assume", "believe", "continue", "estimate", "expect", "foresee", "intend", "may increase" and "may fluctuate" and similar expressions or by future or conditional verbs such as "will", "should", "would" and "could". These forward-looking statements involve known and unknown risks, uncertainties and other factors, which may cause 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 the Group to not achieve its published targets.

Such factors include, among others:

- further instability affecting the global financial system and developments related thereto;
- further deterioration in global economic conditions;
- 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;
- 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 its investment policy or the changed composition of its investment assets, and the impact of the timing of any such changes relative to changes in market conditions;
- uncertainties in valuing credit default swaps and other credit-related instruments;
- possible inability to realise amounts on sales of securities on the Group's balance sheet equivalent to their mark-to-market values recorded for accounting purposes;
- the outcome of tax audits, the ability to realise tax loss carryforwards and the ability to realise deferred tax assets (including by reason of the mix of earnings in a jurisdiction or deemed change of control), which could negatively impact future earnings;
- the possibility that the Group's hedging arrangements may not be effective;
- the lowering or loss of financial strength or other ratings of one or more Group companies, and developments adversely affecting the Group's ability to achieve improved ratings;

- the cyclicality of the reinsurance industry;
- uncertainties in estimating reserves;
- uncertainties in estimating future claims for purposes of financial reporting, particularly with respect to large natural catastrophes, as significant uncertainties may be involved in estimating losses from such events and preliminary estimates may be subject to change as new information becomes available;
- the frequency, severity and development of insured claim events;
- acts of terrorism and acts of war;
- mortality, morbidity and longevity experience;
- policy renewal and lapse rates;
- extraordinary events affecting the Group's clients and other counterparties, such as bankruptcies, liquidations and other credit-related events;
- current, pending and future legislation and regulation affecting the Group or its ceding companies and the interpretation of legislation or regulations by regulators;
- legal actions or regulatory investigations or actions, including those in respect of industry requirements or business conduct rules of general applicability;
- changes in accounting standards;
- significant investments, acquisitions or dispositions, and any delays, unexpected costs or other issues experienced in connection with any such transactions;
- changing levels of competition; and
- operational factors, including the efficacy of risk management and other internal procedures in managing the foregoing risks.

These factors are not exhaustive. 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. The Group 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.

Market sentiment is dominated in large part by concerns over the trends exemplified by the outcome of the US presidential election and the UK referendum on European Union (EU) membership. Growth forecasts among the principal global economies remain uneven and uncertain in an environment of elevated political uncertainty. Stable, but uneven growth, in the Eurozone could suffer as a result of the potential impact of populism and anti-globalisation sentiments on upcoming elections in the Netherlands, France and Germany, and potentially Italy, during 2017. The planned withdrawal of the United Kingdom from the EU has created uncertainty not only for the United Kingdom but for the rest of the EU, and negotiations over withdrawal will likely continue to contribute to volatility and pose significant challenges for the EU, while also calling into question the ability of the EU to address significant ongoing structural challenges. The long-term effects of a withdrawal of the United Kingdom from the EU will depend in part on any agreements the United Kingdom makes to retain access to the single market within the European Economic Area (EEA) following such withdrawal, the scope and nature of which currently remain highly uncertain. As China's economy undergoes structural changes, recent near-term growth stabilisation may be reversed. Growth in China remains heavily dependent on government stimulus and credit expansion; it continues to face significant capital outflows, reflecting concerns over foreign currency, and its banking sector could be adversely impacted by rising interest rates. The foregoing may be exacerbated by geopolitical tensions, fears over security and migration, and uncertainty created generally by the policy pronouncements that have been, and may in the coming months be, announced by the new US administration on a range of trade, security, foreign policy, environmental protection and other issues having global implications, as well as by the consequences of the implementation of such policy pronouncements.

With fewer options available to policymakers and concerns generally over the absence of realistic confidence-building measures, and with heightened risk that volatility or depressed conditions in one sector, one market, one country or one region could have far broader implications, volatility can be expected to continue. 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.

There is an evolving focus on classifying certain insurance companies as systemically important as well. 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 non-bank financial company by the Financial Stability Oversight Council ("FSOC") in the United States. Separately, 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") and also published a framework for supervision of internationally active insurance groups. If and when reinsurers are included in the list of G-SIIs, the Group could be so designated. Were the Group to be designated as a G-SII, it could be subject to one or both of the resulting regimes, once implemented, including capital standards under both regimes (the basic capital requirement for G-SIIs and the insurance capital standard for internationally active insurance groups), which would have various implications for the Group, including additional compliance costs and reporting obligations 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 triggered by the outcome of the UK referendum on EU membership 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. These changes, or inconsistencies between the various regimes that apply to the Group, could increase the costs of doing business, 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. Economic weakness, fiscal tightening and monetary policies are keeping government yields low, which impacts investment yields and affects the profitability of life savings products with interest rate guarantees. 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 risks, basis risk and correlation risk. 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 judgements, 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 (including, for example, trends to establish stricter building standards (which can lead to higher industry losses for earthquake cover based on higher replacement values) and the UK Ministry of Justice's impending decision on whether to reduce the personal injury discount rate (based on the so-called Ogden tables) in the United Kingdom (which could have a significant impact on claims payouts and reserving)); 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. 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, for example, 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 also publishes, on an annual basis, a report of its results, including financial statements and an accompanying independent assurance report, 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 lifetime 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, and while to date all of the Group's principal operations remain wholly owned, in the future it may elect 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.

This page intentionally left blank.

Contacts

Swiss Re has about 70 office locations in more than 30 countries. For a full list of our office locations and service offerings, please visit www.swissre.com.

Investor Relations
Telephone +41 43 285 4444
Fax +41 43 282 4444
investor_relations@swissre.com

Media Relations
Telephone +41 43 285 7171
Fax +41 43 282 7171
media_relations@swissre.com

Share Register
Telephone +41 43 285 6810
Fax +41 43 282 6810
share_register@swissre.com

Head office

Swiss Re Ltd
Mythenquai 50/60, P.O. Box,
8022 Zurich, Switzerland
Telephone +41 43 285 2121
Fax +41 43 285 2999

Americas

Armonk
175 King Street
Armonk, New York 10504
Telephone +1 914 828 8000

Overland Park
5200 Metcalf Avenue
Overland Park, KS 66202
Telephone +1 913 676 5200

New York
55 East 52nd Street
New York, NY 10055
Telephone +1 212 317 5400

Toronto
150 King Street West
Toronto, Ontario M5H 1J9
Telephone +1 416 408 0272

Mexico City
Insurgentes Sur 1898, Piso 8
Torre Siglum
Colonia Florida
México, D.F. 01030
Telephone +52 55 5322 8400

Westlake Village
112 Lakeview Canyon Road, Suite 220
Westlake Village, CA 91362
Telephone +1 805 728 8300

São Paulo
Avenida Paulista, 500
Bela Vista
São Paulo, SP 01310-000
Telephone +55 11 3073 8000

Europe (incl. Middle East and Africa)

Zurich
Mythenquai 50/60
8022 Zurich
Telephone +41 43 285 2121

London
30 St Mary Axe
London
EC3A 8EP
Telephone +44 20 7933 3000

Munich
Arabellastraße 30
81925 Munich
Telephone +49 89 3844-0

Cape Town
2nd Floor
Beechwood House
The Boulevard
Searle Street
Cape Town, 7925
Telephone +27 21 469 8400

Madrid
Paseo de la Castellana, 95
Edificio Torre Europa
28046 Madrid
Telephone +34 91 598 1726

Paris
11–15, rue Saint-Georges
75009 Paris
Telephone +33 1 4318 3000

Rome
Via dei Giuochi Istmici, 40
00135 Rome
Telephone +39 06 323931

Asia-Pacific

Hong Kong
61/F Central Plaza
18 Harbour Road
G.P.O. Box 2221
Wanchai, HK
Telephone +852 2827 4345

Sydney
International Towers Sydney, Tower two
Level 36, 200 Barangaroo Avenue,
Barangaroo
Sydney, NSW 2000
Telephone +61 2 8295 9500

Singapore
Asia Square Tower 2
12 Marina View
Singapore 018961
Telephone +65 6532 2161

Beijing
23rd Floor, East Tower, Twin Towers,
No. B12, Jian Guo Men Wai Avenue
Chao Yang District
Beijing 100022
Telephone +86 10 6563 8888

Tokyo
Otemachi First Square 9F
5–1 Otemachi 1 chome
Chiyoda-ku
Tokyo 100-0004
Telephone +81 3 5219 7800

Mumbai
A 701, One BCK
Plot No C-66, G Block
Bandra-Kurla Complex
Bandra (East)
Mumbai 40005
Telephone +91 22 6661 2121

Corporate calendar

21 April 2017
153rd Annual General Meeting

4 May 2017
First quarter 2017 results

4 August 2017
Second quarter 2017 results

2 November 2017
Third quarter 2017 results

Swiss Re Ltd
Mythenquai 50/60
P.O. Box
8022 Zurich
Switzerland

Telephone +41 43 285 2121
Fax +41 43 285 2999
www.swissre.com