Annual Report 2018

ZURICH

Zurich Insurance Company Group

Zurich Insurance Group is a leading multi-line insurer that serves its customers in global and local markets. With about 54,000 employees, it provides a wide range of property and casualty, and life insurance products and services in more than 210 countries and territories. Zurich's customers include individuals, small businesses, and mid-sized and large companies, as well as multinational corporations. The Group is headquartered in Zurich, Switzerland.

Contents

Risk review

The risk review is an integral part of the consolidated financial statements. Risk and capital are managed at the Zurich Insurance Group, segment, region and business unit level according to our risk and capital management framework. The principles of the Zurich Insurance Group's enterprise risk management described in the 'risk and capital management section' are equally applicable to the Zurich Insurance Company Ltd (ZIC) and its consolidated subsidiaries (collectively the 'ZIC Group'). The figures presented are prepared on a ZIC Group basis.

Contents

Risk management

Objectives of risk management

Taking risk is inherent to the insurance business, but such risk-taking needs to be made in an informed and disciplined manner, and within a pre-determined risk appetite and tolerance.

The major risk management objectives at Zurich Insurance Group are to:

- Support achievement of Zurich Insurance Group strategy and protect capital, liquidity, earnings and reputation by monitoring to see that risks are within Zurich Insurance Group's risk tolerance
- Enhance value creation by embedding disciplined risk-taking in the company culture and contribute to an optimal risk-return profile where risk-reward trade-offs are transparent, understood, and risks are appropriately rewarded
- Efficiently and effectively diversify risk and mitigate unrewarded risks
- Encourage openness and transparency to enable effective risk management
- Support decision-making processes by providing consistent, reliable and timely risk information
- Protect Zurich Insurance Group's reputation and brand by promoting a sound culture of risk awareness, and disciplined and informed risk-taking

Risk management framework

The risk management framework is based on a governance process that sets forth clear responsibilities for taking, managing, monitoring and reporting risks.

The Zurich Risk Policy is Zurich Insurance Group's main risk governance document; it sets standards for effective risk management throughout Zurich Insurance Group. The policy describes Zurich Insurance Group's risk management framework, identifies Zurich Insurance Group's principal risk types and defines Zurich Insurance Group's appetite for risks at Zurich Insurance Group level. Risk-specific policy manuals provide guidelines and procedures to implement the principles in the Zurich Risk Policy. Ongoing assessments verify that requirements are met.

Zurich Insurance Group regularly reports on its risk profile at local and Group levels. Zurich Insurance Group has procedures to refer risk issues to senior management and the Board of Directors in a timely way. To foster transparency about risk, the Board receives quarterly risk reports and risk updates. In 2018, reporting was supplemented with in-depth risk insights into topics such as macroeconomic developments, information security management, climate change-related risks, and credit risk and country risk.

Zurich Insurance Group assesses risks systematically and from a strategic perspective through its proprietary Total Risk Profiling™ (TRP) process, which allows Zurich Insurance Group to identify and evaluate the frequency and severity of a risk scenario. Zurich Insurance Group then develops, implements and monitors improvements. The TRP process is integral to how Zurich Insurance Group deals with change, and is particularly suited to evaluate strategic risks, as well as risks to Zurich Insurance Group's reputation. At Zurich Insurance Group level, this process is ongoing, with regular reviews with senior management.

Zurich Insurance Group's risk appetite statement includes capital, liquidity, earnings volatility and non-financial metrics. Zurich Insurance Group regularly measures and quantifies material risks to which it is exposed. Zurich Insurance Group's policy is to maintain capital consistent with an 'AA' financial strength rating for the Group. Zurich Insurance Group translates that goal into a quantified risk tolerance. The primary metric used to steer business is the Zurich Economic Capital Model (Z-ECM) which provides a key input into Zurich Insurance Group's strategic planning process as an assessment of Zurich Insurance Group's risk profile against Zurich Insurance Group's risk tolerance. The Z-ECM forms the basis for optimizing Zurich Insurance Group's risk-return profile by providing consistent risk measurement across Zurich Insurance Group.

Risk review (continued)

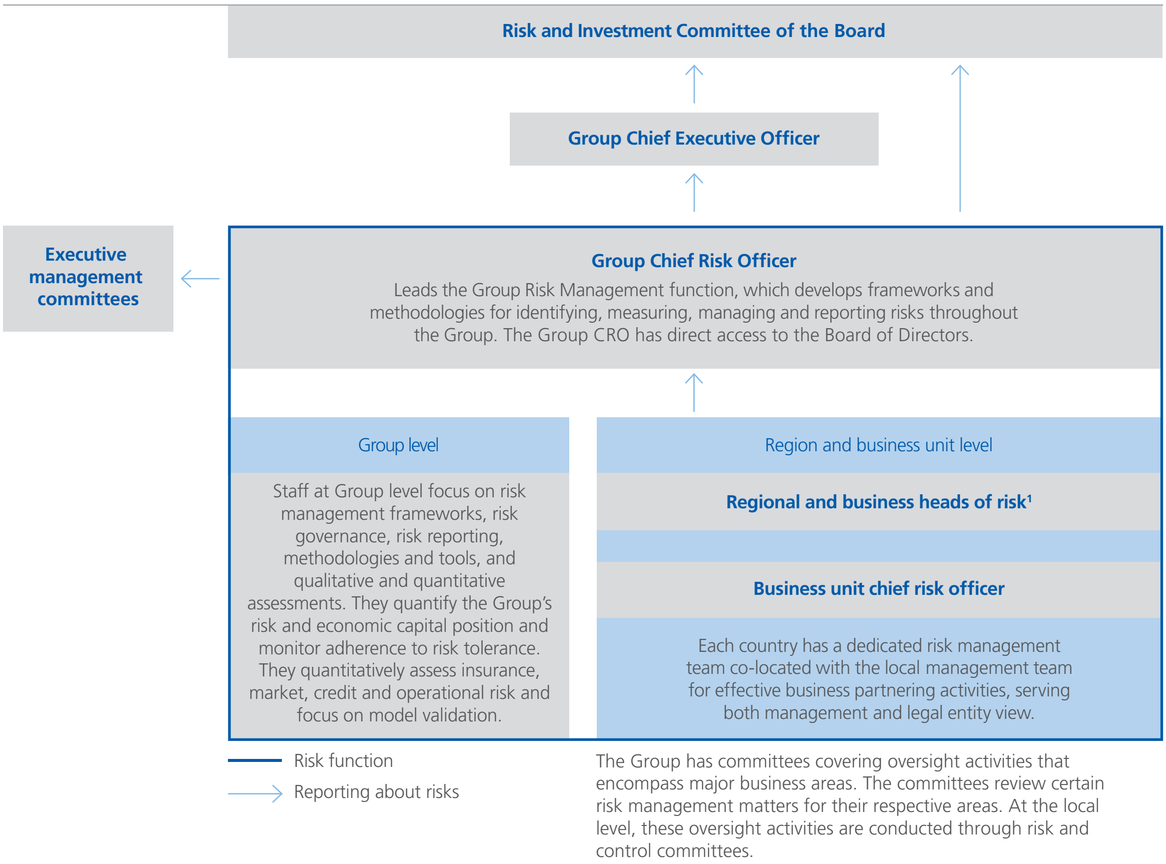
Risk-based remuneration

Based on Zurich Insurance Group's remuneration rules, the Board of Directors designs and structures remuneration arrangements that support the achievement of strategic and financial objectives, and ensures such arrangements do not encourage inappropriate risk-taking. With regard to the latter arrangements, Zurich Insurance Group Chief Risk Officer (Zurich Insurance Group CRO) consults with the other assurance, control and governance functions to provide the Zurich Insurance Group Chief Executive Officer with a review of risk factors to consider in the annual variable-compensation process. In consultation with these functions, Zurich Insurance Group CRO also provides an individual assessment of Zurich Insurance Group key risk takers as part of their annual individual performance assessment. For more information on Zurich Insurance Group's remuneration system, see the 'remuneration report.'

Risk governance and risk management organization

Risk management organization

Zurich Insurance Group Risk Management function is a global function, led by the Zurich Insurance Group CRO.



[1] Farmers Chief Risk Officer has a matrix reporting line into the Group CRO.

The risk function is independent of the business by being a vertically integrated function where global risk employees directly report into the Zurich Insurance Group CRO, unless otherwise required by local laws or regulations. Risk officers are embedded in the business, positioning them to support and advise, and independently challenge business decisions from a risk perspective. As business advisers on risk matters, the risk officers, equipped with technical risk skills as well as business skills, help foster a risk-aware culture in the business.

Capital management

Objectives of capital management

Zurich Insurance Group manages its capital to maximize long-term shareholder value while maintaining financial strength within its 'AA' target range, and meeting regulatory, solvency and rating agency requirements. In particular, Zurich Insurance Group endeavors to manage its shareholders' equity under IFRS to balance maximization of shareholder value and constraints imposed by its economic framework, rating agencies and regulators. As of December 31, 2018, shareholders' equity of USD 30.2 billion, subordinated debt of USD 6.8 billion and senior financial debt not maturing within the next year of USD 2.4 billion (since the second quarter 2018, excluding net new issued senior debt) were part of the capital available in Zurich Insurance Group's economic framework. Further adjustments usually include such items as intangible assets, deferred tax assets and liabilities, allowing for discounting of liabilities and the value of in-force business or excluding net new senior debt issues. For more information, see 'analysis of Zurich Insurance Group's Z-ECM available financial resources' (unaudited).

Zurich Insurance Group strives to simplify its legal entity structure to reduce complexity and increase fungibility of capital.

Capital management framework

Zurich Insurance Group's capital management framework forms the basis for actively managing capital within Zurich. Zurich Insurance Group uses a number of different capital models, taking into account economic, regulatory, and rating agency constraints. Zurich Insurance Group's capital and solvency position is monitored and regularly reported to the Executive Committee (ExCo).

Zurich Insurance Group's policy is to allocate capital to businesses earning the highest risk-adjusted returns, and to pool risks and capital as much as possible to operationalize its risk diversification.

Zurich Insurance Group's executive management determines the capital management strategy and sets the principles, standards and policies to execute the strategy. Group Treasury and Capital Management executes the strategy.

Capital management program

Zurich Insurance Group's capital management program comprises various actions to optimize shareholders' total return and to meet capital needs, while enabling Zurich Insurance Group to take advantage of growth opportunities. Such actions include paying and receiving dividends, capital repayments, share buy-backs, issuance of shares, issuance of senior and hybrid debt, securitization and purchase of reinsurance.

Zurich Insurance Group seeks to maintain a balance between higher returns for shareholders on equity held, and the security a sound capital position provides. Dividends, share buy-backs, and issuances and redemption of debt have a significant influence on capital levels. In 2018, Zurich Insurance Group paid a dividend out of retained earnings and the capital contribution reserve, executed a share repurchase program, issued senior debt to finance redemptions and investments in Zurich Insurance Group's development, and called hybrid debt that was re-financed during 2018.

The Swiss Code of Obligations stipulates that dividends may only be paid out of freely distributable reserves or retained earnings. Apart from what is specified by the Swiss Code of Obligations, Zurich Insurance Company Ltd (ZIC) faces no legal restrictions on dividends it may pay to its shareholders. As of December 31, 2018, the amount of the statutory general legal reserve was more than 40 times the paid-in share capital. The ability of the ZIC subsidiaries to pay dividends may be restricted or indirectly influenced by minimum capital and solvency requirements imposed by insurance and other regulators in the countries in which the subsidiaries operate. Other limitations or considerations include foreign exchange control restrictions in some countries, and rating agencies' methodologies.

For details on issuance and redemption of debt, see note 18 of the consolidated financial statements.

Insurance financial strength rating

Zurich Insurance Group has interactive relationships with three global rating agencies: Standard & Poor's, Moody's, and AM Best. The insurance financial strength rating (IFSR) of Zurich Insurance Company Ltd (ZIC), Zurich Insurance Group's main operating entity, is an important element of Zurich Insurance Group's competitive position. Zurich Insurance Group's credit ratings derived from the financial strength ratings also affect the cost of capital.

In October 2018, Standard & Poor's affirmed ZIC's 'AA–' IFSR with a stable outlook and stated that "Zurich Insurance Group's performance (…) proves its management's ability to control the strategic plan's execution and adjust it accordingly." As a result, Standard & Poor's reassessed the management and governance factor in the rating analysis to strong from satisfactory.

Standard & Poor's sees Zurich Insurance Group's enterprise risk management as 'very strong,' based on a positive view of our risk management culture, risk controls, emerging risk management, risk models and strategic risk assessment.

As of December 31, 2018, the IFSR of ZIC, the main operating entity of Zurich Insurance Group, was 'AA–/Stable' by Standard and Poor's, 'Aa3/Stable' by Moody's, and 'A+ (Superior)/Stable' by A.M. Best.

Regulatory capital adequacy

Zurich Insurance Group endeavors to manage its capital so that all of its regulated entities meet local regulatory capital requirements at all times.

In each country in which Zurich Insurance Group operates, the local regulator specifies the minimum amount and type of capital that each of the regulated entities must hold in addition to their liabilities. In addition to the minimum capital required to comply with the solvency requirements, Zurich Insurance Group aims to hold an adequate buffer to ensure regulated subsidiaries meet local capital requirements.

Regulatory requirements in Switzerland

Under the Swiss Solvency Test (SST), insurance companies and insurance groups can apply to use company-specific internal models to calculate risk-bearing and target capital, as well as the SST ratio. The SST ratio has to be calculated as per January 1 and must be submitted to the Swiss Financial Market Supervisory Authority (FINMA).

In 2018, Zurich Insurance Group continued to enhance its internal model, advanced the approval process with FINMA, and has received approval for specific enhancements of the model. The model approval process continues for other parts of the internal model. The 2019 model changes will primarily address new regulatory requirements that enter into force in 2020 and that have not yet been implemented into Zurich Insurance Group's internal model. Zurich intends to file these modules for FINMA's approval during the course of 2019.

Regulatory requirements in other countries

Regulatory requirements in the European Economic Area (EEA)

The main regulatory framework governing Zurich Insurance Group's subsidiaries in the EEA is Solvency II. This is a risk-based capital framework which covers capital requirements (pillar 1), governance and risk management (pillar 2) and reporting (pillar 3). All EEA-based legal entities of Zurich Insurance Group use the Solvency II standard formula for their pillar 1 requirements with the exception of Zurich Insurance plc (Ireland) which applies an approved internal model, that is aligned with the Z-ECM.

Regulatory requirements in the U.S.

In the U.S., required capital is determined to be 'company action level risk-based capital' calculated using the National Association of Insurance Commissioners' risk-based capital model. This method, which builds on regulatory accounts, measures the minimum amount of the capital for an insurance company to support its overall business operations by taking into account its size and risk profile.

Regulatory requirements in Asia Pacific, Latin America, and Middle East and Africa

Every country has a capital standard for insurance companies. Several jurisdictions (e.g., Brazil and Mexico) have taken approaches similar to Solvency II.

Analysis by risk type

Insurance risk

Insurance risk is the inherent uncertainty regarding the occurrence, amount or timing of insurance cash flows. The profitability of insurance business is also susceptible to business risk in the form of unexpected changes in expenses, policyholders' behavior, and fluctuations in new business volumes. Zurich Insurance Group manages insurance risk through:

- Strong underwriting and claims standards and controls
- Robust reserving processes
- External reinsurance

Property and casualty insurance risk

Property and casualty insurance risk arises from coverage provided for motor, property, liability, special lines and worker injury. It comprises premium and reserve risk, catastrophe risk, and business risk. Premium and reserve risk covers uncertainties in the frequency of the occurrence of the insured events as well as in the severity of the resulting claims. Catastrophe risk predominantly relates to uncertainty around natural catastrophes. Business risk for property and casualty predominantly relates to unexpected increases in the expenses relating to claims handling, underwriting, and administration.

Management of Property & Casualty business insurance risk

Zurich Insurance Group's underwriting strategy takes advantage of the diversification of Property & Casualty (P&C) risks across lines of business and geographic regions. Zurich Insurance Group's underwriting governance is applicable throughout Zurich Insurance Group. Underwriting discipline is a fundamental part of managing insurance risk. Zurich Insurance Group sets limits on underwriting capacity and delegates authority to individuals based on their specific expertise, and sets appropriate underwriting and pricing guidelines. Technical reviews confirm whether underwriters perform within authorities and adhere to underwriting philosophies and policies.

Property & Casualty insurance reserves are regularly estimated, reviewed and monitored by qualified and experienced actuaries at local, regional and Zurich Insurance Group levels. To arrive at their reserve estimates, the actuaries take into consideration, among other things, the latest available facts, trends and patterns of loss payments. Inflation is monitored with insights feeding into actuarial reserving models and Zurich Insurance Group's underwriting processes and pricing.

To ensure a common understanding of business insights and new trends for reserve analysis, financial plans, underwriting and pricing decisions, Zurich Insurance Group has established a culture of continuous cross-functional collaboration. For this, underwriting, actuarial (pricing and reserving), claims, finance, sales and distribution, risk engineering and risk management contribute to quarterly meetings on local and Zurich Insurance Group levels.

Zurich Insurance Group has an Emerging Risk Group, with cross-functional expertise from core insurance functions such as underwriting, claims and risk management to identify, assess and recommend actions for emerging risks.

Actions are underway to rebalance the portfolio, reducing exposure to long tail lines. Governance is in place to ensure appropriate focus on top-line targets and profitability. Reinsurance is deployed to help manage insurance risk. Group Risk Management also provides independent assurance through risk reviews.

Zurich Insurance Group is exposed to losses that could arise from natural and man-made catastrophes. The main concentrations of risks arising from such potential catastrophes are regularly reported to executive management. In 2018, risk-based capital (RBC) for catastrophe risk increased as a result of growth in short tailed lines of business. The most important peril regions and natural catastrophes (Nat Cat) continue to be U.S. and Caribbean windstorm, California earthquake and Europe windstorm.

Natural catastrophes

Zurich Insurance Group uses third-party models (adjusted to Zurich Insurance Group's view) to manage its underwriting and ensure accumulations stay within intended exposure limits. The same view Zurich Insurance Group has on natural catastrophe risk also underpins profitability assessment and strategic capacity allocation and guides the type and quantity of reinsurance Zurich Insurance Group buys.

To ensure global consistency, Nat Cat exposures are modeled centrally. Potential losses from property policies with material exposure in hazard-prone geographical areas and from worker injury policies with material exposure in U.S. seismic zones are probabilistically modeled. Losses for other lines of business are estimated based on adjustments to these modelled results. Risk modeling mainly addresses climate-induced perils such as windstorm, flood, tornado, and hail, and geologically-induced perils such as earthquake.

Zurich Insurance Group constantly strives to improve its modeling and improve data quality. It supplements internal knowledge with external knowledge (e.g., the Advisory Council for Catastrophes). Zurich Insurance Group is a governor sponsor of the Global Earthquake Model Foundation, is a shareholder of PERILS AG, and is a member of the Oasis Loss Modelling Framework.

Man-made catastrophes

Man-made catastrophes include events such as industrial accidents, terrorism and cyber attacks.

For terrorism, worker injury and property risk exposures are analyzed to identify areas with significant risk concentration. Other lines of business are assessed, although the potential exposure is not as significant. A vendor- provided catastrophe model is used to evaluate potential exposures in every major U.S. city and selected cities in Europe. The Zurich Insurance Group's analysis for the P&C business has shown that its exposures outside of North America are lower, in a large part due to government-provided pools. Outside the modeled areas, exposure concentrations are identified in Zurich Insurance Group's Risk Exposure Data Store (REDS). Exposure concentrations for location-based man-made scenarios, other than terrorism, are also identified in REDS, for example industrial explosions at global ports.

Zurich Insurance Group uses third-party models to manage its underwriting and accumulations for cyber and casualty catastrophe. We are actively monitoring and managing our cyber exposure and continue to refine products to ensure their appropriateness. Improving modeling capabilities and data capture for cyber and casualty catastrophe risks are key focus areas.

Concentration of Property & Casualty business insurance risk

Zurich Insurance Group defines concentration risk in the Property & Casualty (P&C) business as the risk of exposure to increased losses associated with inadequately diversified portfolios. Concentration risk for a property and casualty insurer may arise due to a concentration of business written within a geographical area or of underlying risks covered.

Tables 1.a and 1.b show the ZIC Group's concentration of risk within the P&C business by region and line of business based on direct written premiums before reinsurance. P&C premiums ceded to reinsurers (including retrocessions) amounted to USD 7.0 billion and USD 6.5 billion for the years ended December 31, 2018 and 2017, respectively. Reinsurance programs are managed on a global basis, and therefore, net premium after reinsurance is monitored on an aggregated basis.

Risk review (continued)

Property & Casualty business – Direct written premiums and policy fees by line of business – current period

Table 1.a

in USD millions, for the year ended December 31, 2018	Motor	Property	Liability	Special lines	Worker injury	Total
Europe, Middle East & Africa	4,546	4,118	1,962	1,986	343	12,955
North America[1]	1,422	4,622	2,638	2,494	2,735	13,912
Other regions	1,595	1,402	356	1,769	150	5,272
Total	**7,563**	**10,142**	**4,957**	**6,249**	**3,228**	**32,139**

[1] In 2018, the crop business line in North America was reclassified, resulting in a USD 1.7 billion shift from special lines to property.

Property & Casualty business – Direct written premiums and policy fees by line of business – prior period

Table 1.b

in USD millions, for the year ended December 31, 2017	Motor	Property	Liability	Special lines	Worker injury	Total
Europe, Middle East & Africa	4,459	3,869	1,927	1,895	335	12,486
North America	1,750	2,691	3,175	3,864	2,934	14,414
Other regions	1,472	1,184	341	1,646	138	4,781
Total	**7,681**	**7,745**	**5,443**	**7,405**	**3,408**	**31,681**

Analysis of sensitivities for Property & Casualty business risks

Tables 2.a and 2.b show the sensitivity of net income before tax and the sensitivity of net assets, using the ZIC Group effective income tax rate, as a result of adverse development in the net loss ratio by one percentage point. The sensitivities do not indicate a probability of such an event and do not consider any non-linear effects of reinsurance. Based on the assumptions applied in the sensitivity analysis in tables 2.a and 2.b, each additional percentage point increase in the loss ratio would have a linear impact on net income before tax and net assets. Zurich Insurance Group also monitors insurance risk by evaluating extreme scenarios, taking into account the non-linear effects of reinsurance contracts.

Insurance risk sensitivity for the Property & Casualty business – current period

Table 2.a

in USD millions, for the year ended December 31, 2018	Europe, Middle East & Africa	North America	Asia Pacific	Latin America	Reinsurance	Total
+1% in net loss ratio						
Net income before tax	(121)	(100)	(23)	(21)	1	(264)
Net assets	(91)	(75)	(17)	(16)	–	(198)

Insurance risk sensitivity for the Property & Casualty business – prior period

Table 2.b

in USD millions, for the year ended December 31, 2017	Europe, Middle East & Africa	North America	Asia Pacific	Latin America	Reinsurance	Total
+1% in net loss ratio						
Net income before tax	(119)	(105)	(19)	(19)	1	(260)
Net assets	(81)	(72)	(13)	(13)	1	(179)

Life insurance risk

The risks associated with life insurance include:

Life liability risk

- Mortality risk – when on average, the death incidence among the policyholders is higher than expected
- Longevity risk – when on average, annuitants live longer than expected
- Morbidity risk – when on average, the incidence of sickness or disability among the policyholders is higher or recovery rates from disability are lower than expected

Business risk

- Policyholder behavior risk – on average, the policyholders discontinue or reduce contributions or withdraw benefits prior to the maturity of contracts at a rate that is different from what is expected
- Expense risk – expenses incurred in acquiring and administering policies are higher than expected
- New business risk – volumes of new business are insufficient to cover fixed acquisition expenses

Market risk

- Market risk – the risk associated with Zurich Insurance Group's balance sheet positions where the value or cash flow depends on financial markets, which is analyzed in the 'market risk, including investment credit risk' section

Credit risk

- Credit risk – the risk associated with a loss or potential loss from counterparties failing to fulfill their financial obligations, which is analyzed in the 'market risk, including investment credit risk' and 'other credit risk' sections

A more diversified portfolio of risks is less likely than an undiversified portfolio to be affected across the board by a change in any subset of risks. The offsetting effects between unit-linked and traditional business reduce some of the risk associated with the life business.

Management of Life business insurance risk

Zurich Insurance Group has local product development committees and a Zurich Insurance Group-level committee to analyze potential new life products that could significantly increase or change the nature of its risks. Zurich Insurance Group regularly reviews the continued suitability and the potential risks of existing life products.

Unit-linked products are designed to reduce much of the market and credit risk associated with Zurich Insurance Group's traditional business. Risks that are inherent in these products are largely passed on to policyholders, although a portion of Zurich Insurance Group's management fees is linked to the value of funds under management, and hence is at risk if fund values decrease. To the extent that there are guarantees built into the product design, unit-linked products carry mortality/morbidity risk and market risk. Contracts may have minimum guaranteed death benefits where the sum at risk depends on the fair value of the underlying investments. For certain contracts, these risks are mitigated by mortality and morbidity charges.

Other life insurance liabilities include traditional life insurance products, such as protection and life annuity products. Protection products carry mortality, longevity and morbidity risk, as well as market and credit risk. Changes in medical treatments and lifestyle changes are among the most significant factors that could result in earlier or more claims than expected. Disability, defined in terms of the ability to perform an occupation, could be affected by adverse economic conditions. To reduce pricing cross-subsidies, where permitted, premiums are adjusted for factors such as age, gender and smoker status. Policy terms and conditions and disclosure requirements in insurance applications are designed to mitigate the risk arising from non-standard and unpredictable risks that could result in severe financial loss. In the life annuity business, medical advances and improved social conditions that lead to increased longevity are the most significant insurance risk. Annuitant (beneficiary) mortality assumptions include allowance for future mortality improvements.

Zurich Insurance Group is also exposed to risks posed by policyholder behavior and fluctuating expenses. Policyholder behavior risk is mitigated by designing products that, as closely as possible, match revenue and expenses associated with the contract. Expense risk is reduced by carefully controlling expenses, and through regular expense analysis and allocation exercises.

Risk review (continued)

Zurich Insurance Group is also exposed to investment and surrender risks related to bank-owned life insurance contracts sold in the U.S. These risks have reduced significantly in recent years as several major clients have switched into less risky investment divisions. See heading 'other contracts' in note 7 of the consolidated financial statements for additional information.

Interest rate guarantees (with concentration in traditional, guaranteed business in Germany and Switzerland and variable annuity business in the U.S. containing minimum guaranteed death benefits) expose Zurich Insurance Group to financial losses that may arise as a result of adverse movements in interest rates. These guarantees are managed through a combination of asset-liability management and hedging.

Zurich Insurance Group has a dynamic hedging strategy to reduce the investment risk associated with the closed book of variable annuities written by its U.S. subsidiary, Zurich American Life Insurance Company. This exposure has fallen substantially as a result of several policy buy-back programs since 2015.

Concentration of Life business insurance risk

Zurich Insurance Group defines concentration risk in the life business as the risk of exposure to increased losses associated with inadequately diversified portfolios of assets or obligations. Concentration risk for a life insurer may arise with respect to investments in a geographical area, economic sector, or individual issuers, or due to a concentration of business written within a geographic area, of a policy type, or of underlying risks covered.

Observing best-estimate assumptions on cash flows related to benefits of insurance contracts gives some indication of the size of the exposure to risks and the extent of risk concentration. Table 3 shows the ZIC Group's concentration of risk within Life by region and line of business based on reserves for life insurance on a net of reinsurance basis. The life insurance reserves also include policyholder surplus reserves with a loss absorbing capacity,[1] predominantly in Germany for an amount of USD 7.4 billion in 2018 (2017: USD 8.2 billion) and in the UK for an amount of USD 0.5 billion in 2018 (2017: USD 0.6 billion). The ZIC Group's exposure to life insurance risks varies significantly by geographic region and line of business and may change over time. See note 8 of the consolidated financial statements for additional information on reserves for insurance contracts.

[1] Policyholder surplus reserves with loss absorbing capacity refer to funds allocated to the policyholders that can be used by the shareholders, under certain conditions which may require regulatory approval.

Table 3

Reserves, net of reinsurance, by region

in USD millions, as of December 31	Unit-linked insurance contracts		Other life insurance liabilities		Total reserves	
	2018	2017	**2018**	2017	**2018**	2017
Life						
Europe, Middle East & Africa	41,229	46,802	77,756	81,182	118,985	127,984
of which:						
United Kingdom	15,323	18,699	3,271	3,468	18,594	22,167
Germany	15,976	17,178	36,980	39,638	52,956	56,817
Switzerland	634	731	17,294	18,123	17,928	18,854
Italy	1,568	1,073	4,521	4,155	6,089	5,228
Ireland	2,347	3,133	2,021	2,260	4,368	5,393
Spain	699	856	11,415	11,182	12,114	12,038
Zurich International	4,339	4,784	309	277	4,648	5,061
Rest of Europe, Middle East & Africa	342	349	1,946	2,078	2,288	2,427
North America	9,241	9,298	893	841	10,135	10,139
Asia Pacific	539	584	2,791	2,731	3,330	3,315
Latin America	13,159	13,687	5,385	5,075	18,544	18,762
Group Reinsurance	–	–	2	–	2	–
Eliminations	–	–	(13)	(3)	(13)	(3)
Subtotal	64,168	70,371	86,814	89,826	150,982	160,197
Other businesses	**4,598**	**5,042**	**9,474**	**9,404**	**14,072**	**14,446**
Total	**68,766**	**75,413**	**96,288**	**99,230**	**165,054**	**174,643**

Analysis of sensitivities for Life business insurance risk

Zurich Insurance Group uses market-consistent embedded value reporting principles, which allow Zurich Insurance Group to increase its understanding of, and report on, the risk profile of its life products, and how these risks would change under different market conditions. Embedded value is a measure that markets use to value life businesses. For more information, see the 'embedded value report 2018' (unaudited but subject to assurance review) at www.zurich.com/investor-relations/results-and-reports.

Reinsurance for Property & Casualty and Life businesses

Zurich Insurance Group's objective in purchasing reinsurance is to provide market-leading capacity for customers while protecting the balance sheet, supporting earnings volatility management, and achieving capital efficiency. Zurich Insurance Group follows a centralized reinsurance purchasing strategy for both Property & Casualty (P&C) and Life, and bundles programs, where appropriate, to benefit from diversification and economies of scale. In support of Zurich Insurance Group's empowerment- based management model and to align risk-bearing capacities between Zurich Insurance Group and individual country operations, the internal reinsurance vehicle introduced in 2017 has been successfully implemented and applied to all externally reinsured lines of business. In addition, to actively manage and reduce potential claims-recovery risks on facultative cessions and to support the strategy on operational excellence, Zurich Insurance Group started to tailor specific facultative property and casualty facilities.

Zurich Insurance Group structures and aligns its external reinsurance protection to its capital position to achieve an optimum risk-return ratio. This includes participation in the underlying risks through self-retentions. Zurich Insurance Group manages its central reinsurance purchasing according to these principles. The cession rate for P&C was 21.0 percent and 19.7 percent as of December 31, 2018 and December 31, 2017, respectively. The cession rate for Life was 7.0 percent and 8.0 percent as of December 31, 2018 and December 31, 2017, respectively.

Zurich Insurance Group uses traditional and collateralized reinsurance markets to protect itself against extreme single events, multiple event occurrences across regions, or increased frequency of events. Specifically, to protect Zurich Insurance Group against man-made and natural catastrophe scenarios, Zurich Insurance Group arranges per event and annual aggregate global covers as illustrated on the graph on the next page.

Zurich Insurance Group participates in the underlying risks through its retention and through its co-participation in excess layers. The contracts are on a loss-occurrence basis except the Global Aggregate Catastrophe cover, which operates on an annual aggregate basis. The current catastrophe covers are placed annually with the exception of the USD 750 million Global Catastrophe treaty, which is a three-year treaty expiring in 2019. In addition to these covers, Zurich Insurance Group has some local catastrophe covers, a bilateral risk swap, and various line of business-specific risk treaties in place. These covers are reviewed continuously and are subject to change going forward.

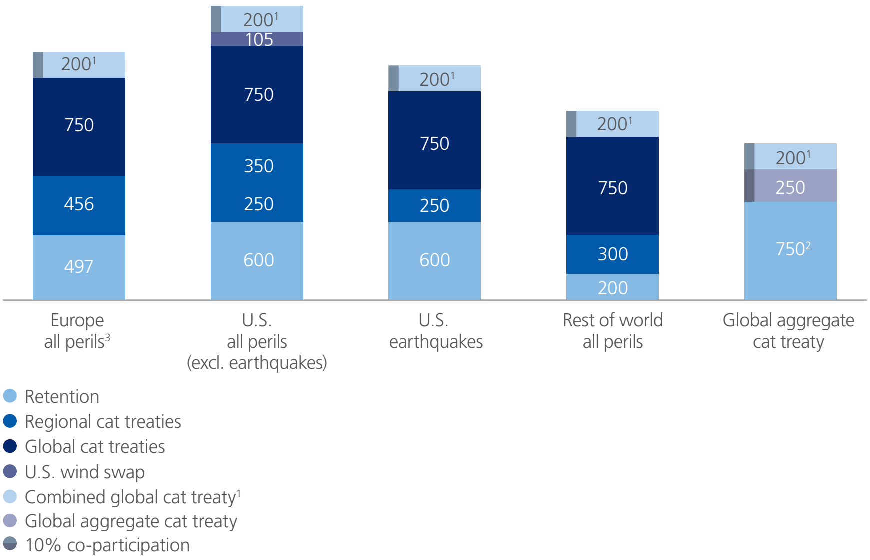
Major changes in 2018 among others included the external protection of Zurich Insurance Group's financial lines portfolio to support and strengthen the commercial financial lines portfolio management and strategic execution. The structure chosen provides protection against extreme large loss experience.

To complement existing treaties, Zurich Insurance Group purchases catastrophe reinsurance specific to life insurance for its exposure to natural and man-made catastrophes.

Risk review (continued)

2018 Group catastrophe reinsurance protection

USD millions, as of December 31, 2018



[1] This cover can be used only once, either for aggregated losses or for an individual occurrence or event.
[2] Franchise deductible of USD 25 million, i.e. losses greater than USD 25 million count toward the erosion of the retention (annual aggregate deductible).
[3] Europe cat treaty calculated with EUR/USD exchange rate as of July 31, 2018.

Market risk, including investment credit risk

Market risk is the risk associated with Zurich Insurance Group's balance sheet positions where the value or cash flow depends on financial markets. Risk factors include:

- Equity market prices
- Real estate market prices
- Interest-rate risk
- Credit and swap spread changes
- Defaults of issuers
- Currency exchange rates

Zurich Insurance Group manages the market risk of assets relative to liabilities on an economic total balance sheet basis. This is done to achieve the maximum risk-adjusted excess return on assets relative to the liability benchmark, while taking into account Zurich Insurance Group's risk appetite and tolerance and local regulatory constraints.

Zurich Insurance Group has policies and limits to manage market risk and keep its strategic asset allocation in line with its risk capacity. Zurich Insurance Group centrally manages certain asset classes to control aggregation of risk, and provides a consistent approach to constructing portfolios and selecting external asset managers. It diversifies portfolios, investments and asset managers, and regularly measures and manages market risk exposure. Zurich Insurance Group has set limits on concentration in investments in single issuers and certain asset classes, as well as by how much asset interest rate sensitivities can deviate from liability interest-rate sensitivities. Zurich Insurance Group regularly reviews its capacity to hold illiquid investments.

The Asset/Liability Management Investment Committee reviews and monitors Zurich Insurance Group's strategic asset allocation and tactical boundaries, and monitors Zurich Insurance Group asset/liability exposure. Zurich Insurance Group oversees the activities of local asset/liability management investment committees and regularly assesses market risks at both Zurich Insurance Group and local business levels. The economic effect of potential extreme market moves is regularly examined and considered when setting the asset allocation.

Risk assessment reviews include the analysis of the management of interest-rate risk for each major maturity bucket and adherence to the aggregate positions with risk limits. Zurich Insurance Group applies processes to manage market risks and to analyze market risk hotspots. Actions to mitigate risk are taken if necessary to manage fluctuations affecting asset/liability mismatch and risk-based capital.

Zurich Insurance Group may use derivative financial instruments to mitigate market risks arising from changes in currency exchange rates, interest rates and equity prices, from credit quality of assets, and from commitments to third parties. Zurich Insurance Group enters into derivative financial instruments mostly for economic hedging purposes and, in limited circumstances, the instruments may also meet the definition of an effective hedge for accounting purposes.

In compliance with Swiss insurance regulation, Zurich Insurance Group's policy prohibits speculative trading in derivatives, meaning a pattern of 'in and out' activity without reference to an underlying position. Zurich Insurance Group addresses the risks arising from derivatives through a stringent policy that requires approval of a derivative program before transactions are initiated, and by subsequent regular monitoring by Zurich Insurance Group Risk Management of open positions and annual reviews of derivative programs.

For more information on the ZIC Group's investment result, including impairments and the treatment of selected financial instruments, see note 6 of the consolidated financial statements. For more information on derivative financial instruments and hedge accounting, see note 7 of the consolidated financial statements.

Risk from equity securities and real estate

Zurich Insurance Group is exposed to risks from price fluctuations on equity securities and real estate. These could affect Zurich Insurance Group's liquidity, reported income, economic surplus and regulatory capital position. Equity risk exposure includes common stocks, including equity unit trusts, private equity, common stock portfolios backing participating-with-profit policyholder contracts, and equities held for employee benefit plans. Exposure to real estate risk includes direct holdings in property, and property company shares and funds. Returns on unit-linked contracts, whether classified as insurance or investment contracts, may be exposed to risks from equity and real estate, but these risks are borne by policyholders. However, Zurich Insurance Group is indirectly exposed to market movements from unit-linked contracts with respect to both earnings and economic capital. Market movements affect the amount of fee income earned when the fee income level is dependent on the valuation of the asset base. Therefore, the value of in-force business for unit-linked business can be negatively affected by adverse movements in equity and real estate markets.

Zurich Insurance Group manages its risks from equity securities and real estate as part of the overall investment risk management process, and applies limits as expressed in policies and guidelines. Specifically, Zurich Insurance Group limits holdings in equities, real estate and alternative investments. To realize an optimal level of risk diversification, the strategy for equities is defined through a composite of market benchmark indices. Zurich Insurance Group has the capability and processes in place to change the exposure to the key equity markets within a short time frame through the use of derivatives.

For additional information on equity securities and investment property, see note 6 of the consolidated financial statements.

Risk from interest rates and credit spreads

Interest-rate risk is the risk of loss resulting from changes in interest rates, including changes in the shape of yield curves. Zurich Insurance Group is exposed to interest-rate risk from debt securities, reserves for insurance contracts, liabilities for investment contracts, debt issued by Zurich Insurance Group, commercial and residential mortgages, employee benefit plans, and loans and receivables.

Zurich Insurance Group manages credit-spread risk, which describes the sensitivity of the values of assets and liabilities due to changes in the level or the volatility of credit spreads, over the risk-free interest rate yield curves. Movements of credit spreads are driven by expected probability of default, expected losses in cases of defaults of issuers, the uncertainty of default probabilities and losses.

Returns on unit-linked contracts, whether classified as insurance or investment contracts, are at the risk of the policyholder; however, Zurich Insurance Group is exposed to fluctuations in interest rates and credit spreads in so far as they affect the amount of fee income earned if the fee income level is dependent on the valuation of the asset base.

Analysis of market risk sensitivities for interest rate, equity and credit-spread risks

Zurich Insurance Company Group investments sensitivities

The economic market risk sensitivities for the fair value for the ZIC Group investments before tax as of 2018 is a negative USD 9.9 billion (negative USD 10.7 billion as of 2017) for a 100-basis-point increase in interest rates. For a 100-basis-point decrease in interest rate, the sensitivity is USD 11.1 billion (USD 12.0 billion as of 2017). For a 10 percent decline in equity market, the ZIC Group investments drop in value by USD 1.1 billion compared with USD 1.2 billion as of 2017. A 100-basis-point increase in credit spreads results in a decrease of USD 5.2 billion compared with USD 5.4 billion as of 2017.

The following describes limitations of the ZIC Group investment sensitivities. The ZIC Group sensitivities show the effects of a change of certain risk factors, while other assumptions remain unchanged. The interest rate scenarios assume a parallel shift of all interest rates in the respective currencies. They do not take into account the possibility that interest rate changes might differ by rating class; these are disclosed separately as credit spread risk sensitivities. The sensitivity analysis is based on economic assets, and not on shareholders' equity or net income as set out in the consolidated financial statements. The sensitivities only cover the ZIC Group investments, not insurance or other liabilities. The equity market scenarios assume a concurrent movement of all stock markets. The sensitivity analysis does not take into account actions that might be taken to mitigate losses. Actions may involve changing the asset allocation, for example, through selling and buying assets. The sensitivities do not indicate a probability of such events occurring in the future. They do not necessarily represent the ZIC Group's view of expected future market changes.

Risks from defaults of counterparties

Debt securities

The ZIC Group is exposed to credit risk from third-party counterparties where the ZIC Group holds securities issued by those entities. The default risk is controlled by the ZIC Group counterparty concentration risk limits designed to keep potential losses to an acceptable level.

Table 4

Debt securities by rating of issuer

as of December 31	2018		2017	
	USD millions	**% of total**	USD millions	% of total
Rating				
AAA	35,283	25.2%	37,426	25.2%
AA	37,362	26.7%	39,664	26.7%
A	20,998	15.0%	26,011	17.5%
BBB	39,529	28.3%	38,360	25.9%
BB and below	5,341	3.8%	6,033	4.1%
Unrated	1,357	1.0%	767	0.5%
Total	**139,870**	**100.0%**	**148,261**	**100.0%**

Table 4 shows the credit risk exposure of debt securities, by credit rating. As of December 31, 2018, 95.2 percent of the ZIC Group's debt securities was investment grade and 25.2 percent was rated 'AAA.' As of December 31, 2017, 95.4 percent of debt securities was investment grade and 25.2 percent was rated 'AAA.'

Exposure-level limits are in place and are based on default and recovery rates that tighten progressively for lower ratings. Where the ZIC Group identifies investments expected to trigger limit breaches, appropriate actions are implemented.

The risk-weighted average credit rating of the ZIC Group's debt securities portfolio is 'A–' in 2018, compared with 'A–' in 2017.

As of December 31, 2018, the largest concentration in the ZIC Group's debt securities portfolio was government-related at 49 percent of all debt securities. In all other categories, a total of USD 31.4 billion (44 percent) was secured. As of December 31, 2017, 50 percent of the ZIC Group's debt portfolio was invested in government-related securities. In all other categories, a total of USD 30.0 billion (41 percent) was secured. Industry classifications in the fixed income portfolio were revised during 2018 to better align with the management view of the portfolio and financial industry practice. The 2017 figures were restated accordingly.

The second-largest concentration in the ZIC Group's debt securities portfolio is securitized, including structured finance securities and covered bonds.

Risk review (continued)

In addition to debt exposure, the ZIC Group had loan exposure of USD 4.4 billion and USD 4.9 billion to the German central government or the German federal states as of December 31, 2018 and 2017, respectively. For more information on debt exposure, see the 'mortgage loans and other loans' section.

Cash and cash equivalents

To reduce concentration, settlement and operational risks, Zurich Insurance Group limits the amount of cash that can be deposited with a single counterparty. Zurich Insurance Group also maintains an authorized list of acceptable cash counterparties.

For the ZIC Group, cash and cash equivalents amounted to USD 8.7 billion and USD 8.5 billion as of December 31, 2018 and December 31, 2017, respectively. The risk-weighted average rating of the overall cash portfolio was 'A–' as of December 31, 2018 and December 31, 2017. The ten largest global banks represented 77 percent of the total, whose risk-weighted average rating was 'A+' as of December 31, 2018 and 'A' as of December 31, 2017.

Mortgage loans and other loans

Mortgage loans amounted to USD 6.6 billion as of December 31, 2018 and USD 7.0 billion as of December 31, 2017. The ZIC Group's largest mortgage loan portfolios are held in Switzerland (USD 3.4 billion) and in Germany (USD 2.3 billion); these are predominantly secured against residential property but also include mortgages secured by commercial property. The ZIC Group invests in mortgages in the U.S. (USD 0.6 billion); these are mainly participations in large mortgage loans secured against commercial property.

The credit risk arising from other loans is assessed and monitored together with the 'debt securities' portfolio. Out of the USD 7.6 billion reported loans as of December 31, 2018, 62 percent are government-related, of which 94 percent are to the German central government or the German federal states. As of December 31, 2018, USD 4.7 billion were rated as 'AAA' (61 percent) compared with 5.1 billion as of December 31, 2017; USD 0.7 billion as 'AA' (10 percent) compared with 0.7 billion as of December 31, 2017; USD 0.3 billion as 'A' (4 percent) compared to with 0.6 billion as of December 31, 2017; USD 1.2 billion as 'BBB' and below (16 percent) compared with 1.2 billion as of December 31, 2017; and USD 0.7 billion as unrated (10 percent) compared with 1.2 billion as of December 31, 2017.

Derivatives

The replacement value of outstanding derivatives represents a credit risk to Zurich Insurance Group. These instruments include interest rate and cross-currency swaps, forward contracts and purchased options. A potential exposure could also arise from possible changes in replacement values. Zurich Insurance Group regularly monitors credit risk exposures arising from derivative transactions. Outstanding positions with external counterparties are managed through an approval process embedded in derivative programs.

To limit credit risk, derivative financial instruments are typically executed with counterparties rated 'A–' or better by an external rating agency, unless collateral is provided as per Zurich Insurance Group's risk policy manuals. Zurich Insurance Group's standard practice is to only transact derivatives with those counterparties for which Group has in place an ISDA master agreement, with a credit support annex. This mitigates credit exposures from over-the-counter transactions due to close-out netting and requires the counterparty to post collateral when the derivative position exceeds an agreed threshold. Zurich Insurance Group further mitigates credit exposures from derivative transactions by using exchange-traded or centrally cleared instruments whenever possible.

Risk from currency exchange rates

Currency risk is the risk of loss resulting from changes in exchange rates. Zurich Insurance Group operates internationally and therefore is exposed to the financial impact of changes in the exchange rates of various currencies. Zurich Insurance Group's presentation currency is the U.S. dollar, but its assets, liabilities, income and expenses are denominated in many currencies, with significant amounts in euro, Swiss franc and British pound, as well as the U.S. dollar. On local balance sheets a currency mismatch may cause a balance sheet's net asset value to fluctuate, either through income or directly through equity. Zurich Insurance Group manages this risk by matching foreign currency positions on local balance sheets within prescribed limits. Residual local mismatches are reported centrally to make use of the netting effect across Zurich Insurance Group. Zurich Insurance Group hedges these residual local mismatches within an established limit through a central balance sheet. For information on net gains/losses on foreign currency transactions included in the consolidated income statements, see note 1 of the consolidated financial statements. The monetary currency risk exposure on local balance sheets is considered immaterial.

Differences arise when functional currencies are translated into Zurich Insurance Group's presentation currency, the U.S. dollar. Zurich Insurance Group applies net investment hedge accounting to protect against the impact that changes in certain exchange rates might have on selected net investments.

Table 5 shows the total IFRS equity's sensitivity to changes in exchange rates for the main functional currencies to which the ZIC Group is exposed. Positive values represent an increase in the value of the ZIC Group's total equity. See notes 1, 3 and 7 of the consolidated financial statements for additional information on foreign currency translation and transactions.

Table 5

Sensitivity of the ZIC Group's total IFRS equity to exchange rate fluctuations

in USD millions, as of December 31	**2018**	2017
10% increase in		
EUR/USD rate	335	467
GBP/USD rate	203	232
CHF/USD rate	344	372
BRL/USD rate	163	147
Other currencies/USD rates	624	645

The sensitivities show the effects of a change of the exchange rates only, while other assumptions remain unchanged. The sensitivity analysis does not take into account management actions that might be taken to mitigate such changes. The sensitivities do not indicate a probability of such events occurring in the future. They do not necessarily represent the ZIC Group's view of expected future market changes. While table 5 shows the effect of a 10 percent increase in currency exchange rates, a decrease of 10 percent would have the converse effect.

Other credit risk

Credit risk is the risk associated with a loss or potential loss from counterparties failing to fulfill their financial obligations. See section 'risks from defaults of counterparties' for market-risk-related asset categories. Zurich Insurance Group's exposure to other credit risk is derived from the following main categories of assets:

- Reinsurance assets
- Receivables

Zurich Insurance Group's objective in managing credit risk exposures is to maintain them within parameters that reflect Zurich Insurance Group's strategic objectives, and its risk appetite and tolerance. Sources of credit risk are assessed and monitored, and Zurich Insurance Group has policies to manage specific risks within various subcategories of credit risk. To assess counterparty credit risk, Zurich Insurance Group uses ratings assigned by external rating agencies, qualified third parties such as asset managers, and internal rating assessments. If external rating agencies' ratings differ, Zurich Insurance Group generally applies the lowest, unless other indicators justify an alternative, which may be an internal credit rating.

Zurich Insurance Group regularly tests and analyzes credit risk scenarios and prepares possible contingency measures that may be implemented if the credit risk environment worsens.

Zurich Insurance Group actively uses collateral to mitigate credit risks. Nevertheless, underlying credit risks are managed independently from the collateral. Zurich Insurance Group has limits and quality criteria to identify acceptable letter-of-credit providers. Letters of credit enable Zurich Insurance Group to limit the risks embedded in reinsurance captives, deductibles, trade credit and surety.

Zurich Insurance Group has counterparty limits, which are regularly monitored. Exposure to counterparties' parent companies and subsidiaries is aggregated to include reinsurance assets, investments, derivatives, and for the largest counterparties, certain insurance products. There was no unapproved material exposure in excess of Zurich Insurance Group's limits for counterparty aggregation as of December 31, 2018 nor December 31, 2017.

On-balance sheet exposures are the main source of credit risk. Off-balance sheet credit exposures are related primarily to certain insurance products, reinsurance and collateral used to protect underlying credit exposures on the balance sheet. The ZIC Group also has off-balance sheet exposures related to undrawn loan commitments of USD 2 million and USD 16 million as of December 31, 2018 and 2017, respectively. See note 22 of the consolidated financial statements for undrawn loan commitments.

Credit risk related to reinsurance assets

Zurich Insurance Group's Corporate Reinsurance Security Committee manages the credit quality of cessions and reinsurance assets. Zurich Insurance Group typically cedes new business to authorized reinsurers with a minimum rating of 'A–.' As of December 31, 2018 and 2017, in both years, 52 percent of the exposure ceded to reinsurers rated below 'A–' and those that were unrated were collateralized. Of the exposure ceded to reinsurers that are rated below 'A–' or are not rated, 50 percent was ceded to captive insurance companies in 2018, and 51 percent in 2017.

Reinsurance assets included reinsurance recoverables (the reinsurers' share of reserves for insurance contracts) of USD 21.3 billion and USD 21 billion, and receivables arising from ceded reinsurance of USD 1.1 billion and USD 1.2 billion as of December 31, 2018 and 2017, respectively, gross of allowance for impairment. Reserves for potentially uncollectible reinsurance assets amounted to USD 113 million as of December 31, 2018 and USD 94 million as of December 31, 2017. The ZIC Group's policy on impairment charges takes into account both specific charges for known situations (e.g., financial distress or litigation) and a general, prudent provision for unanticipated impairments.

Reinsurance assets in table 6 are shown before taking into account collateral such as cash or bank letters of credit and deposits received under ceded reinsurance contracts. Unsecured reinsurance assets shown are after deducting collateral. Except for an immaterial amount, letters of credit are from banks rated 'A–' or better. Collateral increased by USD 0.2 billion to USD 9.6 billion as of December 31, 2018, compared with December 31, 2017.

Table 6 shows reinsurance assets and unsecured reinsurance assets split by rating.

Table 6

Reinsurance assets and unsecured reinsurance assets by rating of reinsurer and captive

as of December 31	2018				2017			
	Reinsurance assets		Unsecured reinsurance assets		Reinsurance assets		Unsecured reinsurance assets	
	USD millions	% of total	USD millions	% of total	USD millions	% of total	USD millions	% of total
Rating								
AAA	9	0.0%	9	0.1%	–	0.0%	–	0.0%
AA	5,633	25.3%	5,173	40.8%	5,939	26.9%	5,378	42.5%
A	10,882	48.9%	4,740	37.4%	10,562	47.9%	4,619	36.5%
BBB	1,572	7.1%	983	7.8%	1,634	7.4%	974	7.7%
BB	447	2.0%	232	1.8%	247	1.1%	57	0.5%
B and below	645	2.9%	37	0.3%	638	2.9%	168	1.3%
Unrated	3,085	13.9%	1,510	11.9%	3,036	13.8%	1,446	11.4%
Total[1]	**22,273**	**100.0%**	**12,685**	**100.0%**	**22,056**	**100.0%**	**12,642**	**100.0%**

[1] The value of the collateral received amounts to USD 9.6 billion and USD 9.4 billion as of December 31, 2018 and 2017, respectively.

Credit risk related to receivables

The ZIC Group's largest credit-risk exposure to receivables is related to third-party agents, brokers and other intermediaries. It arises where premiums are collected from customers to be paid to the ZIC Group, or to pay claims to customers on behalf of the ZIC Group. Zurich Insurance Group has policies and standards to manage and monitor credit risk related to intermediaries. Zurich Insurance Group requires intermediaries to maintain segregated cash accounts for policyholder money. Zurich Insurance Group also requires that intermediaries satisfy minimum requirements of capitalization, reputation and experience, and provide short-dated business credit terms.

Receivables that are past due but not impaired should be regarded as unsecured, but some of these receivable positions may be offset by collateral. Zurich Insurance Group reports internally on Zurich Insurance Group past-due receivable balances and strives to keep the balance of past-due positions as low as possible, while taking into account customer satisfaction.

Receivables from ceded reinsurance are part of reinsurance assets and are managed accordingly. See notes 15 and 24 of the consolidated financial statements for additional information on receivables.

Operational risk

Operational risk is the risk of loss resulting from inadequate or failed internal processes, people, systems or from external events such as external fraud, catastrophes, or failure in outsourcing arrangements. Zurich Insurance Group has a framework to identify, assess, quantify, mitigate, monitor and report operational risk within the Group. Within this framework, Zurich Insurance Group:

- Uses a scenario-based approach to assess, model and quantify the capital required for operational risk for business units under extreme circumstances. This approach allows information to be compared across Zurich Insurance Group and highlights the main scenarios contributing to the Z-ECM capital required.
- Documents and reviews loss events exceeding a threshold determined per Zurich's risk policy manuals. Remedial action is taken to avoid a recurrence of such operational loss events.
- Conducts risk assessments where operational risks are identified for key business areas. Risks identified and assessed above a certain threshold must be mitigated. Risk mitigation plans are documented and tracked on an ongoing basis. In the assessments, Zurich Insurance Group uses such sources of information as the Total Risk Profiling™ process, internal control assessments, and audit findings, as well as scenario modeling and loss event data.

Zurich Insurance Group has specific processes and systems in place to focus on high-priority operational matters such as managing information security and third-party suppliers, as well as combating fraud.

Managing information security, including cyber risk, remains a key focus for Zurich Insurance Group. To measure the global exposure to this risk, a dedicated framework has been established, resulting in substantial improvements achieved throughout the year. As part of the introduction of this framework, capability upgrading took place across the risk function and attention increased on risk types resulting from the digital transformation Zurich Insurance Group is progressing, notably focusing on information security, emerging technologies, innovation, and third-party management.

Zurich Insurance Group's customer focused organization, with enhanced capabilities and increased attention to operational resilience, maintains our core business services by upgrading our continuous reviews and assurance around our existing business continuity program. Zurich Insurance Group pays increasing attention to the protection and privacy of data for all of our stakeholders. We have done this by revising corresponding risk policies and governance, which has led to a more precise alignment to new legal and regulatory requirements and the changing operating environments.

With the increased use of third parties and suppliers and in conjunction with continual upgrades to regulatory requirements, we provide greater support to the organization in supporting third party and supplier risk management practices. This is in conjunction with a continued focus on critical suppliers, identifying the risks and obtaining assurance over key controls to confirm that they are able to deliver services as required throughout the lifecycle of the sourcing arrangements. Assessments include ensuring that suppliers remain financially viable, comply with our security and resilience requirements, and limit Zurich Insurance Group's exposure to geographic and supplier concentration risks.

Preventing, detecting and responding to fraud are embedded in Zurich Insurance Group's business. Both claims and non-claims fraud are included in the common framework for assessing and managing operational risks. For Z-ECM calculations, claims fraud is part of insurance risk and non-claims fraud is part of operational risk.

Liquidity risk

Liquidity risk is the risk that Zurich Insurance Group may not have sufficient liquid financial resources to meet its obligations when they fall due, or would have to incur excessive costs to do so. Zurich Insurance Group's policy is to maintain adequate liquidity and contingent liquidity to meet its liquidity needs under normal conditions and in times of stress. To achieve this, Zurich Insurance Group assesses, monitors and manages its liquidity needs on an ongoing basis.

Zurich Insurance Group-wide liquidity management policies and specific guidelines govern how local businesses plan, manage and report their local liquidity and include regular stress tests for all major carriers within Zurich Insurance Group. The stress tests use a standardized set of internally defined stress events, and are designed to provide an overview of the potential drain on liquidity if Zurich Insurance Group had to recapitalize local balance sheets. Similar guidelines apply at Zurich Insurance Group level, and detailed liquidity forecasts are regularly conducted, based on local businesses' input and Zurich Insurance Group's forecasts. As part of its liquidity management, Zurich Insurance Group maintains sufficient cash and cash equivalents and high-quality, liquid investment portfolios to meet outflows under expected and stressed conditions. Zurich Insurance Group also maintains internal liquidity sources that cover Zurich Insurance Group's potential liquidity needs, including those that might arise in times of stress. Zurich Insurance Group takes into account the amount, availability and speed at which these sources can be accessed. Zurich Insurance Group has access to diverse funding resources to cover contingencies, including asset sales, external debt issuance and making use of committed borrowing facilities or letters of credit. Zurich Insurance Group maintains a range of maturities for external debt securities. A potential source of liquidity risk is the effect of a downgrade of Zurich Insurance Group's credit rating. This could affect Zurich Insurance Group's commitments and guarantees, potentially increasing liquidity needs. This risk, and mitigating actions that might be employed, are assessed on an ongoing basis within Zurich Insurance Group's liquidity framework.

Zurich Insurance Group regularly analyzes the liquidity of the investment assets, and monitors that the liquidity of assets stays in line with the liquidity needs. During 2018, Zurich Insurance Group remained within its limits allotted to the levels of illiquid assets it can hold.

For more information on debt obligation maturities, see note 18 of the consolidated financial statements, and for information on commitments and guarantees, see note 22 of the consolidated financial statements.

Zurich Insurance Group's ongoing liquidity monitoring includes regular reporting to the executive management and quarterly reporting to the Risk and Investment Committee of the Board, covering aspects such as Zurich Insurance Group's actual and forecast liquidity, possible adverse scenarios that could affect Zurich Insurance Group's liquidity and possible liquidity needs from Zurich Insurance Group's main subsidiaries, including under conditions of stress.

For more information on the ZIC Group's other financial liabilities, see note 16 of the consolidated financial statements. See note 6 of the consolidated financial statements for information on the maturity of debt securities.

Zurich Insurance Group has committed to contribute capital to subsidiaries and third parties that engage in making investments in direct private equity and private equity funds. Commitments may be called by the counterparty over the term of the investment (generally three to five years) and must be funded by Zurich Insurance Group on a timely basis. See note 22 of the consolidated financial statements.

Strategic risk and risks to Zurich Insurance Group's reputation

Strategic risk

Strategic risk corresponds to the risk that Zurich Insurance Group is unable to achieve its strategic targets.

Strategic risks can arise from:

- Inadequate risk-reward assessment of strategic plans
- Improper implementation of strategic plans
- Unexpected changes to underlying assumptions

Zurich defines the strategy as the long-term plan of action designed to allow Zurich Insurance Group to achieve its goals and aspirations based on Zurich Insurance Group's purpose and values and strategic options.

Zurich Insurance Group works to reduce unintended risks of strategic business decisions through its risk assessment processes and tools, including the Total Risk Profiling™ process. As part of the annual assessment of strategic risks, the Executive Committee (ExCo) assessed potential risks from both external and internal factors, looking at 2019 and beyond. These include: macro-economic risks such as financial stress due to geopolitical uncertainties and monetary policy; long-term capital and liquidity impacts of a new post-Brexit regulatory regime in the UK; changes affecting competitiveness in markets where Zurich is active; information security including cyber risks and digital transformation. The ExCo defines actions to respond as appropriate and reviews changes to the key risks and their status at least quarterly.

Zurich Insurance Group evaluates the risks of M&A transactions both from a quantitative and a qualitative perspective. Zurich Insurance Group conducts risk assessments of M&A transactions to evaluate risks specifically related to integrating acquired businesses.

Risks to Zurich Insurance Group's reputation

Risks include acts or omissions by Zurich Insurance Group or any of its employees that could damage Zurich Insurance Group's reputation or lead to a loss of trust among its stakeholders. Every risk type has potential consequences for Zurich's reputation. Effectively managing each type of risk helps reduce such threats.

Zurich Insurance Group aims to preserve its reputation by adhering to applicable laws and regulations, and by following the core values and principles of Zurich Insurance Group's code of conduct, which promotes integrity and good business practice. Zurich Insurance Group centrally manages certain aspects of reputation risk, for example, communications, through functions with the appropriate expertise.

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Financial review

The financial review is the management analysis of the business performance of Zurich Insurance Company Group Ltd and its subsidiaries (collectively the Zurich Insurance Company Group or ZIC Group) for the year ended December 31, 2018, compared with 2017.

Contents

The information contained within the financial review is unaudited and is based on the consolidated results of the ZIC Group for the years ended December 31, 2018 and 2017. All amounts are shown in U.S. dollars and rounded to the nearest million unless otherwise stated, with the consequence that the rounded amounts may not always add up to the rounded total. All ratios and variances are calculated using the underlying amounts rather than the rounded amounts. This document should be read in conjunction with the annual results 2018 of the ZIC Group and, in particular, with its consolidated financial statements for the year ended December 31, 2018.

In addition to the figures stated in accordance with International Financial Reporting Standards (IFRS), the ZIC Group uses business operating profit (BOP) and other performance indicators to enhance the understanding of its results. Details of these additional measures are set out in the separately published glossary. These should be viewed as complementary to, and not as substitutes for the IFRS figures. For a reconciliation of BOP to net income attributable to shareholders (NIAS), see note 27 (table 27.4) of the audited consolidated financial statements.

Certain comparatives have been revised as a result of reclassifications and other adjustments. For details refer to note 1 of the audited consolidated financial statements.

Financial highlights

in USD millions, for the years ended December 31, unless otherwise stated	**2018**	2017	Change[1]
Business operating profit	**4,423**	4,065	9%
Net income attributable to shareholders	**3,597**	3,257	10%
P&C business operating profit	**2,085**	1,827	14%
P&C gross written premiums and policy fees	**33,505**	33,024	1%
P&C combined ratio	**97.8%**	99.8%	2.0 pts
Life business operating profit	**1,554**	1,258	23%
Life gross written premiums, policy fees and insurance deposit	**33,448**	33,242	1%
Farmers business operating profit	**1,569**	1,616	(3%)
Farmers Management Services management fees and other related revenues[2]	**3,204**	2,892	11%
Farmers Management Services managed gross earned premium margin	**7.0%**	7.0%	–
Farmers Re gross written premiums and policy fees	**194**	995	(81%)
Farmers Life gross written premiums, policy fees and insurance deposit	**1,048**	1,026	2%
Average Group investments[3]	**190,758**	190,065	–
Net investment result on Group investments[3]	**6,287**	7,248	(13%)
Net investment return on Group investments[3, 4]	**3.3%**	3.8%	(0.5 pts)
Total return on Group investments[3, 4]	**0.6%**	4.1%	(3.4 pts)
Shareholders' equity[5]	**29,844**	31,902	(6%)

1 Parentheses around numbers represent an adverse variance.
2 An adjustment made related to the adoption of IFRS 15 'Revenue from Contracts with Customers' resulted in a USD 289 million increase to revenues and a USD 287 million increase to expenses.
3 Including investment cash.
4 Calculated on average Group investments.
5 2017 balance includes adjustment for effect of adoption of IFRS 15 'Revenue from Contracts with Customers'.

Financial review (continued)

Property & Casualty (P&C)

in USD millions, for the years ended December 31			Total
	2018	2017	Change
Gross written premiums and policy fees	33,505	33,024	1%
Net earned premiums and policy fees	26,431	26,033	2%
Insurance benefits and losses, net of reinsurance	17,291	17,715	2%
Net underwriting result	574	50	nm
Net investment result	1,884	2,038	(8%)
Business operating profit	**2,085**	**1,827**	**14%**
Loss ratio	65.4%	68.0%	2.6 pts
Expense ratio	32.4%	31.8%	(0.6 pts)
Combined ratio	**97.8%**	**99.8%**	**2.0 pts**

BOP by Segment

in USD millions, for the years ended December 31	Business operating profit (BOP)		
	2018	2017	Change
Europe, Middle East & Africa (EMEA)	851	540	58%
North America	1,099	800	37%
Asia Pacific	86	155	(45%)
Latin America	141	177	(20%)
Group Reinsurance[1]	(92)	155	159%
Total	**2,085**	**1,827**	**14%**

[1] Including intersegment elimination.

Gross written premiums in Property & Casualty (P&C) for the full year of 2018 rose 1 percent in U.S. dollars and were flat in local currency and adjusting for the acquisitions, which were closed during the second half of the year.

Property & Casualty Business Operating Profit for the year 2018 was USD 2.1 billion, 14 percent higher than in the previous year.

The underwriting result increased strongly by USD 524 million due to a combination of underlying improvement in the combined ratio, lower natural catastrophe losses and more favorable development of reserves established in prior years. The combined ratio for 2018 improved by 2 percentage points to 97.8 percent from 99.8 percent for 2017.

Investment income for the full year increased by 5 percent in U.S. dollars and 8 percent in local currency, driven by underlying growth in investment income across North America, Latin America and Asia Pacific, while EMEA saw a decline. This improvement was more than offset by a USD 238 million reduction in the level of fair value gains on the Group's hedge fund portfolio, which affected full year 2018 results with a USD 48 million loss compared to a favorable contribution of USD 191 million in 2017.

By region, growth in EMEA and North America due to improved underwriting results was partly offset by a weaker underwriting performance in Latin America, lower prior year reserve releases in the Asia Pacific region and lower reinsurance recoveries in the Group Reinsurance unit.

Combined ratio

in USD millions, for the years ended December 31

	Combined ratio		
	2018	2017	Change
Europe, Middle East & Africa (EMEA)	95.8%	99.1%	3.3 pts
North America	98.2%	102.8%	4.6 pts
Asia Pacific	99.6%	95.3%	(4.3 pts)
Latin America	100.5%	97.6%	(2.9 pts)
Group Reinsurance[1]	nm	nm	nm
Total	**97.8%**	**99.8%**	**2.0 pts**

[1] Including intersegment elimination.

The ZIC Group's **combined ratio** of 97.8 percent was 2 percentage points better than in the previous year, mainly due to a lower accident year loss ratio excluding catastrophes and lower claims from catastrophe events. These improvements were partially offset by an increase in the commission ratio as a result of shifts in the mix of business. Development of reserves established in prior years was 2.3 percent, reflecting the general strength of the ZIC Group's claims reserves, including the positive development of claims from the 2017 hurricanes Harvey, Irma and Maria.

In **EMEA** the combined ratio benefited from improvements in the underlying loss ratio and a lower level of catastrophes as well as more favorable prior year reserve development.

In **North America** the combined ratio improved largely due to lower levels of natural catastrophe losses with the underlying combined ratio excluding catastrophes at a similar level to the prior year.

The **Asia Pacific region** remained stable on an underlying level, with less favorable prior year reserves development accounting for the increase in the reported combined ratio.

In **Latin America**, the increase in the combined ratio was mainly driven by higher levels of exceptional large losses in Argentina and Mexico, the absence of a one-time benefit to the insurance premium tax in Brazil and very favorable prior year reserve development included in 2017.

Life

in USD millions, for the years ended December 31	2018	2017	Change
Insurance deposits	18,694	19,172	(2%)
Gross written premiums and policy fees	14,754	14,070	5%
Net investment income on Group investments	3,035	2,925	4%
Insurance benefits and losses, net of reinsurance	(9,702)	(9,259)	(5%)
Business operating profit	**1,554**	**1,258**	**23%**
Net policyholder flows[1]	7,425	7,705	(4%)
Assets under management[2]	254,255	269,843	(6%)
Total reserves for life insurance contracts, net of reinsurance, and liabilities for investment contracts (net reserves)	202,024	215,424	(6%)

[1] Net policyholder flows are defined as the sum of gross written premiums and policy fees and deposits, less policyholder benefits.
[2] Assets under management comprise on balance sheet Group investments and unit-linked investments plus assets that are managed by third parties, on which fees are earned.

BOP by segment

in USD millions, for the years ended December 31	2018	2017	Change
Europe, Middle East & Africa (EMEA)	1,010	831	22%
North America	31	(2)	nm
Asia Pacific	186	132	40%
Latin America	319	296	8%
Group Reinsurance[1]	8	1	nm
Total	**1,554**	**1,258**	**23%**

[1] Including intersegment elimination.

Life Business Operating Profit increased by 23 percent to USD 1.6 billion and included USD 20 million of charges related to the ZIC Group's restructuring.

In **EMEA**, the Business Operating Profit increased by 22 percent in U.S. dollars and 17 percent in local currencies, with most countries contributing to the performance. Growth was driven by a combination of portfolio growth, cost reductions and the absence of the impact from the change to UK indexation tax relief in 2017 as well as a number of one-time items relating to market movements and assumption changes.

In **Latin America**, higher business volumes supported earnings growth, with the Business Operating Profit increasing 8 percent in U.S. dollars and 28 percent in local currencies and reflects devaluation in a number of Latin American currencies. The result also includes a foreign exchange benefit of USD 36 million in Argentina, as a result of a portion of the domestic liabilities being backed by U.S. dollar denominated securities as well as integration costs of USD 8 million related to the acquisitions in Chile and Mexico.

Asia Pacific Business Operating Profit increased by USD 53 million, an increase of 40 percent in U.S. dollars and in local currencies. Growth was driven by portfolio growth across the region as well as a first time contribution of USD 27 million from the reinsurance agreement with OnePath Life, partially offset by initial integration costs of USD 16 million relating to the OnePath Life acquisition.

In **North America**, earnings increased by USD 33 million compared to the prior year due to favorable assumption updates and a one-time provision release.

Net inflows decreased by 4 percent compared to the prior year. The decrease was primarily driven by the absence of a single large additional contribution to an existing corporate protection scheme in North America.

Assets under management decreased by 6 percent due to negative foreign exchange effects and adverse market movements in the fourth quarter of 2018.

NBV, APE and NBM by Segment

in USD millions, for the years ended December 31	New business value, after tax (NBV)[1]		New business annual premium equivalent (APE)[2]		New business margin, after tax (as % of APE) (NBM)[3]	
	2018	2017	**2018**	2017	**2018**	2017
Europe, Middle East & Africa (EMEA)	619	605	2,890	3,333	22.8%	19.1%
North America	15	66	82	224	18.3%	29.3%
Asia Pacific	186	165	231	195	82.2%	85.8%
Latin America	161	164	1,437	1,117	15.3%	23.2%
Total	**981**	**999**	**4,639**	**4,868**	**24.1%**	**23.3%**

[1] New business value is calculated on embedded value principles net of non-controlling interests.
[2] APE is shown gross of non-controlling interests.
[3] New business margin is calculated using new business value as a percentage of APE based on figures net of non-controlling interests for both metrics.

Life new business APE increased 11 percent on a like-for-like basis after adjusting for currency, acquisitions and the disposal of the UK workplace savings business, with a reduction of 5 percent on a reported basis.

In **EMEA**, like-for-like growth was 5 percent with underlying growth in most countries. Growth was driven in particular by corporate protection and a large longevity transaction in the UK.

Asia Pacific saw growth of 17 percent on a like-for-like basis driven by growth in protection business across the region.

In **Latin America** APE sales increased by 40 percent on a like-for-like basis including a large corporate protection scheme in Chile as well as positive developments in Brazil, Mexico and Argentina.

New business value (NBV) increased 1 percent on a like-for-like basis after adjusting for currency, acquisitions and the disposal of the UK workplace savings business, and decreased 2 percent in U.S. dollars.

Underlying volume growth in EMEA, Latin America and Asia Pacific was offset by the absence of a large US corporate protection scheme in 2017.

EMEA saw an increase in new business value due to improvements in business mix and favorable currency translation effects.

In **Latin America**, higher corporate business volumes were partially offset by unfavorable operating assumption updates and currency translation effects, while in **Asia Pacific** higher sales volumes and positive assumption updates were partially offset by business mix developments.

The **new-business margin** decreased by 2.9 percent on a like-for-like basis and improved by 0.8 percentage points to 24.1 percent on a headline basis.

Farmers

in USD millions, for the years ended December 31	2018	2017	Change
Farmers Management Services (FMS)	1,358	1,349	1%
Farmers Re	43	57	(25%)
Farmers Life	168	210	(20%)
Total business operating profit	**1,569**	**1,616**	**(3%)**

Farmers Management Services (FMS) Business Operating Profit was broadly stable compared to the prior year, with growth in the gross management result driven by higher gross earned premiums at Farmers Exchanges offsetting USD 23 million of unfavorable mark-to-market impacts on a deferred compensation plan.

The managed gross earned premium margin remained stable at 7.0 percent.

Farmers Re Business Operating Profit was USD 14 million lower than in the prior year, as a consequence of the announced reduction in the all lines quota share participation from 8 percent to 1 percent, effective December 31, 2017. The combined ratio was 1 percentage point lower, driven by improved underwriting results at the Farmers Exchanges.

Farmers Life business operating profit was USD 42 million lower than in the prior year, driven by a USD 6 million negative impact from the annual assumption review compared to a USD 28 million positive benefit in the prior year, and slightly unfavorable mortality experience. New business APE was USD 6 million below prior year, while the new business value increased 13 percent driven by updated operating assumptions and the reduction in U.S. corporate tax rates.

Farmers Exchanges

The Farmers Exchanges are owned by their policyholders. Farmers Group, Inc., a wholly owned subsidiary of the Zurich Insurance Group, provides certain non-claims administrative, management, and ancillary services to the Farmers Exchanges as attorney-in-fact and receives fees for its services.

Financial information about the Farmers Exchanges is proprietary to the Farmers Exchanges, but is provided to support an understanding of the performance of Farmers Group, Inc. and Farmers Re.

in USD millions, for the years ended December 31	2018	2017	Change
Gross written premiums	20,325	19,908	2%
Gross earned premiums	20,171	19,841	2%

The **Farmers Exchanges** showed continued growth in top-line through 2018. Gross written premiums for continuing operations increased by 3.7 percent compared to prior year, with growth coming in all lines of business and driven by a combination of rate increases, improved retention as a result of Farmers' customer focused strategy, further expansion into the eastern United States and the agreement with Uber to provide commercial rideshare insurance in Georgia and Pennsylvania. In the eastern United States, the Farmers Exchanges saw growth in gross written premiums of 33 percent year-on-year including the Uber rideshare business.

Top-line growth in continuing operations was partially offset by the run-off of discontinued operations, consisting primarily of two books of business: 21st Century outside of California and Hawaii and approximately USD 200 million of gross written premiums of business insurance distributed through independent agents, to which renewal rights were sold in February 2018. It is expected that the impact on growth from the run-off of this portfolio will be significantly reduced in 2019.

Group Functions and Operations

in USD millions, for the years ended December 31	2018	2017	Change
Holding and Financing	(425)	(430)	1%
Headquarters	(397)	(281)	(41%)
Total business operating profit	**(822)**	**(711)**	**(16%)**

The business operating loss reported under **Group Functions & Operations** increased by USD 111 million to USD 822 million. Lower recharges to business units more than offset reduced Headquarters expenses, while the Holding and Financing result benefited from gains on currency hedges. The 2018 figure also includes a USD 17 million charge relating to the ZIC Group's restructuring charges recognized within the business operating profit, compared with a charge of USD 38 million in 2017.

Non-Core Businesses

in USD millions, for the years ended December 31	2018	2017	Change
Zurich Legacy Solutions	44	27	60%
Other run-off	(7)	47	nm
Total business operating profit	**37**	**74**	**(50%)**

Non-Core business operating profit was USD 37 million reflecting the completion of a number of transactions, including the transfer of the German med-mal portfolio to Catalina and the sale of an Australian compulsory third-party liability portfolio to Enstar Group, as well as some expenses related to the reinsurance of the UK employers liability portfolio to Catalina announced in December 2018.

Consolidated financial statements

Contents

Consolidated income statements

in USD millions, for the years ended December 31	Notes	2018	2017
Revenues			
Gross written premiums		47,038	46,685
Policy fees		2,447	2,429
Gross written premiums and policy fees		49,485	49,114
Less premiums ceded to reinsurers		(8,255)	(7,977)
Net written premiums and policy fees		41,230	41,136
Net change in reserves for unearned premiums	10	(224)	(79)
Net earned premiums and policy fees		41,007	41,057
Farmers management fees and other related revenues	26	3,204	2,892
Net investment income on Group investments		5,385	5,212
Net capital gains/(losses) and impairments on Group investments		902	2,036
Net investment result on Group investments	6	6,287	7,248
Net investment result on unit-linked investments		(4,374)	11,664
Net gains/(losses) on divestment of businesses	5	(24)	(84)
Other income		1,080	1,181
Total revenues		47,180	63,957
Benefits, losses and expenses			
Insurance benefits and losses, gross of reinsurance	10	33,483	34,579
Less ceded insurance benefits and losses	10	(5,837)	(6,252)
Insurance benefits and losses, net of reinsurance	10	27,646	28,328
Policyholder dividends and participation in profits, net of reinsurance	10	(2,736)	12,984
Underwriting and policy acquisition costs, net of reinsurance	10	8,565	9,039
Administrative and other operating expense	12	7,825	7,186
Interest expense on debt		403	412
Interest credited to policyholders and other interest		433	546
Total benefits, losses and expenses		42,136	58,494
Net income before income taxes		5,044	5,463
of which: Attributable to non-controlling interests		474	535
Income tax (expense)/benefit	17	(1,126)	(1,831)
attributable to policyholders	17	183	(171)
attributable to shareholders	17	(1,310)	(1,660)
of which: Attributable to non-controlling interests		(154)	(160)
Net income after taxes		**3,917**	**3,632**
attributable to non-controlling interests		320	375
attributable to shareholders		3,597	3,257

The notes to the consolidated financial statements are an integral part of these consolidated financial statements.

Consolidated financial statements (continued)

Consolidated statements of comprehensive income

in USD millions, for the years ended December 31

	Net income attributable to shareholders	Net unrealized gains/(losses) on available-for-sale investments	Cash flow hedges
2017			
Comprehensive income for the period	3,257	290	(9)
Details of movements during the period			
Change (before reclassification, tax and foreign currency translation effects and after allocation to policyholders)		1,508	(23)
Reclassification to income statement (before tax, foreign currency translation effects and allocation to policyholders)		(1,552)	(18)
Reclassification to retained earnings		–	–
Deferred income tax (before foreign currency translation effects)		130	14
Foreign currency translation effects		205	18
2018			
Comprehensive income for the period	3,597	(2,445)	(47)
Details of movements during the period			
Change (before reclassification, tax and foreign currency translation effects and after allocation to policyholders)		(2,068)	(5)
Reclassification to income statement (before tax, foreign currency translation effects and allocation to policyholders)		(733)	(48)
Reclassification to retained earnings		–	–
Deferred income tax (before foreign currency translation effects)		418	11
Foreign currency translation effects		(63)	(5)

The notes to the consolidated financial statements are an integral part of these consolidated financial statements.

Cumulative foreign currency translation adjustment	Total other comprehensive income recycled through profit or loss	Revaluation reserve	Net actuarial gains/(losses) on pension plans	Total other comprehensive income not recycled through profit or loss	Total other comprehensive income attributable to shareholders	Total comprehensive income attributable to shareholders	Total comprehensive income attributable to non-controlling interests	Total comprehensive income
1,100	1,381	(7)	348	341	1,723	4,980	523	5,502
1,080	2,565	15	1,018	1,033	3,598			
20	(1,550)	–	–	–	(1,550)			
–	–	(22)	–	(22)	(22)			
–	144	–	(384)	(384)	(240)			
–	223	–	(286)	(286)	(63)			
(1,094)	(3,586)	(17)	580	563	(3,023)	573	195	768
(1,094)	(3,167)	39	550	589	(2,578)			
–	(781)	–	–	–	(781)			
–	–	(66)	–	(66)	(66)			
–	430	9	(95)	(86)	344			
–	(67)	–	126	126	59			

Consolidated balance sheets

Assets

in USD millions, as of December 31	Notes	2018	2017
Assets:			
Cash and cash equivalents		**8,695**	**8,464**
Total Group investments	6	183,341	194,435
Equity securities		16,915	18,138
Debt securities		139,870	148,261
Investment property		12,351	12,238
Mortgage loans		6,556	7,047
Other loans		7,614	8,730
Investments in associates and joint ventures		36	21
Investments for unit-linked contracts		109,294	120,699
Total investments		**292,635**	**315,134**
Reinsurers' share of liabilities for insurance contracts	8	21,197	20,918
Deposits made under reinsurance contracts		883	1,269
Deferred policy acquisition costs	11	19,541	18,663
Deferred origination costs	11	419	460
Receivables and other assets	15	18,184	18,189
Deferred tax assets	17	1,125	1,075
Assets held for sale[1]	5	24,124	29,371
Property and equipment	13	1,037	961
Attorney-in-fact contracts	14	1,025	1,025
Goodwill	14	2,634	2,353
Other intangible assets	14	4,542	4,762
Total assets		**396,042**	**422,645**

[1] In 2018, the ZIC Group reclassified USD 24 b A181488 illion of assets to held for sale based on agreements signed to sell business in the UK, Venezuela and Germany (see note 5). In addition, assets held for sale include land and buildings formerly classified as investment property and held for own use amounting to USD 29 million. In 2017, the ZIC Group reclassified USD 29 billion of assets to held for sale based on agreements signed to sell business in the UK (see note 5). In addition, assets held for sale include land and buildings formerly classified as investment property and held for own use amounting to USD 50 million.

Liabilities and equity

in USD millions, as of December 31	Notes	2018	2017
Liabilities			
Liabilities for investment contracts	9	51,439	55,627
Deposits received under ceded reinsurance contracts		612	512
Deferred front-end fees		5,177	5,429
Liabilities for insurance contracts	8	249,208	263,805
Obligations to repurchase securities		1,316	1,394
Other liabilities	16	14,674	17,024
Deferred tax liabilities	17	3,915	4,357
Liabilities held for sale[1]	5	25,539	29,271
Senior debt	18	5,336	3,950
Subordinated debt	18	6,775	6,938
Total liabilities		**363,992**	**388,306**
Equity			
Share capital	19	660	660
Additional paid-in capital	19	11,761	14,427
Net unrealized gains/(losses) on available-for-sale investments		596	3,042
Cash flow hedges		363	410
Cumulative foreign currency translation adjustment		(8,244)	(7,150)
Revaluation reserve		211	228
Retained earnings		24,499	20,353
Shareholders' equity		29,844	31,969
Non-controlling interests		2,206	2,370
Total equity		**32,050**	**34,338**
Total liabilities and equity		**396,042**	**422,645**

[1] In 2018, the ZIC Group reclassified USD 26 billion of liabilities to held for sale based on agreements to sell certain businesses in the UK, Venezuela and Germany (see note 5). In 2017, the ZIC Group reclassified USD 29 billion of liabilities to held for sale based on agreements to sell certain businesses in the UK (see note 5).

Consolidated financial statements (continued)

Consolidated statements of cash flows

in USD millions, for the years ended December 31	**2018**	2017
Cash flows from operating activities		
Net income attributable to shareholders	3,597	3,257
Adjustments for:		
Net (gains)/losses on divestment of businesses	24	84
(Income)/expense from equity method accounted investments	(1)	(3)
Depreciation, amortization and impairments of fixed and intangible assets	898	936
Other non-cash items	33	450
Underwriting activities:	(8,726)	13,940
Liabilities for insurance contracts, gross	(1,547)	6,778
Reinsurers' share of liabilities for insurance contracts	(744)	(1,543)
Liabilities for investment contracts	(5,424)	7,760
Deferred policy acquisition costs	(1,506)	308
Deferred origination costs	19	15
Deposits made under assumed reinsurance contracts	365	705
Deposits received under ceded reinsurance contracts	110	(83)
Investments:	9,363	(13,794)
Net capital (gains)/losses on total investments and impairments	5,273	(12,203)
Net change in derivatives	(7)	(229)
Net change in money market investments	563	(1,528)
Sales and maturities		
Debt securities	62,295	71,787
Equity securities	66,047	52,611
Other	7,093	7,502
Purchases		
Debt securities	(61,496)	(71,521)
Equity securities	(64,605)	(53,753)
Other	(5,801)	(6,459)
Net changes in sale and repurchase agreements	(19)	24
Movements in receivables and payables	(1,066)	609
Net changes in other operational assets and liabilities	(1,008)	405
Deferred income tax, net	14	(288)
Net cash provided by/(used in) operating activities	3,108	5,622

The notes to the consolidated financial statements are an integral part of these consolidated financial statements.

in USD millions, for the years ended December 31	**2018**	2017
Cash flows from investing activities		
Additions to tangible and intangible assets	(1,152)	(530)
Disposals of tangible and intangible assets	292	29
(Acquisitions)/disposals of equity method accounted investments, net	(17)	3
Acquisitions of companies, net of cash acquired	(465)	(578)
Divestments of companies, net of cash divested	(13)	220
Dividends from equity method accounted investments	1	1
Net cash provided by/(used in) investing activities	(1,352)	(856)
Cash flows from financing activities		
Dividends paid	(210)	(2,948)
Redemption of preferred securities and transactions with non-controlling interests	(2,666)	–
Issuance of debt	3,077	19
Repayment of debt	(1,566)	(1,049)
Net cash provided by/(used in) financing activities	(1,366)	(3,978)
Foreign currency translation effects on cash and cash equivalents	(319)	418
Change in cash and cash equivalents	70	1,206
Cash and cash equivalents as of January 1	9,086	7,880
Total cash and cash equivalents as of December 31	**9,156**	**9,086**
of which: Cash and cash equivalents	8,695	8,464
of which: Unit-linked	461	622
Other supplementary cash flow disclosures		
Other interest income received	4,851	4,783
Dividend income received	1,993	1,710
Other interest expense paid	(884)	(936)
Income taxes paid	(1,551)	(1,557)

Cash and cash equivalents

in USD millions, as of December 31	**2018**	2017
Cash and cash equivalents comprise the following:		
Cash at bank and in hand	8,515	7,976
Cash equivalents	641	1,109
Total	**9,156**	**9,086**

For the periods ended December 31, 2018 and 2017, cash and cash equivalents held to meet local regulatory requirements were USD 825 million and USD 652 million, respectively.

Consolidated financial statements (continued)

Consolidated statements of changes in equity

in USD millions

	Share capital	Additional paid-in capital
Balance as of December 31, 2016	660	14,427
Issuance of share capital	–	–
Dividends to shareholders	–	–
Redemption of preferred shares	–	–
Share-based payment transactions	–	–
Treasury share transactions	–	–
Reclassification from revaluation reserves	–	–
Total comprehensive income for the period, net of tax	–	–
Net income	–	–
Net unrealized gains/(losses) on available-for-sale investments	–	–
Cash flow hedges	–	–
Cumulative foreign currency translation adjustment	–	–
Revaluation reserve	–	–
Net actuarial gains/(losses) on pension plans	–	–
Net changes in capitalization of non-controlling interests	–	–
Balance as of December 31, 2017	660	14,427
Balance as of December 31, 2017 as previously reported	660	14,427
Effect of adoption IFRS 15[1]	–	–
Balance as of January 1, 2018 after the adoption of IFRS 15	660	14,427
Issuance of share capital	–	–
Dividends to shareholders	–	–
Redemption of preferred securities	–	(2,666)
Share-based payment transactions	–	–
Treasury share transactions	–	–
Reclassification from revaluation reserves	–	–
Total comprehensive income for the period, net of tax	–	–
Net income	–	–
Net unrealized gains/(losses) on available-for-sale investments	–	–
Cash flow hedges	–	–
Cumulative foreign currency translation adjustment	–	–
Revaluation reserve	–	–
Net actuarial gains/(losses) on pension plans	–	–
Net changes in capitalization of non-controlling interests	–	–
Balance as of December 31, 2018	**660**	**11,761**

[1] Effect of adoption of IFRS 15 'Revenue from Contracts with Customers' (see note 2).

	Net unrealized gains/(losses) on available-for-sale investments	Cash flow hedges	Cumulative foreign currency translation adjustment	Revaluation reserve	Retained earnings	Shareholders' equity	Non-controlling interests	Total equity
–	2,753	418	(8,251)	235	19,122	29,363	2,292	31,656
–	–	–	–	–	–	–	–	–
–	–	–	–	–	(2,397)	(2,397)	(339)	(2,736)
–	–	–	–	–	–	–	–	–
–	–	–	–	–	5	5	–	5
–	–	–	–	–	–	–	–	–
–	–	–	–	–	17	17	–	17
–	289	(9)	1,100	(7)	3,605	4,979	523	5,502
–	–	–	–	–	3,257	3,257		
–	290	–	–	–	–	290		
–	–	(9)	–	–	–	(9)		
–	–	–	1,100	–	–	1,100		
–	–	–	–	(7)	–	(7)		
–	–	–	–	–	348	348		
–	–	–	–	–	–	–	(106)	(106)
–	3,042	410	(7,150)	228	20,353	31,969	2,370	34,338
–	3,042	410	(7,150)	228	20,353	31,969	2,370	34,338
–	–	–	–	–	(67)	(67)	(3)	(70)
–	3,042	410	(7,150)	228	20,286	31,902	2,367	34,269
–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	(210)	(210)
–	–	–	–	–	–	(2,666)	–	(2,666)
–	–	–	–	–	(1)	(1)	–	(1)
–	–	–	–	–	–	–	–	–
–	–	–	–	–	36	36	–	36
–	(2,446)	(47)	(1,094)	(17)	4,177	573	195	768
–	–	–	–	–	3,597	3,597		
–	(2,445)	–	–	–	–	(2,445)		
–	–	(47)	–	–	–	(47)		
–	–	–	(1,094)	–	–	(1,094)		
–	–	–	–	(17)	–	(17)		
–	–	–	–	–	580	580		
–	–	–	–	–	–	–	(145)	(145)
–	**596**	**363**	**(8,244)**	**211**	**24,499**	**29,844**	**2,206**	**32,050**

Zurich Insurance Company Ltd (ZIC) and its subsidiaries (collectively the Zurich Insurance Company Group or ZIC Group) is a provider of insurance products and related services. The ZIC Group operates in Europe, Middle East & Africa (EMEA), North America, Latin America and Asia Pacific through subsidiaries, as well as branch and representative offices.

Zurich Insurance Company Ltd, is incorporated in Zurich, Switzerland. The registered office is Mythenquai 2, 8002 Zurich, Switzerland. Zurich Insurance Company Ltd is a wholly owned subsidiary of Zurich Insurance Group Ltd and together with its subsidiaries forms part of the Zurich Insurance Group (collectively the Group).

On March 8, 2019, the Board of Directors of Zurich Insurance Company Ltd authorized these consolidated financial statements for issue. These financial statements will be submitted for approval to the Annual General Meeting of Shareholders to be held on April 3, 2019.

1. Basis of presentation

General information

The consolidated financial statements of the ZIC Group have been prepared in accordance with International Financial Reporting Standards (IFRS) and comply with Swiss law. Where IFRS does not contain clear guidance governing the accounting treatment of certain transactions, including those that are specific to insurance and reinsurance products, IFRS permits reference to another comprehensive body of accounting principles that uses a similar conceptual framework. The ZIC Group's accounting policies for insurance and reinsurance contracts are therefore based on those developed by the ZIC Group before the adoption of IFRS 4 in areas where IFRS 4 did not include specific requirements. Before the adoption of IFRS 4, the ZIC Group typically applied U.S. GAAP pronouncements issued by the Financial Accounting Standards Board (FASB) on insurance and reinsurance contracts. Any changes to such pronouncements subsequent to this adoption are not reflected in the ZIC Group's accounting policies. In case of business combinations, the ZIC Group may decide to maintain the local statutory treatment if this does not distort the fair presentation of the financial position of the ZIC Group. If significant, the impact of such cases would be described elsewhere in the notes to these consolidated financial statements.

The accounting policies applied by the reportable segments are the same as those applied by the ZIC Group. The ZIC Group accounts for inter-segment revenues and transfers as if the transactions were with third parties at current market prices. Dividends, realized capital gains and losses as well as gains and losses on the transfer of net assets, are eliminated within the segment, whereas all other intercompany gains and losses are eliminated at ZIC Group level. In the consolidated financial statements, inter-segment revenues and transfers are eliminated.

Disclosures under IFRS 4 'Insurance Contracts' and IFRS 7 'Financial Instruments: Disclosures' relating to the nature and extent of risks, and capital disclosures under IAS 1 'Presentation of Financial Statements' have been included in the audited sections of the risk review on pages 3 to 24, and they form an integral part of the consolidated financial statements.

The ZIC Group's consolidated balance sheets are not presented using a current/non-current classification. The following balances are generally considered to be current: cash and cash equivalents, deferred policy acquisition costs on property & casualty contracts, receivables, reserve for premium refunds and obligations to repurchase securities.

The following balances are generally considered to be non-current: equity securities, investment property, investments in associates and joint ventures, deferred policy acquisition costs on life insurance contracts, deferred tax assets, property and equipment, goodwill, other intangible assets and deferred tax liabilities.

The following balances are mixed in nature (including both current and non-current portions): debt securities, mortgage loans, other loans, reinsurers' share of liabilities for insurance contracts, deposits made under assumed reinsurance contracts, deferred origination costs, other assets, reserves and investments for unit-linked contracts, liabilities for investment contracts, deposits received under ceded reinsurance contracts, deferred front-end fees, reserves for losses and loss adjustment expenses, reserves for unearned premiums, future life policyholder benefits, policyholder contract deposits and other funds, other liabilities, senior and subordinated debt, and assets and liabilities held for sale.

Maturity tables have been provided for the following balances: debt securities (table 6.4), derivative assets and derivative liabilities (tables 7.1 and 7.2), reserves for insurance contracts (tables 8.10a and 8.10b), liabilities for investment contracts (tables 9.3a and 9.3b), other financial liabilities (table 16.2) and outstanding debt (table 18.2).

All amounts in the consolidated financial statements, unless otherwise stated, are shown in U.S. dollars, rounded to the nearest million with the consequence that the rounded amounts may not add to the rounded total in all cases. All ratios and variances are calculated using the underlying amounts rather than the rounded amounts.

Table 1 summarizes the principal exchange rates used for translation purposes. Net gains/(losses) on foreign currency transactions included in the consolidated income statements were USD 63 million and USD 71 million for the years ended December 31, 2018 and 2017, respectively. Foreign currency exchange forward and swap gains/(losses) included in these amounts were USD 168 million and USD (12) million for the years ended December 31, 2018 and 2017, respectively. The functional currencies of the ZIC Group's entities in Venezuela have been changed from Bolivar Fuerte (VEF) to U.S. dollars (USD) as of January 1, 2018, to reflect the currency in which the Venezuela business mainly operates. The cumulative foreign currency translation adjustment loss of USD 258 million is reflected in equity and will be recognized upon closure of the sale of the ZIC Group's Venezuelan operations (see note 5).

Principal exchange rates

Table 1

USD per foreign currency unit	Consolidated balance sheets at end-of-period exchange rates		Consolidated income statements and cash flows at average exchange rates	
	12/31/18	12/31/17	**12/31/18**	12/31/17
Euro	1.1451	1.2007	1.1811	1.1292
Swiss franc	1.0163	1.0260	1.0224	1.0159
British pound	1.2746	1.3515	1.3354	1.2882
Brazilian real	0.2581	0.3023	0.2755	0.3134

Changes in presentation

IFRS 9 'Financial Instruments'

The Group has deferred the full implementation of IFRS 9 'Financial Instruments' until IFRS 17 'Insurance Contracts' becomes effective. For details on the implementation of IFRS 9, refer to notes 2 and 24.

Reclassifications

Insurance liabilities towards policyholders and reinsurers in the total amount of USD 2.5 billion at December 31, 2017, have been reclassified from other liabilities to liabilities for insurance contracts. In addition, some revenues related to administrative and other operating services provided between Group entities (inter-segment transactions) have been reclassified from other income to administrative and other operating expenses. Prior year comparative figures have been restated accordingly (see note 8 and 27, respectively).

2. New accounting standards and amendments to published accounting standards

Standards, amendments and interpretations effective or early adopted as of January 1, 2018 and relevant for the ZIC Group's operations

Table 2.1 shows new accounting standards or amendments to and interpretations of standards relevant to the ZIC Group that have been implemented for the financial year beginning January 1, 2018, with no material impact on the ZIC Group's financial position or performance. Amendments resulting from the IASB annual improvements project have no impact on the ZIC Group's financials.

Table 2.1

Standard/ Interpretation		Effective date
New standards/interpretations		
IFRS 15	Revenue from Contracts with Customers	January 1, 2018
IFRIC 22	Foreign Currency Transactions and Advance Consideration	January 1, 2018
Amended standards		
IFRS 2	Classification and Measurement of Share-based Payment Transactions	January 1, 2018
IFRS 4	Applying IFRS 9 with IFRS 4	January 1, 2018
IAS 40	Transfers of Investment Property	January 1, 2018

IFRS 15 'Revenue from Contracts with Customers'

IFRS 15 'Revenue from Contracts with Customers' establishes the principles that are applied when reporting information about the nature, amount, timing and uncertainty of revenue and cash flows from a contract with a customer (see note 3, paragraphs d) and g)). IFRS 15 does not apply to revenues relating to insurance contracts, lease contracts and financial instruments. As permitted by the transitional provisions of IFRS 15, the ZIC Group elected not to restate comparative figures. The cumulative effect of the application of IFRS 15 of USD 70 million net of tax (before non-controlling interest) was recognized in opening retained earnings to reverse income recognized prior to January 1, 2018 in respect of Farmers membership fees. Membership fee revenue that was previously recognized at the time of the policy issuance is recognized over the expected life of the customer relationship, as customer setup activities covered by that fee do not represent a separate performance obligation under IFRS 15. Similarly, the costs directly related to fulfilling the contract that were previously recognized as incurred are recognized as an asset and subsequently amortized using the same pattern as the related revenue.

Additionally, beginning January 1, 2018, certain reimbursements received for ancillary services incurred primarily on behalf of the Farmers Exchanges and the related expenses are presented on a gross basis totaling USD 287 million. Overall, application of IFRS 15 did not result in a material impact on the ZIC Group's financial position or performance.

Standards, amendments and interpretations issued that are not yet effective or adopted by the ZIC Group

Table 2.2 shows new accounting standards or amendments to and interpretations of standards relevant to the ZIC Group, which are not yet effective or adopted by the ZIC Group.

Table 2.2

Standard/ Interpretation		Effective date
New standards/interpretations		
IFRS 16	Leases	January 1, 2019
IFRS 9	Financial Instruments	January 1, 2021
IFRS 17	Insurance Contracts	January 1, 2021
IFRIC 23	Uncertainty over Income Tax Treatments	January 1, 2019
Amended standards		
IAS 19	Plan Amendment, Curtailment or Settlement	January 1, 2019
IAS 28	Long-term Interests in Associates and Joint Ventures	January 1, 2019
IFRS 3	Definition of a Business	January 1, 2020
IAS 1/IAS 8	Definition of Material	January 1, 2020
IFRS 9	Prepayment Features with Negative Compensation	January 1, 2022

IFRS 16 'Leases'

IFRS 16 'Leases' introduces new requirements for lease accounting which have an impact on contracts where the ZIC Group acts as a lessee (and intermediate lessor). Under IFRS 16, the ZIC Group will recognize a right-of-use asset and a lease liability for real estate rental contracts which are mainly classified as operating leases under IAS 17 'Leases'. For the transition to IFRS 16, the ZIC Group will apply the modified retrospective approach and not restate the comparative figures for the 2018 financial year. The option of measuring the right-of-use asset retrospectively available on a lease-by-lease asset will result in a negative cumulative effect of initially applying IFRS 16, however, this will not have a significant impact on the opening balance of retained earnings.

Based on the volume of in-force non-cancellable operating leases as of December 31, 2018 (see note 22) recognition of the right-of-use asset and corresponding discounted lease liability will result in an increase of both assets and liabilities of less than USD 2 billion. Going forward, the ZIC Group will make use of the optional recognition exemption for short-term leases and leases of low-value assets. Operating leases expenses for leases not covered by the recognition exemption will be replaced by interest expense, which is typically higher in the earlier periods of the lease, and depreciation of the right-of-use asset recognized on a straight-line basis. The resulting difference in the pattern of expense recognition is not expected to materially affect ZIC Group's operating performance.

IFRS 17 'Insurance contracts' and IFRS 9 'Financial Instruments'

IFRS 17 'Insurance contracts' was published on May 18, 2017 with an effective date of January 1, 2021 (retrospective application). IFRS 17 provides comprehensive guidance on accounting for insurance contracts and investment contracts with discretionary participation features. For non-life and short-term life insurance contracts IFRS 17 introduces mandatory discounting of loss reserves as well as a risk adjustment for non-financial risk, for which confidence level equivalent disclosure will be required. Further, IFRS 17 will change the presentation of insurance contract revenue, as gross written premium will no longer be presented in the statements of comprehensive income.

For long-duration life insurance contracts, IFRS 17 is expected to have a significant impact on actuarial modeling as granular cash flow projections and regular updates of all assumptions will be required resulting in either profit or loss volatility or affecting 'contractual service margin', a separate component of the insurance liability representing unearned profits from in-force contracts. Further, IFRS 17 introduces different measurement approaches for the insurance contract liabilities reflecting a different extent of policyholder participation in investment or insurance entity performance (non-participating, indirect participating, direct participating).

In September 2016, the IASB issued an amendment to IFRS 4 introducing a temporary exemption from the adoption of IFRS 9 for reporting entities that have not previously applied any version of IFRS 9 and whose activities are predominantly related to insurance. Based on the analysis performed as of December 31, 2015, the ZIC Group was eligible to apply the temporary exemption as the predominance ratio reflecting the share of liabilities connected with insurance to total liabilities exceeded 90 percent. No reassessment of eligibility was required during subsequent annual periods up to and including 2018 as there was no significant change in the activities performed by the ZIC Group. We refer to the Annual Report 2016 for further details on the eligibility assessment. Due to the strong interaction between underlying assets held and the measurement of participating insurance contracts, the ZIC Group decided to use the option to defer the full implementation of IFRS 9 until IFRS 17 becomes effective.

Under IFRS 9, all equity securities and fund investments, and more debt instruments will be measured at fair value through profit or loss because the characteristics of the contractual cash flows from such instruments are not solely payments of principal and interest on the principal amount outstanding. Furthermore, credit allowances for financial assets carried at amortized cost and debt securities measured at fair value, with changes in fair value recognized in other comprehensive income (OCI), are expected to increase due to the introduction of the expected credit loss methodology. Though overall profit or loss volatility is expected to increase under IFRS 9, the measurement approach for direct participating contracts in IFRS 17 allows such volatility to be largely absorbed in the measurement of insurance liabilities with an option to reflect in shareholders' equity (OCI) the effect of any asset-liability mismatch. For further information on effects from IFRS 9 see note 24.

In order to adopt IFRS 17 in the consolidated financial statements, a joint IFRS 17 and IFRS 9 ZIC Group Implementation Program (Program) sponsored by the ZIC Group Chief Financial Officer has been operating since 2017. A steering committee comprised of senior management from various functions (finance, risk, IT, operations and investment management) oversees the work performed by individual work streams.

A dedicated methodology work stream covers group accounting policies, actuarial methodologies and disclosure requirements to be consistently implemented throughout the ZIC Group. This work stream further contributes to the industry wide discussions on standard interpretation and its operational effects and closely monitors the developments in the IASB Transition Resource Group for IFRS 17 to evaluate the effects and align the accounting policies and actuarial methodologies accordingly. The implementation work stream drives the analysis of processes, data and systems implications which have revealed significant implementation challenges. However, considerable progress was made in 2018, finalizing the target solution landscape and developing pilot functionalities at ZIC Group and local levels to ensure readiness for the dry-run simulation scheduled for 2019. In 2019, the focus of the Program will be on finalizing the implementation efforts, analyzing the effects from IFRS 17 on the consolidated financial statements and education of key stakeholders.

At its November 2018 meeting the IASB tentatively decided to defer by one year, to January 1, 2022, the effective date of IFRS 17 given its plans to consider whether to explore amendments to IFRS 17, and given the criteria for assessing such potential amendments. The IASB also tentatively decided to defer the fixed expiry date for the temporary exemption in IFRS 4 from applying IFRS 9 to January 1, 2022, so that both standards can be applied simultaneously. The ZIC Group is monitoring IASB deliberations while continuing Program delivery according to the current implementation plan.

The ZIC Group is currently assessing the impact of the application of both IFRS 17 and IFRS 9. As of December 31, 2018, it was not practicable to quantify what the potential impact would be on the ZIC Group's financial position or performance once these standards will be adopted.

Other standards, amendments and interpretations shown in table 2.2 are expected to have no or only an insignificant impact on the ZIC Group's financial position or performance.

3. Summary of significant accounting policies

Significant accounting policies applied in these consolidated financial statements are set out below. These policies have been consistently applied to all years presented unless otherwise stated. Other accounting policies are presented as part of the respective note disclosures.

a) Consolidation principles

The ZIC Group's consolidated financial statements include the assets, liabilities, equity, revenues, expenses and cash flows of Zurich Insurance Company Ltd and its subsidiaries. A subsidiary is an entity that Zurich Insurance Company Ltd either directly or indirectly controls. The results of subsidiaries acquired are included in the consolidated financial statements from the date of acquisition. The results of subsidiaries that have been divested during the year are included up to the date control ceased. All intra-ZIC Group balances, profits and transactions are eliminated.

Changes in ownership interests in a subsidiary that do not result in a change in control are recorded within equity.

Non-controlling interests are shown separately in equity, consolidated income statements, consolidated statements of comprehensive income and consolidated statements of changes in equity.

The consolidated financial statements are prepared as of December 31 based on individual company financial statements at the same date. In some cases information is included with a time lag of up to three months. The consequent effect on the ZIC Group's consolidated financial statements is not material.

b) Foreign currency translation and transactions

Foreign currency translation

Due to the ZIC Group's economic exposure to the U.S. dollar (USD), the presentation currency of the ZIC Group's consolidated financial statements is USD. Many ZIC Group companies have a different functional currency, being that of the respective primary economic environment in which these companies operate. Assets and liabilities are translated into the presentation currency at end-of-period exchange rates, while income statements and statements of cash flows are translated at average exchange rates for the period. The resulting foreign currency translation differences are recorded directly in other comprehensive income (OCI) as cumulative translation adjustment (CTA).

Foreign currency transactions and balances

Foreign currency transactions are translated into the functional currency using the spot exchange rate at the date of the transaction or, for practical reasons, a weighted average rate, if exchange rates do not fluctuate significantly. Foreign currency monetary items and foreign currency non-monetary items that are carried at fair value are translated at end-of-period exchange rates. The resulting foreign currency translation differences are recorded in income, except for the following:

- Foreign currency translation differences that are recognized in OCI in conjunction with the recognition of unrealized gains or losses on available-for-sale investments; and
- Foreign currency translation differences arising on monetary items that form part of net investments in foreign operations, as well as foreign currency translation differences arising from monetary items that are designated as hedging instruments in a qualifying net investment hedge relationship, are included directly in OCI as CTA.

c) Common control business combination

A business combination of entities or businesses under common control is a business combination in which all of the combining entities or businesses are ultimately controlled by the same party or parties both before and after the business combination, and that control is not transitory. Business combinations between entities under common control are accounted for by applying the pooling of interest method. The acquirer (entity that receives the net assets or the equity interest) initially recognizes the assets and liabilities transferred at their previous carrying amounts in the accounts of the transferor at the date of transfer. Any difference between the consideration paid and the carrying value of the net assets received is recorded in shareholders' equity. Such business combinations are recorded as if they had taken place at the beginning of the earliest period presented (or the date that the entities were first under common control, if later), for the purpose of including the result of the transferee in the retained earnings of the acquirer.

d) Insurance contracts and investment contracts with discretionary participating features (DPF)

Classification

Contracts issued that transfer significant insurance risk to the ZIC Group and obligations arising from investment contracts with DPF are accounted for as insurance contracts.

The ZIC Group also issues products containing embedded options that entitle the policyholder to switch all or part of the current and future invested funds into another product issued by the ZIC Group. Where this results in the reclassification of an investment product to a product that meets the definition of an insurance contract, the previously held reserve and the related deferred origination costs are reclassified and are accounted for in accordance with the accounting policy that is to be applied to the new product on a prospective basis. As a consequence, no gain or loss is recognized when a contract is reclassified from an investment to an insurance contract.

Once a contract has been classified as an insurance contract, no reclassification can subsequently be made.

Premiums

Property & Casualty

Premiums from the sale of property & casualty products are generally recorded when written and are recognized as revenue in relation to the insurance coverage provided. The unearned premium reserve represents the portion of the premiums written related to the unexpired coverage period.

Life insurance

Premiums from traditional life insurance contracts, including participating contracts and annuity policies with life contingencies, are recognized as revenue when they are due from the policyholder. For single premium and limited pay contracts, premiums are recognized as revenue when due, with any excess profit deferred and recognized in income in a constant relationship to the insurance in-force or, for annuities, the amount of expected benefit payments.

Amounts collected as premiums from investment-type insurance contracts such as universal life, unit-linked and unitized with-profits contracts are generally reported as deposits. Revenue from these contracts consists of policy fees for the cost of insurance, administration and surrenders during the period. Front-end fees charged to the customer at inception, particularly for single premium contracts, are deferred and recognized over the estimated life of the contracts following the same pattern that is applied to deferred acquisition costs and addressed below. Regular fees charged to the customer periodically (monthly, quarterly or annually) either directly or by making a deduction from invested funds are billed in advance and recognized on a straight-line basis over the period in which the service is rendered. Fees charged at the end of the period are accrued over the service period as a receivable and are offset against the financial liability when charged to the customer.

Cash flows from certain universal life-type contracts in the ZIC Group's Spanish operations are recognized as gross written premiums and insurance benefits and losses and not as deposits.

Reserves for losses and loss adjustment expenses

Losses and loss adjustment expenses are charged to income as incurred. Reserves for losses and loss adjustment expenses represent estimates of future payments of reported and unreported claims for losses and related expenses, with respect to insured events that have occurred. Any changes in estimates are reflected in the results of operations in the period in which estimates are changed. The ZIC Group does not discount its loss reserves, other than for claims with payment patterns which are fixed and reasonably determinable.

Reserves for life benefits

Future life policyholder benefits represent the estimated future benefit liability for traditional life insurance policies and include the value of accumulated declared bonuses or dividends that have vested to policyholders.

The reserves for life benefits for participating traditional life insurance policies are calculated using a net level premium valuation method based on actuarial assumptions taking into account guaranteed mortality benefits and interest rates.

The reserves for life benefits for other traditional life insurance policies are calculated using a net level premium valuation method based on actuarial assumptions including mortality, persistency, expenses and investment return, plus a margin for adverse deviations. These assumptions are locked in at inception and are regularly assessed as part of the liability adequacy testing over the period of the contract.

Policyholder contract deposits represent the estimated policy benefits for investment type insurance contracts invested in non unit-linked funds. This liability comprises the accumulation of premiums received, less charges, plus declared policyholder dividends.

Certain insurance contracts and investment contracts with DPF offered by the ZIC Group contain benefit features for which the amount and timing of declaration and payment are at the discretion of the Group. Where that discretion has not been exercised, the total amount expected to be allocated to policyholders as required by local insurance regulation or contractual provisions is included in the policyholder other funds.

Unrealized gains or losses arising on the revaluation of available-for-sale assets are recorded directly in OCI in accordance with the ZIC Group's accounting policy for such assets. Where these assets are related to life insurance, corresponding adjustments to the reserves for life benefits and related assets are also recognized directly in OCI.

Reserves for unit-linked contracts are based on the fair value of the financial instruments backing those contracts less any fees and assessments charged to the policyholders. The related assets for unit-linked insurance contracts are designated at fair value through profit or loss in order to reduce measurement inconsistencies**.**

For products containing guarantees in respect of minimum death benefits (GMDB), retirement income benefits (GRIB) and/or annuitization options (GAO), additional liabilities are recorded in proportion to the receipt of the contracted revenues which are subject to a loss adequacy test taking into account policyholder behavior and current market conditions.

For products managed on a dynamic basis, an option in IFRS 4 is used to measure insurance liabilities using current financial and non-financial assumptions to better reflect the way that these products are managed. Financial assets related to these liabilities are designated at fair value through profit or loss.

Deferred acquisition costs (DAC)

Costs that vary with and are directly related to the acquisition of new and renewal business, including for example commissions and certain underwriting and policy issue expenses, are deferred and subsequently amortized over a defined period. Such costs are presented on balance sheet net of commissions paid to reinsurers in respect of business ceded.

Property & Casualty

DAC for property & casualty contracts is amortized over the period in which the related premiums are earned.

Life insurance

DAC for traditional participating life insurance contracts is amortized based on estimated gross margins expected to be realized over the life of the contract. Estimated gross margins are updated for actual and anticipated future experience and discounted using the latest revised interest rate for the remaining benefit period. Resulting deviations are reflected in income.

DAC for other traditional life insurance and annuity contracts is amortized over the life of the contracts, based on expected premiums. Expected premiums are estimated at the date of policy issue for application throughout the life of the contract unless a premium deficiency subsequently occurs.

DAC for investment type insurance contracts such as universal life, unit-linked and unitized with-profits contracts is amortized based on estimated gross profits expected to be realized over the life of the contract. Estimated gross profits are updated for actual and anticipated future experience and discounted using either the interest rate in effect at the inception of the contracts or the latest revised interest rate for the remaining benefit period, depending on whether crediting is based on the policyholder's or on the reporting entity's investment performance. Resulting deviations are reflected in income.

Unamortized DAC for life insurance contracts accrues interest at a rate consistent with the related assumptions for reserves.

For traditional participating and investment-type life insurance contracts, DAC is adjusted for the impact of unrealized gains/(losses) on allocated investments that are recorded in OCI.

Liability adequacy tests

Liability adequacy tests are performed annually for groupings of contracts determined in accordance with the ZIC Group's manner of acquiring, servicing and measuring the profitability of its insurance contracts.

Property & Casualty

For property & casualty contracts, unearned premiums are tested to determine whether they are sufficient to cover related expected losses, loss adjustment expenses, policyholder dividends, unamortized DAC and maintenance expenses, using current assumptions and considering anticipated investment returns. If a premium deficiency is identified, the DAC asset for the respective grouping of contracts is written down by the amount of the deficiency. If, after writing down the DAC asset to nil, a premium deficiency still exists for the respective grouping of contracts, then a premium deficiency reserve is established for the amount of the remaining deficiency.

Life insurance

For life insurance contracts, the carrying amount of the existing reserve for life benefits, including any deferred front-end fees, reduced by the unamortized balance of DAC or present value of future profits of acquired insurance contracts (PVFP), is compared with the reserve for life benefits, calculated using revised assumptions for actual and anticipated experience as of the valuation date. If a deficiency is identified, the DAC or PVFP for the respective grouping of contracts is written down by the amount of the deficiency. If, after writing down the DAC or PVFP to nil, a deficiency still exists for the respective grouping of contracts, the reserve for life benefits is increased by the amount of the remaining deficiency.

Reinsurance

The ZIC Group's insurance subsidiaries cede risk in the normal course of business to limit the potential for losses arising from certain exposures. Reinsurance does not relieve the originating insurer of its liability. Certain ZIC Group insurance companies assume reinsurance business as part of their normal business.

Reinsurance contracts that do not transfer significant insurance risk are accounted for using the deposit method.

A deposit asset or liability is recognized based on the premium paid, or received less any explicitly identified premiums or fees to be retained by the ceding company. Interest on deposits is accounted for using the effective interest rate method. Future cash flows are estimated to calculate the effective yield, and revenues and expenses are recorded as interest income or expense. Reinsurance deposit assets or liabilities also include funds deposited or held by the ZIC Group under assumed or ceded reinsurance contracts, respectively, when funds are retained by the reinsured under the terms of the contract.

Reinsurance is recorded gross in the consolidated balance sheet. Reinsurance assets include balances expected to be recovered from reinsurance companies for ceded paid and unpaid losses and loss adjustment expenses, ceded unearned premiums and ceded future life policy benefits. Amounts recoverable from reinsurers are estimated in a manner consistent with the assumptions used for the liabilities associated with the underlying insurance contracts.

Reinsurance assets are assessed for impairment on a regular basis and impairment losses, if any, are recorded in the same manner as for loans and receivables.

e) Liabilities for investment contracts (without DPF)

Investment contracts are those contracts that do not transfer significant insurance risk. The ZIC Group issues investment contracts without fixed terms (unit-linked) and investment contracts with fixed and guaranteed terms (fixed interest rate).

Unit-linked investment contracts

These represent portfolios maintained to meet the specific investment objectives of policyholders who bear the credit, market and liquidity risks related to the investments. The liabilities are carried at fair value, which is determined by reference to the underlying financial assets. Changes in fair value are recorded in income. The related assets for unit-linked investment contracts are designated at fair value through profit or loss in order to reduce measurement inconsistencies.

The services provided by the ZIC Group under such contracts are investment management and policy administration services that are provided over time and are not contingent on meeting specified performance criteria. Fees from such services are recognized ratably over the service period as policy fee revenue except where such fees are charged in connection with contract origination in which case such fees are recognized as contract liabilities (included within deferred front-end fees). The costs to fulfill over time services are generally recognized as incurred, except the costs of acquiring new investment contracts with investment management services, such as commissions and other incremental expenses directly related to the issuance of each new contract. Such fees enhance the resources that will be used to satisfy future performance obligations and – to the extent recoverable – are capitalized as contract asset (deferred origination costs; DOC) and amortized in line with the revenue generated by providing investment management services. Refer to note 11 for further information.

Investment contracts at amortized cost

Liabilities for investment contracts with fixed and guaranteed terms are measured at amortized cost using the effective interest rate method. Transaction costs are included in the calculation of the effective yield. As of each reporting date, the ZIC Group re-estimates the expected future cash flows and re-calculates the carrying amount of the financial liability by computing the present value of estimated future cash flows using the original effective interest rate for the financial liability. Any adjustment is immediately recognized in income.

f) Group investments excluding derivative financial instruments

Group investments are accounted for at either (a) fair value through OCI; (b) fair value through profit or loss; or (c) amortized cost.

The majority of Group investments are accounted for at fair value through OCI (available-for-sale financial assets) and include debt and equity securities as well as fund investments. Such assets are carried at fair value, with changes in fair value recognized in OCI, until the securities are either sold or impaired. Interest income determined using the effective interest method and dividend income from financial assets at fair value through OCI is included in net investment income. The cumulative unrealized gains or losses recorded in OCI are net of cumulative deferred income taxes, certain related life policyholder liabilities and deferred acquisition costs. When available-for-sale financial assets are sold, impaired or otherwise disposed of, the cumulative gains or losses are reclassified from OCI to income as net capital gains/(losses) on investments and impairments.

Group investments at fair value through profit or loss include debt and equity securities backing certain life insurance contracts with participation features, and financial assets evaluated on a fair value basis. The designation of these assets at fair value through profit or loss eliminates or significantly reduces a measurement inconsistency that would otherwise arise from measuring assets or recognizing the gains and losses on these assets on a different basis to the liabilities.

Group investments at amortized cost include debt securities for which the ZIC Group has the positive intention and ability to hold to maturity (held-to-maturity financial assets) as well as mortgage and other loans (loans and receivables). Such investments are carried at amortized cost using the effective interest rate method, less any charges for impairment. When an impairment is determined to have occurred, the carrying amount of held-to-maturity investments and loans and receivables is reduced through the use of an allowance account, and the movement in the impairment allowance is recognized in income as an impairment loss.

The ZIC Group recognizes regular purchases and sales of financial assets on the trade date, which is the date on which the ZIC Group commits to purchase or sell the asset.

Realized and unrealized gains and losses arising from changes in the fair value are recognized in income, within net capital gains/(losses) on investments and impairments, in the period in which they arise. Interest income determined using the effective interest method and dividend income from financial assets at fair value through profit or loss is included in net investment income.

Group investments include investment property accounted for at fair value through profit or loss. Rental income from investment property is recognized on a straight-line basis over the lease term and included in net investment income along with rental operating expenses for investment property recognized on an accrual basis.

Group investments include the following in cash and cash equivalents: cash on hand, deposits held at call with banks, cash collateral received, and other highly liquid investments with maturities of three months or less from the date of acquisition that are readily convertible into cash and are subject to an insignificant risk of change in fair value. Cash and cash equivalents are stated at current redemption value.

Impairment of financial assets

The ZIC Group assesses at each reporting date whether there is objective evidence that loss events have occurred that negatively affect the estimated future cash flows of a financial asset or a group of financial assets. The evaluation of whether a financial asset is impaired requires significant judgment (see note 4).

g) Derivative financial instruments and hedge accounting

Derivative financial instruments, except those designated under a qualifying cash flow or net investment hedge relationship, are carried at fair value on the balance sheet with changes in fair value recognized in income.

Derivative financial instruments that qualify for hedge accounting

Derivative financial instruments are used by the ZIC Group to economically hedge risks. In limited circumstances derivative financial instruments are designated as hedging instruments for accounting purposes in:

- Fair value hedges which are hedges of the exposure to changes in the fair value of a recognized asset or liability
- Cash flow hedges, which are hedges of the exposure to variability in cash flows attributable to a particular risk either associated with a recognized asset or liability, or a highly probable forecast transaction that could affect profit or loss
- Net investment hedges, which are hedges of a net investment in a foreign operation

All hedge relationships are formally documented, including the risk management objectives and strategy for undertaking the hedge. At inception of a hedge and on an ongoing basis, the hedge relationship is formally assessed to determine whether the hedging instruments are expected to be (prospective assessment) and have been (retrospective assessment) highly effective in offsetting changes in fair values or cash flows of hedged items attributable to the hedged risk. If the qualifying criteria for the application of hedge accounting are no longer met, the hedge relationship is discontinued prospectively, in which case the hedging instrument and the hedged item are then subsequently reported independently in accordance with the respective accounting policy.

The accounting treatment of a qualifying hedge relationship is further described in note 7.

h) Attorney-in-fact (AIF) contracts

The AIF contracts reflect the ability of the ZIC Group to generate future revenues through Farmers Group Inc. (FGI) based on the FGI's relationship with the Farmers Exchanges. The Farmers Exchanges are managed but not owned by FGI, a wholly owned subsidiary of the ZIC Group. In determining that these relationships have an indefinite useful life, the ZIC Group took into consideration the organizational structure of inter-insurance exchanges, under which subscribers exchange contracts with each other and appoint an attorney-in-fact to provide non-claims management services, and the historical AIF relationship between FGI and the Farmers Exchanges. The value of the AIF contracts is tested for impairment at least annually.

The services provided by FGI under such contracts are non-claims administrative and management services including risk selection, preparation and mailing of policy documents and invoices, premium collection, management of the investment portfolios and certain other administrative and managerial functions. The multiple performance obligations covered by the consideration received are considered to be a series with the same pattern of transfer, therefore, the performance obligations are not separated. Farmers management fees and other related revenues that are primarily determined as a percentage of gross premiums earned by the Farmers Exchanges are recognized ratably over the period the services are provided. Membership fees charged at the time of the policy issuance are recognized as revenue over the expected life of the customer relationship. The incremental costs incurred in connection with the customer setup activity are recognized as an asset and subsequently amortized using the same pattern as the related revenue. Refer to note 26 for further information.

i) Goodwill

Goodwill on the acquisition of subsidiaries is capitalized and tested for impairment annually, or more frequently if there are indications of impairment. For the purpose of impairment testing, goodwill is allocated to cash-generating units (CGUs) based on the level at which management monitors operations and makes decisions related to the continuation or disposal of assets and operations. If goodwill has been allocated to a CGU and an operation within that unit is disposed of, the carrying amount of the operation includes attributable goodwill when determining the gain or loss on disposal.

j) Intangible assets

All intangible assets have finite lives and are carried at cost, less accumulated amortization and impairments. Such assets are generally amortized using the straight-line method over their useful lives and reviewed for impairment at least annually, or whenever events or changes in circumstances indicate that the carrying amount may not be recoverable.

Present value of future profits from acquired insurance contracts (PVFP)

An intangible asset representing the PVFP arises from the acquisition of life insurance businesses. Such an asset is amortized over the expected life of the acquired contracts, following the same principles as for DAC. The carrying value of the PVFP asset is tested periodically for impairment as part of the liability adequacy test for insurance contracts.

Distribution agreements

Distribution agreements may have useful lives extending up to 30 years, estimated based on the period of time over which they are expected to provide economic benefits, but for no longer than the contractual term, after taking into account all economic and legal factors such as stability of the industry, competitive position and the period of control over the assets.

Software

Costs associated with research and maintenance of internally-developed computer software are expensed as incurred. Costs incurred during the development phase are capitalized. Software under development is tested for impairment annually.

Acquired computer software licenses are capitalized on the basis of the costs incurred to acquire and bring the specific software into use.

The useful lives of computer software licenses and capitalized internal software development costs generally range from three to five years. In limited circumstances, capitalized software development costs may be amortized over a period of up to ten years, taking into account the effects of obsolescence, technology, competition and other economic and legal factors.

k) Employee benefits

Share-based compensation and cash incentive plans

The ZIC Group operates long-term incentive plans that are accounted for as cash-settled share-based compensation plans. The fair value of these incentive plans is determined at the grant date and is recognized as an expense in income over the vesting period, with a corresponding increase recorded within other liabilities for employee benefit plans.

Subsequently, the fair value of the liability is re-measured at the end of each reporting period with any changes in fair value recognized in profit or loss for the period.

Retirement benefits

Contributions to defined contribution plans are recorded as an expense in the period in which the economic benefit from the employees' service was received.

Defined benefit plan obligations and contributions are determined annually by qualified actuaries using the projected unit credit method. The ZIC Group's expense related to these plans is accrued over the employees' service periods based on the actuarially determined cost for the period. Net interest and service costs are determined using the spot rate approach. Actuarial gains and losses are recognized, in full in the period in which they occur, in OCI. Past service costs, which result from plan amendments and curtailments, are recognized in income when the plan amendment or curtailment occurs (which is the date from which the plan change is irrevocable) and the date on which a constructive obligation arises. Settlement gains or losses are recognized in income when the settlement occurs.

Other post-employment benefits

Other post-employment benefits, such as medical care and life insurance, are also provided for certain employees and are primarily funded internally. Similar to defined benefit plans, the cost of such benefits is accrued over the service period of the employees based on the actuarially determined cost for the period.

4. Critical accounting judgments and estimates

The application of certain accounting policies necessitates critical accounting estimates that involve discretionary judgments and the use of assumptions which are susceptible to change due to inherent uncertainties. Because of the uncertainties involved, actual results could differ significantly from the assumptions and estimates made by management. Such critical accounting estimates are of significance to insurance reserves and deferred acquisition costs, the determination of fair value for financial assets and liabilities, impairment charges, deferred taxes and employee benefits.

a) Reserves for insurance contracts and deferred acquisition costs

Property & Casualty

The ZIC Group is required to establish reserves for payment of losses and loss adjustment expenses that arise from the ZIC Group's property & casualty products and the run-off of its former third party reinsurance operations. These reserves represent the expected ultimate cost to settle claims occurring prior to, but still outstanding as of, the balance sheet date. The ZIC Group establishes its reserves by product line, type and extent of coverage and year of occurrence. There are two categories of loss reserve: reserves for reported losses and reserves for incurred but not reported (IBNR) losses. Additionally, reserves are held for loss adjustment expenses, which contain the estimated legal and other expenses expected to be incurred to finalize the settlement of the losses.

The ZIC Group's reserves for reported losses and loss adjustment expenses are based on estimates of future payments to settle reported claims. The ZIC Group bases such estimates on the facts available at the time the reserves are established. These reserves are generally established on an undiscounted basis to recognize the estimated costs of bringing pending claims to final settlement. The reserve calculation takes into account inflation, as well as other factors that can influence the amount of reserves required, some of which are subjective and some of which are dependent on future events. In determining the level of reserves, the ZIC Group considers historical trends and patterns of loss payments, pending levels of unpaid claims and types of coverage. In addition, court decisions, economic conditions and public attitudes may affect the ultimate cost of settlement and, as a result, the ZIC Group's estimation of reserves. Between the reporting and final settlement of a claim circumstances may change, which may result in changes to established reserves. Items such as changes in law and interpretations of relevant case law, results of litigation, changes in medical costs, as well as costs of vehicle and home repair materials and labor rates can substantially impact ultimate settlement costs. Accordingly, the ZIC Group reviews and re-evaluates claims and reserves on a regular basis. Amounts ultimately paid for losses and loss adjustment expenses can vary significantly from the level of reserves originally set.

The ZIC Group establishes IBNR reserves, to recognize the estimated cost of losses for events which have already occurred but which have not yet been notified. These reserves are established to recognize the estimated costs required to bring such claims to final settlement. As these losses have not yet been reported, the ZIC Group relies upon historical information and statistical models, based on product line, type and extent of coverage, to estimate its IBNR liability. The ZIC Group also uses reported claim trends, claim severities, exposure growth, and other factors in estimating its IBNR reserves. These reserves are revised as additional information becomes available and as claims are actually reported.

The time required to learn of and settle claims is an important consideration in establishing the ZIC Group's reserves. Short-tail claims, such as those for motor and property damage, are normally reported soon after the incident and are generally settled within months. Long-tail claims, such as bodily injury, pollution, asbestos and product liability, can take years to develop and additional time to settle. For these claims, information concerning the event, such as the required medical treatment for bodily injury claims and the required measures to clean up pollution, may not be readily available. Accordingly, the reserving analysis of long-tail lines of business is generally more difficult and subject to greater uncertainties than for short-tail claims.

Since the ZIC Group does not establish reserves for catastrophes in advance of the occurrence of such events, these events may cause volatility in the levels of its incurred losses and reserves subject to the effects of reinsurance recoveries. This volatility may also be contingent upon political and legal developments after the occurrence of the event.

The ZIC Group uses a number of accepted actuarial methods to estimate and evaluate the amount of reserves recorded. The nature of the claim being reserved for and the geographic location of the claim influence the techniques used by the ZIC Group's actuaries. Additionally, the ZIC Group's Corporate Center actuaries perform periodic reserve reviews of the ZIC Group's businesses throughout the world. Management considers the results of these reviews and adjusts its reserves for losses and loss adjustment expenses, where necessary.

Life insurance

The reserves for future life policyholder benefits and policyholder contract deposits and other funds contain a number of assumptions regarding mortality or longevity, lapses, surrenders, expenses, discount rates and investment returns. These assumptions can vary by country, year of policy issuance and product type and are determined with reference to past experience adjusted for new trends, current market conditions and future expectations. As such the liabilities for future life policyholder benefits and policyholder contract deposits may not represent the ultimate amounts paid out to policyholders. For example:

- The estimated number of deaths determines the value of the benefit payments. The main source of uncertainty arises because of the potential for pandemics and wide-ranging lifestyle changes, such as changes in eating, smoking and exercise habits, which could result in earlier deaths for age groups in which the ZIC Group has significant exposure to mortality risk.
- For contracts that insure the risk of longevity, such as annuity contracts, an appropriate allowance is made for people living longer. Continuing improvements in medical care and social conditions could result in further improvements in longevity in excess of those allowed for in the estimates used to determine the liability for contracts where the ZIC Group is exposed to longevity risk.
- Under certain contracts, the ZIC Group has offered product guarantees (or options to take up product guarantees), including fixed minimum interest rate or mortality rate returns. In determining the value of these options and/or benefits, estimates have been made as to the percentage of contract holders that may exercise them. Changes in investment conditions could result in significantly more contract holders exercising their options and/or benefits than has been assumed.
- Estimates are made as to future investment income arising from the assets backing long-term insurance contracts. These estimates are based on current market returns as well as expectations about future economic and financial developments.
- Assumptions are determined with reference to current and historical customer data, as well as industry data. Interest rate assumptions reflect expected earnings on the assets supporting the future policyholder benefits. The information used by the ZIC Group's qualified actuaries in setting such assumptions includes, but is not limited to, pricing assumptions, available experience studies and profitability analysis.

Deferred policy acquisition costs and the present value of future profits (PVFP) are recognized on balance sheet only to the extent that they are recoverable from future policy income which also depends on the above assumptions. Recoverability is tested at contract inception and subsequently on a regular basis with reference to current expectations of future profits or margins.

See note 8 for further information on liabilities for insurance contracts and note 11 for deferred policy acquisition costs. Also refer to the insurance risk section of the risk review.

b) Fair value measurement

In determining the fair values of investments in debt and equity instruments traded on exchanges and in over-the-counter (OTC) markets, the ZIC Group makes extensive use of independent, reliable and reputable third party pricing providers and only in rare cases places reliance on valuations that are derived from internal models.

In addition, the ZIC Group's policy is to ensure that independently-sourced prices are developed by making maximum use of current observable market inputs derived from orderly transactions and by employing widely-accepted valuation techniques and models. When third party pricing providers are unable to obtain adequate observable information for a particular financial instrument, the fair value is determined either by requesting selective non-binding broker quotes or by using internal valuation models.

Valuations can be subject to significant judgment, especially when the fair value is determined based on at least one significant unobservable input parameter; such items are classified within level 3 of the fair value hierarchy. See notes 6, 7 and 23 for further information regarding the estimate of fair value.

c) Impairment of assets

Financial assets

A financial asset is considered impaired if there is objective evidence of impairment as a result of one or more occurred loss events that have an impact on the estimated future cash flows of the financial asset.

The evaluation of whether an available-for-sale debt security is impaired requires analysis of the credit standing of a particular issuer and involves management judgment. When assessing impairment of available-for-sale debt securities, the ZIC Group places emphasis on issuer specific factors, such as significant financial difficulty, default or delinquency on interest or principal payments. A credit rating downgrade, worsened liquidity or decline in fair value below the weighted-average cost is not by itself considered a loss event, but rather incorporated in the impairment analysis along with other available information.

The ZIC Group determines that there is objective evidence of impairment of an available-for-sale equity security, if at the reporting date:

- its fair value is below the weighted-average cost by an amount significantly exceeding the volatility threshold determined quarterly for the respective equity market (such as North America, Asia Pacific, UK, Switzerland and other European countries); or
- its fair value has been below the weighted-average cost for a prolonged period of 24 consecutive months or longer

Goodwill and attorney-in-fact (AIF) contracts

Goodwill is allocated to a cash generating unit (CGU) as outlined in note 3. The ZIC Group has defined the CGUs according to regions, separating Property & Casualty (P&C), Life businesses and other (see note 27). The CGUs which carry the majority of goodwill and AIF contracts are presented in table 4.

For goodwill impairment testing, the recoverable amount is the higher of its fair value less costs to sell and its value-in-use.

Fair value is determined, considering quoted market prices, current share values in the market place for similar publicly traded entities, and recent sale transactions of similar businesses.

Value-in-use is determined using the present value of estimated future cash flows expected to be generated from the CGU. Cash flow projections are based on financial budgets, which are approved by management, typically covering a three-year period or, if appropriate and adequately justified, a longer period, which may be necessary to more accurately represent the nature of the cash flows used to test the goodwill. Cash flows beyond this period are extrapolated using, among others, estimated perpetual growth rates, which typically do not exceed the expected inflation of the geographical areas in which the cash flows supporting the goodwill are generated. If cash flows are generated in different geographical areas with different expected inflation rates, weighted averages are used. The discount rates applied reflect the respective risk free interest rate adjusted for the relevant risk factors to the extent they have not already been considered in the underlying cash flows.

The discount rates used in the recoverable amount calculations for developed markets are based on the capital asset pricing model and consider government bond rates which are further adjusted for equity risk premium, appropriate beta and leverage ratio. In emerging markets, discount rates are based on the U.S. dollar discount rate taking into account inflation differential expectations and country risks. All input factors to the discount rates are based on observable market data.

The recoverable amounts of AIF contracts and goodwill are determined on the basis of value-in-use calculations further described above. The basis for determining the values assigned to the key assumptions are current market trends and earnings projections.

Table 4 sets out for the major CGUs the applied discount rates and the perpetual nominal growth rates beyond the projection period that depend on expectations about country-specific growth rates and inflation as of the date of valuation, as well as the value of goodwill and AIF contracts as of December 31, 2018. No impairment was identified.

Table 4

Discount and perpetual growth rates for goodwill and AIF contracts for major CGUs

	Business	in USD millions	Discount rates in % 2018	Discount rates in % 2017	Perpetual nominal growth rate in % 2018	Perpetual nominal growth rate in % 2017
Farmers	Farmers	1,845	9.7	10.8	–	–
North America	P&C	350	8.9	9.2	1.6	2.3
Europe, Middle East & Africa	P&C	264	7.4	7.4	1.9	1.9
Asia Pacific	P&C	665	8.2	7.8	2.0	2.3
Asia Pacific	Life	162	8.8	8.8	2.0	2.4
Latin America	P&C	213	16.1	15.6	4.7	4.4
Latin America	Life	103	11.2	–	3.0	–

Sensitivity tests have been performed on goodwill and AIF contracts that typically comprise of an analysis for either a decrease in cash flows of up to 30 percent, a decrease in the perpetual growth rate of up to 1.0 percentage point or an increase in the discount rate of up to 3.5 percentage points, so as to capture potential future variations in market conditions. The recoverability of the Latin America Property & Casualty CGU goodwill is very sensitive to key assumptions such as macroeconomic conditions, industry and market growth considerations, and cost factors in particular in Brazil, Argentina and Mexico.

In addition, the ZIC Group has recognized USD 52 million of goodwill relating to the acquisition of mobile solution technology. The recoverability of this goodwill is reliant upon successful achievement of ambitious growth targets.

Distribution agreements

Qualitative analyses have been performed on distribution agreements, typically comprised of an analysis of the current financial performance, any change in the conditions in the agreement and environment that would indicate an impairment. No impairment was identified.

See notes 3, 6, 13, 14 and 15 for further information on impairment of assets.

d) Deferred taxes

Deferred tax assets are recognized if sufficient future taxable income, including income from the reversal of existing taxable temporary differences and available tax planning strategies, is available for realization. The utilization of deferred tax assets arising from temporary differences between the carrying amounts of assets and liabilities in the consolidated financial statements and their tax bases depends on the generation of sufficient taxable profits in the period in which the underlying asset or liability is recovered or settled. If applicable tax law acknowledges different types of expenses to be tax deductible, deferred tax assets are only recognized if they give rise to deductions against the same type of taxable income. The utilization of deferred tax assets arising from unused tax losses or tax credits depends on the generation of sufficient taxable profits before the unused tax losses or tax credits expire. As of each balance sheet date, management evaluates the recoverability of deferred tax assets and, if it is considered probable that all or a portion of the deferred tax asset will not be utilized, then a valuation allowance is recognized.

See note 17 for further information on deferred taxes.

e) Employee benefits

The ZIC Group provides defined benefit plans and other post-employment plans. In assessing the ZIC Group's liability for these plans, critical judgments include estimates of mortality rates, rates of employment turnover, disability, early retirement, discount rates, future salary and pension increases and increases in long-term healthcare costs. Discount rates for significant plans are based on a yield curve approach. The ZIC Group sets the discount rate by creating a hypothetical portfolio of high-quality corporate bonds for which the timing and amount of cash flows approximate the estimated payouts of the defined benefit plan. These assumptions may differ from actual results due to changing economic conditions, higher or lower withdrawal rates, or longer or shorter life spans of participants. These differences may result in variability of pension income or expense recorded in future years.

See note 20 for further information on employee benefits.

5. Acquisitions and divestments

Transactions in 2018

Acquisitions

Blue Insurance

On October 3, 2018, Cover-More Australia Pty Ltd, a fully owned subsidiary of Zurich Insurance Company Ltd, completed the acquisition of Blue Insurance Ltd (Blue Insurance), an Irish domiciled insurance intermediary acquired for approximately USD 64 million, subject to performance adjustments. Based on the initial purchase price accounting, goodwill amounted to USD 35 million.

Adira Insurance

On September 27, 2018, the ZIC Group entered into agreements to acquire 80 percent of PT Asuransi Adira Dinamika (Adira Insurance) from PT Bank Danamon Indonesia (Bank Danamon) and a minority investor for approximately USD 414 million, with potential future incremental payments based on business performance. The transaction includes two separate long-term strategic cooperation agreements with Bank Danamon and PT Adira Dinamika Multi Finance TbK. The transaction is expected to close in the first half of 2019, subject to regulatory approval.

EuroAmerica portfolio in Chile

On April 20, 2018, the ZIC Group announced it had entered into an agreement to acquire the individual and group life insurance portfolios as well as the long-term savings operations of EuroAmerica in Chile. The ZIC Group finalized the acquisition on November 5, 2018, for an estimated aggregate price of USD 144 million, subject to closing adjustments. Based on the initial purchase price accounting, goodwill amounted to USD 102 million.

Travel Ace and Universal Assistance

On March 12, 2018, the ZIC Group announced the acquisition of Travel Ace and Universal Assistance, the leading providers of traveler assistance in Latin America for approximately USD 82 million. The transaction encompassed 19 legal entities operating throughout Latin America, most notably in Argentina, Brazil, Chile, Colombia and Mexico. Based on the initial purchase price accounting, goodwill amounted to USD 94 million.

QBE Latin America

On February 24, 2018, the ZIC Group entered into an agreement to acquire the Latin American operations of the Australian insurer QBE Insurance Group Limited (QBE) with operations in Argentina, Brazil, Colombia, Ecuador and Mexico, subject to regulatory approvals. On July 2, 2018, the acquisitions of Argentina and Brazil were closed for an amount of USD 196 million and USD 34 million, respectively. The acquisitions of Mexico and Ecuador were closed on August 31, 2018 and October 1, 2018, for an amount of USD 32 million and USD 52 million, respectively. The acquisition of Colombia was completed on February 1, 2019, for an amount of USD 36 million.

Table 5.1 shows the main balance sheet line items as of the acquisition dates, representing the fair value of acquired QBE Latin America's net tangible assets, intangible assets and goodwill, based on initial purchase price accounting.

Table 5.1

QBE Latin America balance sheet as of the acquisition dates

in USD millions	Total
Cash and cash equivalents	87
Total investments	307
Receivables and other assets	349
Deferred tax assets	18
Property and equipment	23
Goodwill	195
Other intangible assets	55
Assets acquired	**1,033**
Liabilities for insurance contracts	602
Other liabilities	118
Liabilities acquired	**720**
Net assets acquired	313
Total acquisition costs	**313**

QBE Latin America's net income after taxes for the months since the acquisition dates, as included in the ZIC Group consolidated income statements for the year ended December 31, 2018, amounts to USD 3 million including transaction-related costs. Pro-forma net income after taxes for the full 12 months ended December 31, 2018, amounts to approximately USD 21 million, adjusted for transaction-related costs incurred by QBE Latin America. In addition, the ZIC Group incurred transaction-related costs of approximately USD 9 million in non-technical expenses in BOP. The majority has been incurred in 2018.

Divestments

Held for sale

On December 21, 2018, the ZIC Group entered into an agreement to sell its 51 percent participation in ADAC Autoversicherung AG and the shares in Bonnfinanz AG. The sale of the shares in ADAC Autoversicherung AG became effective as of January 1, 2019, while the sale of Bonnfinanz AG is expected to close in the first half of 2019. As of December 31, 2018, assets and liabilities of USD 431 million and USD 294 million, respectively, were reclassified to held for sale.

On December 14, 2018, Zurich Insurance plc entered into an agreement with Catalina Holdings (Bermuda) Ltd and certain of its subsidiaries to transfer a portfolio of pre-2007 United Kingdom legacy employers' liability policies to Catalina London Limited, subject to regulatory and court approvals. The sale is expected to close in the second half of 2019. As of December 31, 2018, assets and liabilities reclassified to held for sale were USD 260 million and USD 1.8 billion, respectively.

On November 7, 2018, the ZIC Group entered into an agreement to sell its Venezuelan operations, subject to regulatory approval. The ZIC Group currently has USD 258 million of negative cumulative translation adjustments which will be recognized in the statement of income upon completion of the sale.

During the 12 months ended December 31, 2017, the ZIC Group entered into an agreement to sell a Life business in the UK. As of December 31, 2018, the related assets and liabilities held for sale decreased by USD 6 billion to USD 23 billion since December 31, 2017.

As of December 31, 2018, the total assets and liabilities reclassified to held for sale were USD 24 billion and USD 26 billion, respectively.

UK workplace pensions and savings business

On April 3, 2018, Sterling ISA Managers Limited completed the sale of its Corporate Savings Platform together with the associated infrastructure, assets and business to LBG subsidiary, Scottish Widows Administration Services Limited. The remaining business is to be transferred by Zurich Assurance Ltd to Scottish Widows Limited by a UK court process under Part VII of the Financial Services and Markets Act 2000. The target transfer date is July 1, 2019.

Endsleigh Limited
On March 29, 2018, the ZIC Group completed the sale of the Endsleigh Limited group of companies to A-Plan Holdings. A pre-tax loss of USD 116 million has been recorded within net gains/losses on divestment of businesses, of which USD 97 million were recognized in December 2017 at the time the sale was announced.

Transactions in 2017

Acquisitions

Bright Box
On December 22, 2017, the ZIC Group announced the acquisition of 100 percent of the shares of Bright Box HK Limited (Bright Box) and its subsidiaries, a provider of telematics solutions linking vehicle drivers, dealers and manufacturers. The purchase price amounted to USD 75 million, of which USD 25 million are dependent on meeting certain criteria. The net tangible assets acquired amounted to minus USD 2 million and intangible assets amounted to USD 25 million. Goodwill amounted to USD 52 million, and mainly reflects business know-how as well as technical capabilities. Bright Box was reported for the first time in 2018.

ANZ's life and consumer credit insurance businesses
On December 11, 2017, the ZIC Group announced it had entered into an agreement to acquire 100 percent of the Australian life insurance and consumer credit businesses (OnePath Life) of Australia and New Zealand Banking Group Limited (ANZ) for AUD 2.85 billion (USD 2 billion), subject to a purchase price adjustment. The transaction, which is subject to regulatory approval, is expected to be completed in the first half of 2019.

Cover-More
On April 13, 2017, the ZIC Group completed the acquisition of all the shares in Cover-More Group Limited (Cover-More), a travel insurance and assistance solutions provider listed on the Australian Securities Exchange, with main operations in Australia, India and the U.S. In conjunction with this acquisition, the ZIC Group also acquired Halo Insurance Services Limited (Halo), a distributor of vehicle-hire-related insurance in the UK.

The final purchase price for Cover-More and Halo amounted to USD 580 million gross of a pre-closing dividend of USD 14 million. Based on the initial purchase accounting, the fair value of net tangible assets acquired amounted to minus USD 99 million and identifiable intangible assets estimated at USD 163 million, gross of related deferred tax liabilities of USD 33 million. Residual goodwill amounted to USD 549 million, including a USD 16 million reduction of Goodwill and deferred tax liability in 2018, which represents the future growth potential of the travel insurance assistance business, the value of the workforce with their distribution capabilities and related know-how and synergies with the ZIC Group.

Table 5.2 shows the main balance sheet line items as of the acquisition date, representing the fair value of Cover-More and Halo net tangible assets acquired, intangible assets and goodwill.

Table 5.2

Cover-More balance sheet as of the acquisition date

in USD millions, as of April 13, 2017	Total
Cash and cash equivalents	38
Receivables and other assets	34
Property and equipment	4
Goodwill	549
Other intangible assets	163
Assets acquired	**787**
Other liabilities	182
Deferred tax liabilities	24
Liabilities acquired	**206**
Net assets acquired	581
Non-controlling interests	(1)
Total acquisition costs	**580**

Cover-More's net income after taxes for the nine months since the acquisition date, as included in the ZIC Group consolidated income statements for the year ended December 31, 2017, amounts to USD 17 million including transaction-related costs. Pro-forma net income after taxes for the full 12 months ended December 31, 2017, amounts to approximately USD 24 million, adjusted for transaction-related costs incurred by Cover-More.

In addition, the ZIC Group incurred transaction-related costs of approximately USD 10 million in non-technical expenses in BOP. The majority has been incurred in 2017.

Divestments

Middle East operations
On June 19, 2017, the ZIC Group closed the sale of its Property & Casualty insurance operations in the Middle East to Cigna International Corporation for a sales price of approximately USD 48 million subject to a purchase price adjustment. A pre-tax gain of USD 10 million has been recorded within net gains/(losses) on divestment of businesses.

Taiwan operations
On January 17, 2017, the ZIC Group closed the sale of its Property & Casualty insurance operations in Taiwan to Hotai Motor Co., Ltd for a sales price of approximately USD 213 million. A pre-tax loss of USD 9 million has been recorded within net gains/(losses) on divestment of businesses.

6. Group investments

Group investments are those for which the ZIC Group bears part or all of the investment risk. They also include investments related to investment contracts with discretionary participation features. Net investment result on Group investments includes returns on investment-related cash, which is included in cash and cash equivalents on the consolidated balance sheets.

Table 6.1

Net investment result on Group investments

in USD millions, for the years ended December 31	Net investment income		Net capital gains/(losses) and impairments		Net investment result		of which impairments	
	2018	2017	**2018**	2017	**2018**	2017	**2018**	2017
Investment cash	8	11	–	–	8	11	–	–
Equity securities	438	402	357	1,425	795	1,826	(218)	(77)
Debt securities	4,103	3,942	84	558	4,187	4,500	(32)	–
Investment property[1]	487	463	401	355	888	818	–	–
Mortgage loans	186	198	1	–	187	198	1	–
Other loans	382	415	14	9	397	424	12	8
Investments in associates and joint ventures	1	3	–	–	2	3	–	–
Derivative financial instruments	–	–	45	(310)	45	(310)	–	–
Investment result, gross, on Group investments	5,606	5,433	902	2,036	6,508	7,469	(238)	(69)
Investment expenses on Group investments	(221)	(221)	–	–	(221)	(221)	–	–
Investment result, net, on Group investments	**5,385**	**5,212**	**902**	**2,036**	**6,287**	**7,248**	**(238)**	**(69)**

[1] Rental operating expenses for investment property amounted to USD 98 million and USD 91 for the years ended December 31, 2018 and 2017, respectively.

Table 6.2

Details of Group investments by category

as of December 31	**2018**		2017	
	USD millions	**% of total**	USD millions	% of total
Equity securities:				
Fair value through profit or loss	3,633	2.0	3,597	1.8
Available-for-sale	13,282	7.2	14,542	7.5
Total equity securities	16,915	9.2	18,138	9.3
Debt securities:				
Fair value through profit or loss	5,229	2.9	5,699	2.9
Available-for-sale	132,522	72.3	140,240	72.1
Held-to-maturity	2,118	1.2	2,322	1.2
Total debt securities	139,870	76.3	148,261	76.3
Investment property	12,351	6.7	12,238	6.3
Mortgage loans	6,556	3.6	7,047	3.6
Other loans	7,614	4.2	8,730	4.5
Investments in associates and joint ventures	36	0.0	21	0.0
Total Group investments	**183,341**	**100.0**	**194,435**	**100.0**

Investments with a carrying value of USD 6.2 billion and USD 6.4 billion are held to meet local regulatory requirements as of December 31, 2018 and 2017, respectively.

Details of debt securities by category

Table 6.3

in USD millions, as of December 31	Fair value through profit or loss		Available-for-sale		Held-to-maturity		Total	Total
	2018	2017	**2018**	2017	**2018**	2017	**2018**	2017
Debt securities:								
Government and supra-national bonds	2,759	2,982	59,395	64,491	1,917	2,109	64,071	69,581
Corporate securities	2,061	2,320	55,229	58,711	201	214	57,490	61,245
Mortgage and asset-backed securities	409	397	17,899	17,038	–	–	18,308	17,434
Total debt securities	**5,229**	**5,699**	**132,522**	**140,240**	**2,118**	**2,322**	**139,870**	**148,261**

Debt securities maturity schedule

Table 6.4

in USD millions, as of December 31	Fair value through profit or loss		Available-for-sale		Held-to-maturity		Total	Total
	2018	2017	**2018**	2017	**2018**	2017	**2018**	2017
Debt securities:								
< 1 year	564	527	6,438	7,030	7	162	7,009	7,719
1 to 5 years	1,226	1,164	35,933	39,059	816	149	37,975	40,372
5 to 10 years	981	1,184	32,632	36,284	462	900	34,076	38,368
> 10 years	2,049	2,427	39,620	40,830	833	1,110	42,502	44,367
Subtotal	4,820	5,302	114,624	123,202	2,118	2,322	121,562	130,826
Mortgage and asset-backed securities:								
< 1 year	–	1	36	16	–	–	36	17
1 to 5 years	112	105	1,869	1,679	–	–	1,981	1,784
5 to 10 years	63	39	2,265	2,499	–	–	2,328	2,538
> 10 years	235	252	13,728	12,844	–	–	13,963	13,095
Subtotal	409	397	17,899	17,038	–	–	18,308	17,434
Total	**5,229**	**5,699**	**132,522**	**140,240**	**2,118**	**2,322**	**139,870**	**148,261**

The analysis in table 6.4 is provided by contractual maturity. Actual maturities may differ from contractual maturities because certain borrowers have the right to call or prepay certain obligations with or without call or prepayment penalties.

Investment property

Table 6.5

in USD millions	Total	
	2018	2017
As of January 1	12,238	10,562
Additions and improvements	757	1,124
Acquisitions/(divestments)	1	(2)
Disposals	(563)	(418)
Market value revaluation	247	243
Transfer from/to assets held for own use	–	51
Transfer to assets held for sale	(15)	(70)
Foreign currency translation effects	(315)	749
As of December 31	**12,351**	**12,238**

Investment property consists of investments in commercial, residential and mixed-use properties primarily located in Germany, U.S. and Switzerland.

Consolidated financial statements (continued)

Net unrealized gains/(losses) on Group investments included in equity

Table 6.6

in USD millions, as of December 31	Total	
	2018	2017
Equity securities: available-for-sale	84	1,830
Debt securities: available-for-sale	6,567	9,720
Other	165	350
Gross unrealized gains/(losses) on Group investments	6,816	11,900
Less amount of unrealized gains/(losses) on investments attributable to:		
Life policyholder dividends and other policyholder liabilities	(4,857)	(6,779)
Life deferred acquisition costs and present value of future profits	(490)	(702)
Deferred income taxes	(476)	(928)
Non-controlling interests	(34)	(40)
Total[1]	**959**	**3,452**

[1] Net unrealized gains/(losses) on Group investments include net gains arising on cash flow hedges of USD 363 million and USD 410 million as of December 31, 2018 and 2017, respectively.

Securities lending, repurchase and reverse repurchase agreements

Table 6.7

in USD millions, as of December 31	**2018**	2017
Securities lending agreements		
Securities lent under securities lending agreements[1]	599	970
Collateral received for securities lending	676	1,082
of which: Cash collateral	47	153
of which: Non-cash collateral[2]	629	929
Liabilities for cash collateral received for securities lending	47	153
Repurchase agreements		
Securities sold under repurchase agreements[3]	1,318	1,397
Obligations to repurchase securities	1,316	1,394
Reverse repurchase agreements		
Securities purchased under reverse repurchase agreements[4]	48	156
Receivables under reverse repurchase agreements	47	153

[1] The ZIC Group's counterparties had the right to sell or repledge, in the absence of default, assets pledged as collateral with a fair value of USD 599 million and USD 970 million as of December 31, 2018 and 2017, respectively. The majority of these assets were debt securities.
[2] The ZIC Group had the right to sell or repledge, in the absence of default by its counterparties, securities received as collateral with a fair value of USD 629 million and USD 818 million as of December 31, 2018 and 2017, respectively.
[3] The ZIC Group's counterparties had the right to sell or repledge, in the absence of default, assets pledged as collateral with a fair value of USD 609 million and USD 797 million as of December 31, 2018 and 2017, respectively. The majority of these assets were debt securities.
[4] The ZIC Group had the right to sell or repledge, in the absence of default by its counterparties, securities received as collateral with a fair value of nil as of December 31, 2018 and 2017.

Under the terms of securities lending or repurchase agreements, the ZIC Group retains substantially all the risks and rewards of ownership of the transferred securities, and also retains contractual rights to the cash flows from these securities. These securities are therefore not derecognized from the ZIC Group's consolidated balance sheet. Cash received as collateral is recorded as an asset, and a corresponding liability is established. Interest expense is charged to income using the effective interest rate method over the life of the agreement.

Under a reverse repurchase agreement, the securities received are not recognized on the ZIC Group's consolidated balance sheet, as long as the risk and rewards of ownership have not been transferred to the ZIC Group. The cash delivered by the ZIC Group is derecognized and a corresponding receivable is recorded within receivables and other assets. Interest income is recognized in income using the effective interest rate method over the life of the agreement.

7. Group derivative financial instruments and hedge accounting

The ZIC Group uses derivative financial instruments mainly for economic hedging purposes to mitigate risks. Such risks result from changes in interest rates, equity prices and exchange rates. Derivative financial instruments with a positive fair value are reported in receivables and other assets (see note 15) and those with a negative fair value are reported in other liabilities (see note 16).

Table 7.1 shows the fair value and notional amounts for instruments which did not qualify for hedge accounting as of December 31, 2018 and 2017. While these notional amounts express the extent of the ZIC Group's involvement in derivative transactions, they do not, however, represent the amounts at risk.

Table 7.1

Maturity profile of notional amounts and fair values of Group derivative financial instruments

in USD millions, as of December 31						**2018**			2017
	Maturity by notional amount				**Positive**	**Negative**			
		1 to 5		**Notional**	**fair**	**fair**	Notional	Positive	Negative
	< 1 year	years	> 5 years	**amounts**	**values**	**values**	amounts	fair values	fair values
Interest rate contracts:									
OTC									
Swaps	119	587	1,980	2,686	66	(15)	2,622	97	(12)
Swaptions	249	1,040	838	2,127	54	–	2,397	52	(17)
Exchange traded									
Futures	209	–	–	209	3	(2)	136	–	–
Total interest rate contracts	**577**	**1,627**	**2,818**	**5,022**	**123**	**(17)**	**5,155**	**149**	**(30)**
Equity contracts:									
OTC									
Options	2,528	634	200	3,361	67	(35)	4,761	70	(29)
Exchange traded									
Futures	225	–	–	225	7	–	363	–	(2)
Total equity contracts	**2,752**	**634**	**200**	**3,586**	**75**	**(35)**	**5,124**	**71**	**(32)**
Foreign exchange contracts:									
OTC									
Swaps and forwards	19,840	–	–	19,840	129	(155)	16,324	78	(50)
Total foreign exchange contracts	**19,840**	**–**	**–**	**19,840**	**129**	**(155)**	**16,324**	**78**	**(50)**
Credit default swaps	–	4,000	–	4,000	–	(31)	–	–	–
Total credit contracts	**–**	**4,000**	**–**	**4,000**	**–**	**(31)**	**–**	**–**	**–**
Other contracts:									
OTC									
Options	–	–	54	54	–	(4)	11	–	(1)
Swaps	–	–	42	42	–	(4)	46	–	(7)
Total other contracts	**–**	**–**	**95**	**95**	**–**	**(8)**	**58**	**–**	**(8)**
Total ZIC Group derivative financial instruments	**23,169**	**6,261**	**3,114**	**32,543**	**327**	**(245)**	**26,660**	**297**	**(119)**

Interest rate contracts

Interest rate contracts are used to hedge risks from changes in interest rates and to manage asset liability mismatches. Whenever possible the ZIC Group enters into exchange traded contracts, which are standardized and regulated. Furthermore, because of the structure of the exchanges, exchange traded contracts are not considered to carry counterparty risk. Over-the-counter (OTC) contracts are otherwise entered into and comprised of swaps and swaptions.

Equity contracts

Equity contracts are entered into, either on a portfolio or on a macro level, to protect the fair value of equity investments against a decline in equity market prices or to manage the risk return profile of equity exposures. The majority of positions are for economic hedging purposes. Short positions are always covered and sometimes used to mitigate hedging costs.

Foreign exchange contracts

Swaps and forward contracts are used to hedge the ZIC Group's foreign currency exposures and to manage balance sheet mismatches.

Credit contracts

Credit contracts are credit default swaps entered into either on a portfolio or on a macro level to limit market risks arising from the investment portfolios against a change in credit spreads or to manage the risk return profile of the credit exposures.

Other contracts

Other contracts predominantly include stable value products (SVPs) issued to insurance company separate accounts in connection with certain life insurance policies (Bank Owned Life Insurance (BOLI) and Company Owned Life Insurance (COLI)) with an account value of USD 10.8 billion as of December 31, 2018 and 2017, and with a market value of the underlying investments of USD 10.4 billion and USD 10.7 billion as of December 31, 2018 and 2017, respectively (not included in the table above). The ZIC Group includes the likelihood of surrender as one of the input parameters to determine the fair value of the SVPs which was nil as of December 31, 2018 and 2017.

In certain circumstances, derivative financial instruments meet the requirements of an effective hedge for accounting purposes. Where this is the case, hedge accounting may be applied. Financial information for these instruments is set out in table 7.2.

Table 7.2

Maturity profile of notional amounts and fair values of Group derivative financial instruments

in USD millions, as of December 31						**2018**			2017
	Maturity by notional amount			**Notional principal amounts**	**Positive fair values**	**Negative fair values**	Notional principal amounts	Positive fair values	Negative fair values
	< 1 year	1 to 5 years	> 5 years						
Fair value hedges:									
Cross currency swaps	–	–	62	62	–	(49)	62	–	(47)
Interest rate swaps	813	559	868	2,240	63	(1)	2,289	75	(8)
Forex swaps and forwards	478	–	–	478	4	(1)	336	1	(1)
Total fair value hedges	**1,291**	**559**	**930**	**2,779**	**67**	**(52)**	**2,687**	**76**	**(56)**
Cash flow hedges:									
Interest rate swaptions	–	859	1,265	2,124	424	–	2,144	450	–
Cross currency swaps	–	212	131	343	21	(4)	334	24	(17)
Interest rate swaps[1]	636	12	150	799	7	(4)	837	14	–
Forex swaps and forwards	31	–	–	31	–	(1)	772	7	–
Forwards bonds	229	57	–	286	20	(20)	300	10	(22)
Total cash flow hedges	**896**	**1,140**	**1,547**	**3,583**	**472**	**(29)**	**4,387**	**505**	**(39)**
Net investment hedges:									
Forex swaps and forwards	1,666	–	–	1,666	32	–	3,164	26	–
Total net investment hedges	**1,666**	**–**	**–**	**1,666**	**32**	**–**	**3,164**	**26**	**–**

[1] Includes USD 636 million and USD 667 million notional related to derivatives centrally cleared as of December 31, 2018 and 2017, respectively.

Fair value hedges

Designated fair value hedges consist of interest rate swaps used to protect the ZIC Group against changes in interest rate exposure and foreign currency exposure of debt issued by the ZIC Group.

Information on debt issuances designated as hedged items in fair value hedge relationships is set out in note 18.

The ZIC Group also has fair value hedge relationships consisting of cross currency swaps and forwards to protect the ZIC Group from foreign currency fluctuation of certain fixed income securities and hybrid equity securities denominated in a currency other than the functional currency of the reporting entity.

Changes in the fair value of the derivative financial instruments designated as fair value hedges and changes in the fair value of the hedged item in relation to the risk being hedged are both recognized in income.

Table 7.3 sets out gains and losses arising from fair value hedges:

Table 7.3

Gains/(losses) arising from fair value hedges

in USD millions, for the years ended December 31	**2018**	2017
Gains/(losses)		
on hedging instruments[1]	(7)	(38)
on hedged items attributable to the hedged risk	(2)	30

[1] Excluding current interest income, which is recognized as an offset on the same line as the interest expense of the hedged debt.

Cash flow hedges

Designated cash flow hedges, such as interest rate swaptions and forwards are used to protect the Group against variability of future cash flows due to changes in interest rates associated with expected future purchases of debt securities required for certain life insurance policies. The effective portion of the gains and losses on these swaptions are initially recognized in OCI. Subsequently the gains or losses will be recycled to profit or loss within net investment income on Group investments over the period to December 31, 2036. The gains and losses related to the ineffective portion of these hedges are recognized immediately in income within net capital gains/(losses) on investments and impairments.

The ZIC Group also uses interest rate swaps and cross currency swaps for cash flow hedging to protect against the exposure to variability of cash flows attributable to interest rate and currency risk. The hedging instrument is measured at fair value, with the effective portion of changes in its fair value recognized in OCI. The effective portion, related to spot rate changes in the fair value of the hedging instrument, is reclassified to profit or loss within administrative and other operating expense as an offset to foreign currency revaluation on the underlying hedged debt. The ineffective portion of the change in fair value is recognized directly in income within administrative and other operating expense.

The ZIC Group uses foreign exchange swaps and forwards to protect against the exposure of the variability of future cash outflows related to reinsurance transactions. The effective portion of the gains and losses are initially recognized in OCI and will be recycled to profit or loss within underwriting and policy acquisition costs using the same pattern as the hedged item.

As of December 31, 2018, there were no debt issuances designated as hedged items in a cash flow hedge relationship (see note 18).

The net change of gains/(losses) deferred in OCI on derivative financial instruments designated as cash flow hedges were USD (3) million and USD (36) million before tax for the years ended December 31, 2018 and 2017, respectively.

The ZIC Group recognized gains of USD 34 million and USD 33 million in the consolidated income statement within net investment income on Group investments for the years ended December 31, 2018 and 2017, respectively. The ZIC Group also recognized net gains/(losses) of USD 5 million and USD (15) million within administrative and other operating expense for the years ended December 31, 2018 and 2017, respectively, as an offset to the foreign currency revaluation on the underlying hedged items.

A nil amount for the years ended December 31, 2018 and 2017, respectively, was recognized in net capital gains/(losses) and impairments due to hedge ineffectiveness.

Net investment hedges

The ZIC Group applies net investment hedge accounting to protect against the effects of changes in exchange rates in its net investments in foreign operations.

Measurement of hedge effectiveness is based on changes in forward rates. Gains and losses on the designated hedging derivative and non-derivative financial instruments related to the effective portion of the hedge are recognized in OCI together with the translation gains and losses on the hedged net investment. The accumulated gains and losses in OCI are reclassified to income on disposal or partial disposal of the foreign operation.

The net change of gains/(losses) deferred in OCI were USD (114) million and USD 59 million before tax for the years ended December 31, 2018 and 2017, respectively as a result of a hedge relationship through foreign exchange forwards and swaps.

The ZIC Group has also designated certain debt issuances as hedging instruments on a non-derivative net investment hedge relationship. The notional amount of these financial instruments was USD 7.5 billion and USD 4.7 billion for the years ended December 31, 2018 and 2017, respectively. The net gains/(losses) deferred in OCI were USD 148 million and USD (168) million before tax for the years ended December 31, 2018 and 2017, respectively.

Information on debt issuances designated as hedging instruments in a net investment hedge relationship is set out in note 18.

No ineffectiveness of net investment hedges was recognized in net capital gains/(losses) and impairments for the years ended December 31, 2018 and 2017.

Derivative financial instruments: offsetting of financial assets and liabilities

Table 7.4 shows the net asset and liability position of Group derivative financial instruments subject to enforceable master netting arrangements and collateral agreements. Master netting arrangements are used by the Group to provide protection against loss in the event of bankruptcy or other circumstances that result in a counterparty being unable to meet its obligations. These arrangements commonly create a right of offset that becomes enforceable and affects the realization or settlement of individual financial assets and financial liabilities only following a specified event of default or other circumstances which would not be expected to arise in the normal course of business.

Table 7.4

Group derivative financial instruments subject to enforceable master netting arrangements and collateral agreements

in USD millions, as of December 31	Derivative assets		Derivative liabilities	
	2018	2017	**2018**	2017
Fair value	899	903	(325)	(214)
Related amounts not offset	(169)	(71)	168	69
Cash collateral (received)/pledged	(666)	(758)	90	69
Non-cash collateral (received)/pledged	(26)	(60)	60	35
Net amount	**38**	**14**	**(7)**	**(41)**

8. Liabilities for insurance contracts and reinsurers' share of liabilities for insurance contracts

Table 8.1

Liabilities for insurance contracts

in USD millions, as of December 31	Gross		Ceded		Net	
	2018	2017	**2018**	2017	**2018**	2017
Reserves for losses and loss adjustment expenses	60,913	65,368	(11,535)	(11,070)	49,378	54,298
Reserves for unearned premiums	16,714	17,060	(3,211)	(3,167)	13,503	13,893
Future life policyholder benefits[1, 2, 3]	74,950	77,529	(3,110)	(3,201)	71,839	74,328
Policyholder contract deposits and other funds[2]	24,266	24,944	(3,416)	(3,533)	20,850	21,411
Reserves for unit-linked insurance contracts	68,766	75,413	–	–	68,766	75,413
Other insurance liabilities	3,599	3,491	–	–	3,599	3,491
Total liabilities for insurance contracts[4]	**249,208**	**263,805**	**(21,273)**	**(20,971)**	**227,936**	**242,834**

1 The Group's life operations in the UK finalized the transfer of USD 1.6 billion of insurance assets and liabilities, associated with an annuities portfolio, as of June 30, 2017.
2 Farmers New World Life Insurance Company entered into a retrospective reinsurance agreement to transfer the risk of certain annuity portfolios with effect from April 1, 2017, which resulted in an initial increase of USD 1.6 billion in ceded policyholder contract deposits and other funds and USD 362 million of ceded future life policyholder benefits. The net gain of the transaction will be amortized over the remaining life of the underlying annuity contracts which is estimated to be between 30 to 50 years.
3 In July 2017, Bansabadell Vida signed a reinsurance agreement on its individual life risk portfolio which resulted in an initial increase of USD 363 million of ceded future life policyholder benefits.
4 Total liabilities for insurance contracts ceded are gross of allowances for uncollectible amounts of USD 76 million and USD 53 million as of December 31, 2018 and 2017, respectively.

Table 8.2

Discounted reserves for losses and loss adjustment expenses

in USD millions, as of December 31	Gross		Ceded		Net	
	2018	2017	**2018**	2017	**2018**	2017
Reserves for losses and loss adjustment expenses	60,913	65,368	(11,535)	(11,070)	49,378	54,298
of which: Discounted reserves	2,843	2,887	(33)	(25)	2,810	2,862
Discount effect	1,274	1,347	(26)	(22)	1,248	1,325
Undiscounted reserves for losses and loss adjustment expenses	62,187	66,715	(11,561)	(11,092)	50,627	55,623
of which: Undiscounted amount of discounted reserves	4,117	4,235	(59)	(47)	4,058	4,188
Average discount rate	2.3%	2.2%	2.5%	2.8%	2.3%	2.2%

Table 8.3

Development of reserves for losses and loss adjustment expenses

in USD millions	Gross		Ceded		Net	
	2018	2017	**2018**	2017	**2018**	2017
As of January 1	65,368	61,470	(11,070)	(9,777)	54,298	51,693
Losses and loss adjustment expenses incurred:						
Current year	22,973	24,504	(4,903)	(5,083)	18,071	19,421
Prior years	(726)	(977)	52	335	(674)	(641)
Total incurred	22,248	23,527	(4,851)	(4,748)	17,397	18,779
Losses and loss adjustment expenses paid:						
Current year	(8,533)	(8,504)	1,209	986	(7,324)	(7,517)
Prior years	(14,393)	(13,770)	2,807	2,776	(11,586)	(10,994)
Total paid	(22,926)	(22,274)	4,016	3,763	(18,910)	(18,511)
Interest effects of discounted reserves	64	121	(6)	(1)	59	120
Acquisitions/(divestments) and transfers[1]	(2,354)	18	156	(2)	(2,198)	16
Foreign currency translation effects	(1,486)	2,506	219	(305)	(1,267)	2,201
As of December 31	**60,913**	**65,368**	**(11,535)**	**(11,070)**	**49,378**	**54,298**

1 In 2018 the ZIC Group reclassified USD 1.8 billion to assets and liabilities held for sale in UK and Germany (see note 5). Additional movements mainly related to QBE and Travel Ace and Universal Assistance acquisitions (see note 5) and portfolio transfers in Germany and Australia with retroactive reinsurance agreements signed in 2018. The 2017 net movement is related to the divestment of operations in Middle East and Taiwan and the acquisition of MAA Takaful Berhad.

The ZIC Group establishes loss reserves, which are estimates of future payments of reported and unreported claims for losses and related expenses, with respect to insured events that have occurred. Reserving is a complex process dealing with uncertainty, requiring the use of informed estimates and judgments. Any changes in estimates or judgments are reflected in the results of operations in the period in which estimates and judgments are changed.

Significant delays may occur in the notification and settlement of claims, and a substantial measure of experience and judgment is involved in assessing outstanding liabilities, the ultimate cost of which cannot be known with certainty as of the balance sheet date. The reserves for losses and loss adjustment expenses are determined on the basis of the information available. However, it is inherent in the nature of the business written that the ultimate liabilities may vary as a result of subsequent developments.

For the year ended December 31, 2018, the decrease of USD 4.9 billion in net reserves for losses and loss adjustment expenses is mainly driven by reclassification of USD 1.8 billion to assets and liabilities held for sale (see note 5) and decrease of USD 1.3 billion due to foreign currency translation effects. In addition, certain portfolios with retroactive reinsurance agreements signed in 2018 in Germany and Australia were transferred to external parties, resulting in a decrease of net reserves of USD 690 million.

Net favorable reserve development emerged from reserves established in prior years amounting to USD 674 million mainly related to the following:

- In EMEA, favorable prior year development of USD 357 million driven by motor and liability in retail;
- In North America, favorable prior year development of USD 206 million driven by workers' injury.

For the year ended December 31, 2017, the increase of USD 2.6 billion in the net reserves for losses and loss adjustment expenses is driven by an increase of USD 2.2 billion due to foreign currency translation effects.

The increase in prior year incurred losses versus the previous year mainly relates to catastrophe events during 2017, most notably the hurricanes in North America during the third quarter of 2017.

Net favorable reserve development emerged from reserves established in prior years amounting to USD 641 million mainly related to the following:

- In North America, favorable prior year development of USD 344 million driven by workers' injury;
- In EMEA, favorable prior year development in retail driven by motor, largely offset by the unfavorable prior year development for commercial liability.

Development of insurance losses, net

Table 8.4

in USD millions, as of December 31	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**
Gross reserves for losses and loss adjustment expenses (undiscounted)	68,126	68,274	67,762	69,986	68,312	64,472	62,971	62,569	66,715	62,187
Reinsurance recoverable (undiscounted)	(12,182)	(12,093)	(12,421)	(12,601)	(10,993)	(9,770)	(9,231)	(9,796)	(11,092)	(11,561)
Initial net reserves for losses and loss adjustment expenses	55,944	56,180	55,341	57,385	57,319	54,703	53,739	52,773	55,623	50,627
Cumulative paid as of:										
One year later	*(12,716)*	*(13,092)*	*(13,525)*	*(13,799)*	*(13,301)*	*(12,576)*	*(11,690)*	*(10,994)*	*(11,586)*	
Two years later	*(19,821)*	*(21,073)*	*(21,245)*	*(21,465)*	*(21,002)*	*(19,460)*	*(18,562)*	*(17,808)*		
Three years later	*(25,623)*	*(27,137)*	*(26,871)*	*(27,064)*	*(26,021)*	*(24,475)*	*(23,590)*			
Four years later	*(30,127)*	*(31,375)*	*(31,129)*	*(30,691)*	*(29,851)*	*(28,105)*				
Five years later	*(33,325)*	*(34,478)*	*(33,836)*	*(33,515)*	*(32,509)*					
Six years later	*(35,678)*	*(36,556)*	*(35,935)*	*(35,579)*						
Seven years later	*(37,324)*	*(38,192)*	*(37,625)*							
Eight years later	*(38,695)*	*(39,568)*								
Nine years later	*(39,879)*									
Cumulative incurred:										
One year later	*(1,378)*	*(1,302)*	*(571)*	*(757)*	*(59)*	*149*	*(164)*	*(641)*	*(674)*	
Two years later	*(2,565)*	*(1,819)*	*(891)*	*(652)*	*(139)*	*(25)*	*(1,106)*	*(1,358)*		
Three years later	*(2,700)*	*(2,028)*	*(677)*	*(777)*	*(72)*	*(438)*	*(1,666)*			
Four years later	*(2,770)*	*(1,891)*	*(804)*	*(709)*	*(214)*	*(823)*				
Five years later	*(2,587)*	*(2,020)*	*(826)*	*(912)*	*(576)*					
Six years later	*(2,677)*	*(2,051)*	*(1,018)*	*(1,136)*						
Seven years later	*(2,629)*	*(2,107)*	*(1,112)*							
Eight years later	*(2,603)*	*(2,188)*								
Nine years later	*(2,619)*									
Net undiscounted reserves re-estimated[1]:										
One year later	*54,565*	*54,878*	*54,770*	*56,628*	*57,259*	*54,852*	*53,575*	*52,131*	*54,949*	
Two years later	*53,379*	*54,361*	*54,450*	*56,734*	*57,180*	*54,677*	*52,633*	*51,415*		
Three years later	*53,243*	*54,152*	*54,664*	*56,609*	*57,246*	*54,265*	*52,073*			
Four years later	*53,173*	*54,289*	*54,537*	*56,676*	*57,105*	*53,880*				
Five years later	*53,357*	*54,160*	*54,515*	*56,474*	*56,743*					
Six years later	*53,267*	*54,129*	*54,323*	*56,250*						
Seven years later	*53,315*	*54,073*	*54,229*							
Eight years later	*53,341*	*53,992*								
Nine years later	*53,325*									
Cumulative (deficiency)/ redundancy of net reserves	2,619	2,188	1,112	1,136	576	823	1,666	1,358	674	
Cumulative (deficiency)/ redundancy as a percentage of initial net reserves	4.7%	3.9%	2.0%	2.0%	1.0%	1.5%	3.1%	2.6%	1.2%	
Gross reserves re-estimated	63,676	64,642	65,301	67,065	66,488	62,996	60,821	60,477	65,990	
Cumulative (deficiency)/ redundancy of gross reserves	4,450	3,632	2,461	2,921	1,824	1,476	2,150	2,092	726	
Cumulative (deficiency)/ redundancy as a percentage of initial gross reserves	6.5%	5.3%	3.6%	4.2%	2.7%	2.3%	3.4%	3.4%	1.1%	

[1] Undiscounted amounts starting 2016, prior years are shown discounted.

Table 8.4 presents changes in the historical reserves for losses and loss adjustment expenses, net of reinsurance, that the ZIC Group established in 2009 and subsequent years. Reserves are presented by financial year, not by accident year. The reserves (and the development thereon) are for all accident years in that financial year. The top line of the table shows the estimated gross reserves for unpaid losses and loss adjustment expenses as of each balance sheet date, which represents the estimated amount of future payments for losses incurred in that year and in prior years. The cumulative paid portion of the table presents the cumulative amounts paid through each subsequent year in respect of the reserves established at each year end. Similarly, the cumulative incurred losses section details the sum of the cumulative paid amounts shown in the triangle above and the changes in loss reserves since the end of each financial year. The net undiscounted reserves re-estimated portion of the table shows the re-estimation of the initially recorded reserve as of each succeeding year end. Reserve development is shown in each column. Changes to estimates are made as more information becomes known about the actual losses for which the initial reserves were established. The cumulative deficiency or redundancy is equal to the initial net reserves less the liability re-estimated as of December 31, 2018. It is the difference between the initial net reserve estimate and the last entry of the diagonal in the net undiscounted reserves re-estimated portion of the table. Conditions and trends that have affected the development of reserves for losses and loss adjustment expenses in the past may or may not necessarily occur in the future, and accordingly, conclusions about future results cannot be derived from the information presented in table 8.4.

The ZIC Group has considered asbestos, including latent injury, claims and claims expenses in establishing the reserves for losses and loss adjustment expenses. The ZIC Group continues to be advised of indemnity claims asserting injuries from asbestos. Coverage and claim settlement issues, such as determination that coverage exists and the definition of an occurrence, together with increased medical diagnostic capabilities and awareness have often caused actual loss development to exhibit more variation than in other lines of business. Such claims require specialized reserving techniques and the uncertainty of the ultimate cost of these types of claims has tended to be greater than the uncertainty related to standard lines of business.

Net reserves for losses and loss adjustment expenses for asbestos amounted to USD 384 million and USD 2 billion for the year ended December 31, 2018 and 2017, respectively. The decrease in year 2018 mainly related to the ZIC Group reclassification to assets and liabilities held for sale based on agreements signed to sell businesses in the UK (see note 5).

Development of future life policyholder benefits

Table 8.5

in USD millions	Gross		Ceded		Net	
	2018	2017	**2018**	2017	**2018**	2017
As of January 1	77,529	72,440	(3,201)	(3,766)	74,328	68,674
Premiums[1, 2]	13,270	12,593	(1,222)	(1,609)	12,048	10,984
Claims	(10,360)	(10,899)	952	783	(9,408)	(10,116)
Fee income and other expenses	(4,281)	(3,947)	335	198	(3,945)	(3,749)
Interest and bonuses credited to policyholders	1,951	2,136	(89)	(146)	1,862	1,990
Changes in assumptions	(24)	(133)	2	–	(21)	(133)
Acquisitions/(divestments) and transfers[3, 4]	23	(1,561)	12	1,561	35	–
Increase/(decrease) recorded in other comprehensive income	(228)	(65)	–	–	(228)	(65)
Foreign currency translation effects	(2,931)	6,964	101	(222)	(2,830)	6,742
As of December 31	**74,950**	**77,529**	**(3,110)**	**(3,201)**	**71,839**	**74,328**

1 Farmers New World Life Insurance Company entered into a retrospective reinsurance agreement to transfer the risk of certain annuity portfolios with effect from April 1, 2017, which resulted in an initial increase of USD 362 million of ceded future life policyholder benefits.
2 In July 2017, Bansabadell Vida signed a reinsurance agreement on its individual life risk portfolio which resulted in an initial increase of USD 363 million of ceded future life policyholder benefits.
3 The ZIC Group's life operations in the UK finalized the transfer of USD 1.6 billion of insurance assets and liabilities, associated with an annuities portfolio, as of June 30, 2017.
4 The 2018 net movement mainly relates to the EuroAmerica acquisition in Chile (see note 5) and sale of a portfolio in Singapore.

Long-duration contract liabilities included in future life policyholder benefits result primarily from traditional participating and non-participating life insurance products. Short-duration contract liabilities are primarily accident and health insurance products.

Future life policyholder benefits are generally calculated by a net premium valuation. In terms of U.S. dollars, the weighted average discount rate used in the calculation of future life policyholder benefits is 2.4 percent and 2.5 percent as of December 31, 2018 and 2017, respectively.

The amount of policyholder dividends to be paid is determined annually by each life insurance subsidiary. Policyholder dividends include life policyholder share of net income and unrealized appreciation of investments that are required to be allocated by the insurance contract or by local insurance regulations. Experience adjustments related to future policyholder benefits and policyholder contract deposits vary according to the type of contract and the country. Investment, mortality and morbidity results may be passed through by experience credits or as an adjustment to the premium mechanism, subject to local regulatory provisions.

The net impact of changes in assumptions on future life policyholder benefits by type of assumption is shown in table 8.6.

Table 8.6

Effect of changes in assumptions for future life policyholder benefits

in USD millions, for the years ended December 31	2018	2017
Interest rates	(1)	2
Investment return	(3)	(154)
Expense	(9)	2
Morbidity	(3)	3
Longevity	(6)	(4)
Lapses	5	8
Other	(6)	10
Net impact of changes in assumptions	**(23)**	**(133)**

Table 8.7

Policyholder contract deposits and other funds gross

in USD millions, as of December 31	2018	2017
Universal life and other contracts	13,250	12,987
Policyholder dividends	11,016	11,957
Total	**24,266**	**24,944**

Table 8.8

Development of policyholder contract deposits and other funds

in USD millions	Gross		Ceded		Net	
	2018	2017	2018	2017	2018	2017
As of January 1	24,944	22,785	(3,533)	(1,958)	21,411	20,827
Premiums[1]	1,073	1,086	(73)	(1,719)	999	(632)
Claims	(1,319)	(1,207)	318	272	(1,001)	(935)
Fee income and other expenses	(402)	(401)	(6)	(13)	(407)	(414)
Interest and bonuses credited to policyholders	1,406	1,295	(123)	(114)	1,284	1,181
Acquisitions/(divestments) and transfers[2]	422	–	–	–	422	–
Increase/(decrease) recorded in other comprehensive income	(1,125)	(456)	–	–	(1,125)	(456)
Foreign currency translation effects	(734)	1,842	–	(1)	(734)	1,840
As of December 31	**24,266**	**24,944**	**(3,416)**	**(3,533)**	**20,850**	**21,411**

[1] Farmers New World Life Insurance Company entered into a retrospective reinsurance agreement to transfer the risk of certain annuity portfolios with effect from April 1, 2017, which resulted in an initial increase of USD 1.6 billion in ceded policyholder contract deposits and other funds.
[2] The 2018 net movement is mainly related to the acquisition of EuroAmerica in Chile (see note 5).

Tables 8.9a and 8.9b provide an analysis of the expected maturity profile of reserves for insurance contracts, net of reinsurance, based on expected cash flows without considering the surrender values as of December 31, 2018 and 2017. Reserves for unit-linked insurance contracts amounting to USD 69 billion and USD 75 billion as of December 31, 2018 and 2017, respectively, are not included, as policyholders can generally surrender their contracts at any time, at which point the underlying unit-linked assets would be liquidated. Risks from the liquidation of unit-linked assets are largely borne by the policyholders of unit-linked contracts.

Table 8.9a

Expected maturity profile for reserves for insurance contracts, net of reinsurance – current period

in USD millions, as of December 31, 2018	Reserves for losses and loss adjustment expenses	Future life policyholder benefits	Policyholder contract deposits and other funds	Total
< 1 year	14,128	9,425	1,613	25,167
1 to 5 years	19,969	17,523	1,722	39,215
5 to 10 years	7,353	14,077	2,280	23,710
10 to 20 years	5,437	13,512	2,644	21,593
> 20 years	2,491	17,301	12,591	32,383
Total	**49,378**	**71,839**	**20,850**	**142,068**

Table 8.9b

Expected maturity profile for reserves for insurance contracts, net of reinsurance – prior period

in USD millions, as of December 31, 2017	Reserves for losses and loss adjustment expenses	Future life policyholder benefits	Policyholder contract deposits and other funds	Total
< 1 year	14,757	9,434	1,571	25,762
1 to 5 years	22,440	18,606	1,900	42,945
5 to 10 years	8,434	13,932	2,237	24,603
10 to 20 years	6,239	14,928	2,691	23,858
> 20 years	2,428	17,429	13,012	32,869
Total	**54,298**	**74,328**	**21,411**	**150,037**

9. Liabilities for investment contracts

Liabilities for investment contracts

Table 9.1

in USD millions, as of December 31	2018	2017
Unit-linked investment contracts	41,188	45,484
Investment contracts (amortized cost)	504	510
Investment contracts with DPF	9,746	9,633
Total	**51,439**	**55,627**

Unit-linked investment contracts issued by the ZIC Group are recorded at a value reflecting the returns on investment funds which include selected equities, debt securities and derivative financial instruments. Policyholders bear the full risk of the returns on these investments.

The value of financial liabilities at amortized cost is based on a discounted cash flow valuation technique. The initial valuation of the discount rate is determined by the current market assessment of the time value of money and risk specific to the liability.

Development of liabilities for investment contracts

Table 9.2

in USD millions	2018	2017
As of January 1	55,627	69,113
Premiums	13,133	12,460
Claims	(15,353)	(10,727)
Fee income and other expenses	(464)	(564)
Interest and bonuses credited to policyholders	(2,739)	6,591
Acquisitions/(divestments) and transfers[1]	4,139	(29,073)
Increase/(decrease) recorded in other comprehensive income	(302)	5
Foreign currency translation effects	(2,603)	7,823
As of December 31	**51,439**	**55,627**

[1] As of December 31, 2018, the net carrying amount of the liabilities held for sale has decreased by USD 4 billion compared to the amount of USD 29 billion of unit-linked investment contracts that had been reclassified as of December 31, 2017, based on agreements to sell businesses in the UK (see note 5).

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Tables 9.3a and 9.3b provide an analysis of investment contract liabilities according to maturity, based on expected cash flows as of December 31, 2018 and 2017. The undiscounted contractual cash flows for investment contract liabilities are USD 51 billion and USD 56 billion as of December 31, 2018 and 2017, respectively. Liabilities for unit-linked investment contracts amounted to USD 41 billion and USD 45 billion as of December 31, 2018 and 2017, respectively. Policyholders of unit-linked investment contracts can generally surrender their contracts at any time, leading the underlying assets to be liquidated, risks arising from liquidation of unit-linked assets are borne by the policyholders. Certain non-unit-linked contracts also allow for surrender of the contract by the policyholder at any time. Liabilities for such contracts amounted to USD 463 million and USD 558 million as of December 31, 2018 and 2017, respectively. The ZIC Group actively manages the Life in-force business to improve persistency and retention.

Expected maturity profile for liabilities for investment contracts – current period

Table 9.3a

in USD millions, as of December 31, 2018	Liabilities related to unit-linked investment contracts	Liabilities related to investment contracts (amortized cost)	Liabilities related to investment contracts with discretionary participation features	Total
< 1 year	2,624	227	416	3,267
1 to 5 years	6,364	140	1,477	7,981
5 to 10 years	7,548	74	1,792	9,414
10 to 20 years	6,682	42	1,113	7,837
> 20 years	17,971	22	4,948	22,940
Total	**41,188**	**504**	**9,746**	**51,439**

Expected maturity profile for liabilities for investment contracts – prior period

Table 9.3b

in USD millions, as of December 31, 2017	Liabilities related to unit-linked investment contracts	Liabilities related to investment contracts (amortized cost)	Liabilities related to investment contracts with discretionary participation features	Total
< 1 year	2,608	200	265	3,073
1 to 5 years	7,338	149	1,554	9,042
5 to 10 years	8,280	81	1,792	10,154
10 to 20 years	8,209	47	1,185	9,441
> 20 years	19,049	33	4,836	23,918
Total	**45,484**	**510**	**9,633**	**55,627**

10. Gross and ceded insurance revenues and expenses

Insurance benefits and losses

Table 10.1

in USD millions, for the years ended December 31	Gross		Ceded		Net	
	2018	2017	**2018**	2017	**2018**	2017
Losses and loss adjustment expenses	22,248	23,527	(4,851)	(4,748)	17,397	18,779
Life insurance death and other benefits	11,236	11,053	(986)	(1,504)	10,250	9,548
Total insurance benefits and losses	**33,483**	**34,579**	**(5,837)**	**(6,252)**	**27,646**	**28,328**

Policyholder dividends and participation in profits

Table 10.2

in USD millions, for the years ended December 31	**2018**	2017
Change in policyholder contract deposits and other funds	1,245	1,202
Change in reserves for unit-linked insurance contracts	(1,350)	5,331
Change in liabilities for investment contracts – unit-linked	(2,930)	6,428
Change in liabilities for investment contracts – other	190	175
Change in unit-linked liabilities related to UK capital gains tax	109	(150)
Total policyholder dividends and participation in profits	**(2,736)**	**12,984**

Underwriting and policy acquisition costs

Table 10.3

in USD millions, for the years ended December 31	Gross		Ceded		Net	
	2018	2017	**2018**	2017	**2018**	2017
Amortization of deferred acquisition costs	6,466	6,777	(810)	(583)	5,655	6,193
Amortization of deferred origination costs	74	74	–	–	74	74
Commissions and other underwriting and acquisition expenses[1]	2,882	3,027	(47)	(255)	2,835	2,772
Total underwriting and policy acquisition costs	**9,422**	**9,877**	**(857)**	**(838)**	**8,565**	**9,039**

[1] Net of additions related to deferred acquisition and origination costs.

Change in reserves for unearned premiums

Table 10.4

in USD millions, for the years ended December 31	Gross		Ceded		Net	
	2018	2017	**2018**	2017	**2018**	2017
Change in reserves for unearned premiums	**339**	**295**	**(115)**	**(217)**	**224**	**79**

11. Deferred policy acquisition costs and deferred origination costs

Table 11.1

Development of deferred policy acquisition costs

in USD millions	Property & Casualty		Life		Other businesses[1]		Total	
	2018	2017	**2018**	2017	**2018**	2017	**2018**	2017
As of January 1	5,289	4,830	11,624	11,117	1,751	1,849	18,663	17,796
Acquisition costs deferred[2]	4,449	4,438	2,533	995	179	397	7,161	5,829
Amortization	(4,252)	(4,114)	(1,280)	(1,561)	(123)	(454)	(5,655)	(6,129)
Impairments[3]	–	–	–	(8)	–	(55)	–	(64)
Amortization (charged)/credited to other comprehensive income	–	–	136	46	29	13	166	59
Acquisitions/(divestments) and transfers[4]	37	(4)	–	–	(11)	–	26	(4)
Foreign currency translation effects	(156)	140	(663)	1,035	–	1	(820)	1,177
As of December 31	**5,367**	**5,289**	**12,350**	**11,624**	**1,824**	**1,751**	**19,541**	**18,663**

[1] Net of eliminations from inter-segment transactions.
[2] In May 2018, the ZIC Group entered into a quota share reinsurance agreement with OnePath Life, a part of ANZ Banking Group Limited and made an upfront commission payment of USD 754 million. In July 2017, Bansabadell Vida signed a reinsurance agreement on its individual life risk portfolio which resulted in an initial increase of USD 755 million of reinsurance deferred acquisition costs.
[3] Farmers New World Life Insurance Company entered into a retrospective reinsurance agreement to transfer the risk of certain annuity portfolios with effect from April 1, 2017, which resulted in deferred policy acquisition costs impairment of USD 55 million.
[4] The Property and Casualty movement mainly related to QBE acquisition and sale of Endsleigh Limited (see note 5). The 2018 other businesses movement mainly related to the sale of a portfolio in Singapore.

Table 11.2

Development of deferred origination costs

in USD millions	**2018**	2017
As of January 1	460	426
Origination costs deferred	55	59
Amortization	(74)	(74)
Foreign currency translation effects	(22)	49
As of December 31	**419**	**460**

12. Expenses

Table 12 shows expenses by functional area and by type of expense.

Table 12

Expenses

in USD millions, for the years ended December 31	**2018**	2017
Administrative and other operating expenses[1]	7,825	7,186
Other underwriting and policy acquisition costs[2]	2,111	2,188
Claims handling expenses[3]	1,126	1,261
Other investment expenses[4]	221	221
Total	**11,283**	**10,855**
of which:		
Personnel and other related costs	5,821	5,442
Amortization and impairments of intangible assets	501	570
Depreciation and impairments of property and equipment	173	152
Building and infrastructure costs	544	539
Brand and marketing expenses	332	344
Life recurring commission	445	431
Asset and other non-income taxes	50	31
IT expenses	1,611	1,393
Restructuring costs (excl. impairments)	297	293
Outsourcing and professional services	886	878
Foreign currency translation	(63)	(71)
Other	686	853
Total	**11,283**	**10,855**

[1] Includes in 2018 the gross-up of certain costs following adoption of IFRS 15 (see note 2).
[2] Included within commissions and other underwriting and acquisition expenses (see table 10.3).
[3] Included within losses and loss adjustment expenses (see table 10.1).
[4] Excludes expenses arising from investment property within investment expenses for Group investments (see table 6.1).

13. Property and equipment

Buildings held for own use and equipment are carried at cost less accumulated depreciation and any accumulated impairment loss. Generally, these assets are depreciated on a straight-line basis to income over the following estimated useful lives:

- buildings 25 to 50 years;
- furniture and fixtures 5 to 10 years;
- computer equipment 3 to 6 years;
- other equipment 6 to 10 years (or determined by the term of lease).

Land held for own use is carried at cost less any accumulated impairment loss.

Table 13.1

Property and equipment – current period

in USD millions	Land held for own use	Buildings held for own use	Furniture and fixtures	Computer equipment	Other equipment	Total
Gross carrying value as of January 1, 2018	155	415	378	323	740	2,012
Less: accumulated depreciation/impairments	–	(165)	(231)	(241)	(413)	(1,051)
Net carrying value as of January 1, 2018	155	250	147	82	327	961
Additions and improvements	–	70	42	57	110	279
Acquisitions	5	12	2	1	2	22
Disposals[1]	–	(1)	–	–	(28)	(29)
Transfers	–	(1)	–	–	1	(1)
Depreciation and impairments	(2)	(14)	(41)	(42)	(75)	(172)
Foreign currency translation effects	(3)	(9)	(3)	(2)	(6)	(23)
Net carrying value as of December 31, 2018	**155**	**309**	**147**	**96**	**331**	**1,037**
Plus: accumulated depreciation/impairments	–	165	221	232	401	1,019
Gross carrying value as of December 31, 2018	155	473	368	328	732	2,056

[1] Includes USD 25 million related to the sale of business in the UK (Endsleigh) (see note 5).

Table 13.2

Property and equipment – prior period

in USD millions	Land held for own use	Buildings held for own use	Furniture and fixtures	Computer equipment	Other equipment	Total
Gross carrying value January 1, 2017	168	427	377	311	727	2,009
Less: accumulated depreciation/impairments	(6)	(176)	(223)	(244)	(408)	(1,056)
Net carrying value January 1, 2017	162	251	154	67	319	953
Additions and improvements	1	41	27	44	99	213
Acquisitions	–	–	1	1	2	4
Disposals[1]	(1)	(2)	(5)	(3)	(27)	(39)
Transfers	(17)	(48)	–	1	1	(62)
Depreciation and impairments	–	(10)	(35)	(31)	(76)	(152)
Foreign currency translation effects	10	18	5	2	9	44
Net carrying value as of December 31, 2017	**155**	**250**	**147**	**82**	**327**	**961**
Plus: accumulated depreciation/impairments	–	165	231	241	413	1,051
Gross carrying value as of December 31, 2017	155	415	378	323	740	2,012

[1] Includes USD 1 million related to the sale of businesses in Taiwan and USD 10 million re-measurement losses related to assets held for sale (see note 5).

14. Attorney-in-fact contracts, goodwill and other intangible assets

Intangible assets – current period

Table 14.1

in USD millions	Attorney-in-fact contracts	Goodwill	PVFP	Distribution agreements	Software	Other	Total
Gross carrying value as of January 1, 2018	1,025	2,706	2,619	4,293	4,774	247	15,665
Less: accumulated amortization/ impairments	–	(353)	(2,112)	(1,465)	(3,486)	(109)	(7,525)
Net carrying value as of January 1, 2018	1,025	2,353	507	2,828	1,288	139	8,140
Additions and acquisitions	–	462	40	570	348	81	1,501
Divestments and transfers	–	–	–	(262)	(2)	–	(263)
Amortization[1]	–	–	(46)	(220)	(406)	(10)	(681)
Amortization charged to other comprehensive income	–	–	22	–	–	–	22
Impairments	–	–	(2)	–	(37)	(1)	(40)
Foreign currency translation effects	–	(180)	(24)	(228)	(30)	(14)	(476)
Net carrying value as of December 31, 2018	**1,025**	**2,634**	**498**	**2,689**	**1,162**	**194**	**8,202**
Plus: accumulated amortization/ impairments	–	276	2,041	1,565	3,672	109	7,664
Gross carrying value as of December 31, 2018	1,025	2,911	2,539	4,254	4,834	303	15,866

[1] Amortization of distribution agreements is included within underwriting and policy acquisition costs.

As of December 31, 2018, intangible assets related to non-controlling interests were USD 65 million for present value of future profits (PVFP) of acquired insurance contracts, USD 1 billion for distribution agreements, USD 26 million for software, USD 47 million for goodwill, USD 47 million for attorney-in-fact contracts and USD 3 million for other intangible assets.

As a result of the acquisition of the QBE Latin America operations intangible assets increased by USD 250 million, of which USD 195 million is goodwill and USD 55 million is distribution agreements, software and other intangible assets. As a result of the acquisition of EuroAmerica in Chile, intangible assets increased by USD 143 million, of which USD 102 million is goodwill and USD 40 million is present value of future profits (PVFP). The acquisition of Travel Ace and Universal Assistance increased goodwill by USD 94 million and distribution agreements, software and other intangible assets by USD 19 million. As a result of the acquisition of Bright Box intangible assets increased by USD 77 million, of which USD 52 million related to goodwill and USD 25 million to software. As a result of the acquisition of Blue Insurance intangible assets increased by USD 56 million, of which USD 35 million is goodwill and USD 21 million is distribution agreements, software and other intangible assets. The remaining minus USD 16 million relates to a post-acquisition adjustment of Cover-More (see note 5).

In 2018, a distribution agreement in Brazil was signed replacing the existing distribution agreement. Additional intangible assets of USD 263 million related to this distribution agreement were recorded as at December 31, 2018.

Intangible assets by business – current period

Table 14.2

in USD millions, as of December 31, 2018	Attorney-in-fact contracts	Goodwill	PVFP	Distribution agreements	Software	Other	Total
Property & Casualty	–	1,492	–	941	452	194	3,079
Life	–	271	434	1,748	284	1	2,737
Farmers	1,025	819	63	–	339	–	2,247
Group Functions and Operations	–	52	–	–	88	–	139
Net carrying value	**1,025**	**2,634**	**498**	**2,689**	**1,162**	**194**	**8,202**

Intangible assets – prior period

Table 14.3

in USD millions	Attorney-in-fact contracts	Goodwill	PVFP	Distribution agreements	Software	Other	Total
Gross carrying value as of January 1, 2017	1,025	2,110	2,422	3,860	4,646	251	14,315
Less: accumulated amortization/ impairments	–	(315)	(1,918)	(1,147)	(3,196)	(124)	(6,700)
Net carrying value as of January 1, 2017	1,025	1,795	504	2,713	1,450	128	7,615
Additions and acquisitions	–	565	–	119	320	38	1,043
Divestments and transfers	–	(61)	–	(2)	(44)	(23)	(129)
Amortization [1]	–	–	(55)	(213)	(350)	(9)	(626)
Amortization charged to shareholders' equity	–	–	14	–	–	–	14
Impairments	–	–	–	–	(156)	–	(156)
Foreign currency translation effects	–	53	45	210	68	4	380
Net carrying value as of December 31, 2017	**1,025**	**2,353**	**507**	**2,828**	**1,288**	**139**	**8,140**
Plus: accumulated amortization/ impairments	–	353	2,112	1,465	3,486	109	7,525
Gross carrying value as of December 31, 2017	1,025	2,706	2,619	4,293	4,774	247	15,665

[1] Amortization of distribution agreements is included within underwriting and policy acquisition costs.

As of December 31, 2017, intangible assets related to non-controlling interests were USD 79 million for the present value of future profits (PVFP) of acquired insurance contracts, USD 1.2 billion for distribution agreements and USD 32 million for software.

As a result of the acquisition of Cover-More intangible assets increased by USD 728 million of which USD 566 million related to goodwill and USD 163 million to distribution agreements, software and other intangible assets (see note 5).

For the year ended December 31, 2017, divestments and transfers include re-measurements of intangible assets related to assets held for sale of USD 124 million (see note 5).

Following a review, software was identified, which was not utilized as originally expected, resulting in USD 156 million of impairments, primarily in Property & Casualty in the UK and in Group Functions and Operations.

Intangible assets by business – prior period

Table 14.4

in USD millions, as of December 31, 2017	Attorney-in-fact contracts	Goodwill	PVFP	Distribution agreements	Software	Other	Total
Property & Casualty	–	1,350	–	820	524	138	2,833
Life	–	183	434	2,007	324	1	2,950
Farmers	1,025	819	73	–	370	–	2,288
Group Functions and Operations	–	–	–	–	70	–	70
Net carrying value	**1,025**	**2,353**	**507**	**2,828**	**1,288**	**139**	**8,140**

15. Receivables and other assets

Receivables and other assets

Table 15

in USD millions, as of December 31	**2018**	2017
Financial assets		
Group derivative assets	899	903
Unit-linked derivative assets	3	19
Receivables from policyholders	3,281	3,281
Receivables from insurance companies, agents and intermediaries	5,514	5,665
Receivables arising from ceded reinsurance	1,114	1,179
Reverse repurchase agreements	47	153
Amounts due from investment brokers	972	847
Other receivables	2,422	2,309
Allowance for impairments[1]	(243)	(258)
Accrued premiums	849	845
Accrued investment income[2]	1,601	1,695
Assets for defined benefit plans[3]	232	201
Other financial assets	144	187
Non-financial assets		
Current income tax receivables	599	501
Prepaid expenses	391	350
Other non-financial assets	360	313
Total receivables and other assets	**18,184**	**18,189**

[1] Includes receivables arising from ceded reinsurance of USD 38 million and USD 41 million as of December 31, 2018 and 2017, respectively.
[2] Accrued investment income on the unit-linked investments amounts to USD 102 million and USD 107 million as of December 31, 2018 and 2017, respectively.
[3] See note 20.

Receivables are carried at notional amounts, and are generally settled within one year. The notional and fair value amounts are not significantly different.

16. Other liabilities

Other liabilities

Table 16.1

in USD millions, as of December 31	2018	2017
Other financial liabilities		
Group derivative liabilities	325	214
Unit-linked derivative liabilities	12	15
Amounts due to agents & intermediaries	870	798
Liabilities for cash collateral received for securities lending	47	153
Amounts due to investment brokers	987	1,096
Collateralized bank financing for structured lease vehicles	436	518
Liabilities for defined benefit plans[1]	2,491	3,590
Other liabilities for employee benefit plans	538	433
Accrued liabilities	2,065	2,076
Other financial liabilities	5,218	5,507
Other non-financial liabilities		
Current income tax payables	601	944
Restructuring provisions	258	269
Other non-financial liabilities	826	1,410
Total other liabilities	**14,674**	**17,024**

[1] See note 20

Table 16.2 shows the maturity schedule of other financial liabilities excluding liabilities for defined benefit plans as of December 31, 2018 and 2017. The allocation to the time bands is based on the expected maturity date for the carrying value and the earliest contractual maturity for the undiscounted cash flows.

Maturity schedule – other financial liabilities

Table 16.2

in USD millions, as of December 31	2018		2017	
	Carrying value	**Undiscounted cash flows**	Carrying value	Undiscounted cash flows
< 1 year	9,809	9,928	9,876	9,925
1 to 2 years	197	247	284	420
2 to 3 years	57	64	183	245
3 to 4 years	133	144	23	39
4 to 5 years	43	51	87	107
> 5 years	259	491	357	593
Total	**10,499**	**10,925**	**10,811**	**11,329**

Restructuring provisions

Table 16.3

in USD millions	2018	2017
As of January 1	269	331
Provisions made during the period	191	192
Increase of provisions set up in prior years	45	56
Provisions used during the period	(226)	(294)
Provisions reversed during the period	(13)	(41)
Foreign currency translation effects	(8)	24
As of December 31	**258**	**269**

During the year ended December 31, 2018 the ZIC Group incurred total restructuring costs of USD 350 million, of which USD 223 million is due to net increases in restructuring provisions, affecting mainly Property & Casualty in Europe, Middle East & Africa (EMEA), North America and Farmers.

During the year ended December 31, 2017, the ZIC Group incurred total restructuring costs of USD 356 million, of which USD 207 million was due to net increases in restructuring provisions, affecting mainly Property & Casualty in EMEA and North America.

17. Income taxes

Income tax expense – current/deferred split

Table 17.1

in USD millions, for the years ended December 31	2018	2017
Current	1,113	2,119
Deferred	14	(288)
Total income tax expense/(benefit)	**1,126**	**1,831**

Expected and actual income tax expense

Table 17.2

in USD millions, for the years ended December 31	Rate	2018	Rate	2017
Net income before income taxes		5,044		5,463
less: income tax (expense)/benefit attributable to policyholders		183		(171)
Net income before income taxes attributable to shareholders		5,227		5,292
Expected income tax expense attributable to shareholders computed at the Swiss statutory tax rate	22.0%	1,150	22.0%	1,164
Increase/(reduction) in taxes resulting from:				
Tax rate differential in foreign jurisdictions		(30)		321
Tax exempt and lower taxed income		(106)		(124)
Non-deductible expenses		152		133
Tax losses not recognized		99		71
Prior year adjustments and other		43		95
Actual income tax expense attributable to shareholders	**25.1%**	**1,310**	**31.4%**	**1,660**
plus: income tax expense/(benefit) attributable to policyholders		(183)		171
Actual income tax expense	22.3%	1,126	33.5%	1,831

Table 17.2 sets out the factors that cause the actual income tax expense to differ from the expected expense computed by applying the Swiss statutory tax rate of 22.0 percent, which is the rate applicable in the jurisdiction where the ultimate parent company is resident.

The ZIC Group is required to record taxes on policyholder earnings for life insurance policyholders in certain jurisdictions. Accordingly, the income tax expense or benefit attributable to these life insurance policyholder earnings is included in income tax expense. In certain jurisdictions an accrual for future policy fees that will cover the tax charge is included in insurance benefits and losses.

Taxes paid by certain of the ZIC Group's life insurance businesses are based on the investment result less allowable expenses. To the extent these taxes exceed the amount that would have been payable in relation to the shareholders' share of taxable profits, it is normal practice for certain of the ZIC Group's businesses to recover this portion from policyholders. While the relevant company has the contractual right to charge policyholders for the taxes attributable to their share of the investment result less expenses, the obligation to pay the tax authority rests with the company and therefore, the full amount of tax including the portion attributable to policyholders is accounted for as income tax. Income tax expense therefore includes an element attributable to policyholders.

Deferred tax assets/(liabilities) analysis by source

Table 17.3

in USD millions, as of December 31	2018		2017	
	Assets	**Liabilities**	Assets	Liabilities
Gross deferred tax				
Deferred acquisition and origination costs	52	(658)	52	(659)
Depreciable and amortizable assets	27	(86)	39	(55)
Life policyholders' benefits and deposits[1]	4	(1)	–	(3)
Unrealized (gains)/losses on available-for-sale investments and cash flow hedges	108	(49)	38	(179)
Accruals and deferred income	92	(16)	95	(22)
Reserves for losses and loss adjustment expenses	295	(116)	210	(238)
Reserves for unearned premiums	722	(66)	691	–
Pensions and other employee benefits	537	(72)	644	(62)
Other assets/liabilities	170	(44)	200	(20)
Tax loss carryforwards	583	–	661	–
Gross deferred tax assets/(liabilities) before valuation allowance	2,590	(1,109)	2,631	(1,239)
Valuation allowance	(356)	–	(318)	–
Gross deferred tax assets/(liabilities) after valuation allowance	2,234	(1,109)	2,314	(1,239)
Deferred tax assets	**1,125**		**1,075**	
Gross deferred tax				
Deferred acquisition and origination costs	25	(2,125)	24	(2,167)
Depreciable and amortizable assets	133	(1,699)	142	(1,798)
Life policyholders' benefits and deposits[1]	1,924	(1,017)	1,816	(949)
Unrealized (gains)/losses on available-for-sale investments and cash flow hedges	288	(860)	226	(1,054)
Accruals and deferred income	76	(122)	81	(87)
Reserves for losses and loss adjustment expenses	57	(90)	97	(118)
Reserves for unearned premiums	18	(6)	20	(64)
Deferred front-end fees	511	–	522	–
Pensions and other employee benefits	340	(325)	352	(278)
Other assets/liabilities	646	(1,732)	677	(1,845)
Tax loss carryforwards	131	–	99	–
Gross deferred tax assets/(liabilities) before valuation allowance	4,149	(7,976)	4,056	(8,361)
Valuation allowance	(89)	–	(52)	–
Gross deferred tax assets/(liabilities) after valuation allowance	4,061	(7,976)	4,005	(8,361)
Deferred tax liabilities		**(3,915)**		**(4,357)**
Net deferred tax liabilities		**(2,790)**		**(3,282)**

[1] Includes reserves for unit-linked contracts

The ZIC Group's deferred tax assets and liabilities are recorded by its tax-paying entities throughout the world, which may include several legal entities within each tax jurisdiction. Legal entities are grouped as a single taxpayer only when permitted by local legislation and when deemed appropriate. The first part of table 17.3 includes single taxpayers with a net deferred tax asset position and the second part includes single taxpayers with a net deferred tax liability position.

As of December 31, 2018 and 2017, the aggregate amount of temporary differences associated with investments in subsidiaries, branches and associates and interests in joint ventures, for which deferred tax liabilities have not been recognized amount to approximately USD 1 billion and USD 2 billion, respectively. In the remote likelihood that these temporary differences were to reverse simultaneously, the resulting tax liabilities would be very limited due to participation exemption rules.

Consolidated financial statements (continued)

Development of net deferred tax liabilities

Table 17.4

in USD millions	2018	2017
As of January 1	(3,281)	(3,091)
Net change recognized in the income statement	(15)	288
Net change recognized in equity	344	(240)
Net changes due to acquisitions/(divestments)	75	(60)
Foreign currency translation effects	87	(178)
As of December 31	**(2,790)**	**(3,282)**
attributable to policyholders	(457)	(688)
attributable to shareholders	(2,333)	(2,594)

The net deferred tax liabilities related to non-controlling interests amounted to USD 215 million and USD 263 million as of December 31, 2018 and 2017, respectively.

Development of deferred income taxes included in equity

Table 17.5

in USD millions	2018	2017
As of January 1	62	297
Net unrealized gains/(losses) on available-for-sale investments	418	130
Cash flow hedges	11	14
Revaluation reserve	9	–
Net actuarial gains/(losses) on pension plans	(95)	(384)
Foreign currency translation effects	(10)	5
As of December 31	**395**	**62**

Tax loss carryforwards and tax credits

Table 17.6

in USD millions, as of December 31	2018	2017
For which deferred tax assets have been recognized, expiring		
< 5 years	50	15
5 to 20 years	198	156
> 20 years or with no time limitation	747	1,267
Subtotal	994	1,438
For which deferred tax assets have not been recognized, expiring		
< 5 years	89	64
5 to 20 years	12	33
> 20 years or with no time limitation	1,607	1,288
Subtotal	1,708	1,384
Total	**2,702**	**2,822**

The tax rates applicable to tax losses for which a deferred tax asset has not been recognized are 25.4 percent and 26.1 percent as of December 31, 2018 and 2017, respectively.

The recoverability of the deferred tax asset for each taxpayer is based on the taxpayer's ability to utilize the deferred tax asset. This analysis considers the projected taxable income to be generated by the taxpayer, as well as its ability to offset the deferred tax asset against deferred tax liabilities.

Management assesses the recoverability of the deferred tax-asset carrying values based on future years' taxable income projections and believes the carrying values of the deferred tax assets as of December 31, 2018, to be recoverable.

18. Senior and subordinated debt

Senior and subordinated debt

Table 18.1

in USD millions, as of December 31		2018	2017
Senior debt			
Zurich Insurance Company Ltd	2.375% CHF 525 million notes, due November 2018[1]	–	538
	1.500% CHF 400 million notes, due June 2019[1, 2]	409	418
	1.125% CHF 400 million notes, due September 2019[1, 2]	411	421
	0.625% CHF 250 million notes, due July 2020[1, 2]	258	262
	2.875% CHF 250 million notes, due July 2021[1]	253	255
	3.375% EUR 500 million notes, due June 2022[1,2,3]	598	634
	1.875% CHF 100 million notes, due September 2023[1, 2]	110	112
	1.750% EUR 500 million notes, due September 2024[1, 2, 3]	583	608
	0.500% CHF 350 million notes, due December 2024[1]	356	–
	0.510% CHF 120 million loan, due December 2024	122	–
	1.500% CHF 150 million notes, due July 2026[1, 2]	165	167
	1.000% CHF 200 million notes, due October 2028[1]	204	–
	1.500% EUR 500 million notes, due December 2028[1, 3]	568	–
	Various debt instruments payable within 1 year to related parties[4]	99	101
Zurich Holding Comp. of America Inc	Euro commercial paper notes, due in less than 12 months	399	399
Zurich Finance (Australia) Limited	Floating rate AUD 241 million loan due July 2019	170	
	3.271% AUD 200 million loan due May 2023	141	
	3.477% AUD 350 million notes, due May 2023[1]	246	
	4.500% AUD 250 million notes, due July 2038[1]	176	
Other	Various debt instruments	69	34
Senior debt		5,336	3,950
Subordinated debt			
Zurich Insurance Company Ltd	8.250% USD 500 million perpetual capital notes, first callable January 2018[1, 3]	–	500
	4.625% CHF 500 million perpetual notes, first callable May 2018[1]	–	513
	7.500% EUR 425 million notes, due July 2039, first callable July 2019[1, 3]	486	509
	2.750% CHF 225 million perpetual capital notes, first callable June 2021[1]	228	230
	2.750% CHF 200 million perpetual capital notes, first callable September 2021[1, 2]	209	212
	4.750% USD 1 billion perpetual capital notes, first callable January 2022[1, 3]	996	994
	4.250% EUR 1 billion notes, due October 2043, first callable October 2023[1, 3]	1,138	1,192
	4.250% USD 300 million notes, due October 2045, first callable October 2025[1, 3]	299	299
	5.625% USD 1 billion notes, due June 2046, first callable June 2026[1, 3]	997	996
	3.500% EUR 750 million notes, due October 2046, first callable October 2026[1, 2, 3]	855	890
	5.125% USD 500 million notes, due June 2048, first callable June 2028[1, 3]	498	–
	4.875% USD 500 million notes, due October 2048, first callable October 2028[1, 3]	498	–
Zurich Finance (UK) plc	6.625% GBP 450 million perpetual notes, first callable October 2022[1]	570	604
Subordinated debt		6,775	6,938
Total senior and subordinated debt		**12,111**	**10,888**

[1] Issued under the Group's Euro Medium Term Note Programme (EMTN Programme).
[2] The Group applied the fair value hedge methodology either partially or in full to hedge the interest rate exposure.
[3] These bonds are part of a qualifying net investment hedge to hedge the foreign currency exposure.
[4] Loans with subsidiaries of Zurich Insurance Group which are not part of Zurich Insurance Company Group Ltd.

None of the debt instruments listed in table 18.1 was in default as of December 31, 2018 and 2017.

To facilitate the issuance of debt, the Group has in place a Euro Medium Term Note Program (EMTN Program) allowing for the issuance of senior and subordinated notes up to a maximum of USD 18 billion. All issuances under this program are either issued or guaranteed by Zurich Insurance Company Ltd. The Group has also issued debt outside this program.

Debt issued is recognized initially at fair value of the consideration received, net of transaction costs incurred, and subsequently carried at amortized cost using the effective interest rate method, unless fair value hedge accounting is applied.

Table 18.2

Maturity schedule of outstanding debt

in USD millions, as of December 31	2018		2017	
	Carrying value	**Undiscounted cash flows**	Carrying value	Undiscounted cash flows
< 1 year	1,993	2,418	2,053	2,449
1 to 2 years	308	676	1,369	1,699
2 to 3 years	690	1,056	262	553
3 to 4 years	2,164	2,473	697	987
4 to 5 years	1,636	1,880	2,232	2,460
5 to 10 years	5,144	5,756	4,264	4,707
> 10 years	176	256	11	18
Total	**12,111**	**14,515**	**10,888**	**12,872**

Debt maturities reflect original contractual dates, taking early redemption options into account. For call/redemption dates, see table 18.1. The total notional amount of debt due in each period is not materially different from the total carrying value disclosed in table 18.2. Undiscounted cash flows include interest and principal cash flows on debt outstanding as of December 31, 2018 and 2017. Floating interest rates are assumed to remain constant as of December 31, 2018 and 2017. The aggregated cash flows are translated into U.S. dollars at end-of-period rates.

Table 18.3

Development of debt arising from financing activities

in USD millions	Total	
	2018	2017
As of January 1	10,888	11,289
Issuance of debt recognized in cash flows	3,077	19
Repayment of debt recognized in cash flows	(1,566)	(1,049)
Acquisitions/(divestments) and transfers[1]	(1)	(18)
Changes in fair value	(7)	(27)
Other changes	(9)	3
Foreign currency translation effects	(272)	672
As of December 31	**12,111**	**10,888**

[1] The 2018 and 2017 movement of USD 1 million and USD 18 million respectively, is related to the sale of Endsleigh Limited (see note 5).

19. Shareholders' equity

Share capital

Table 19

number of shares, as of December 31	2018	2017
Issued share capital, CHF 10 par value	82,500,000	82,500,000

a) Contingent share capital

At the General Meeting of Shareholders on June 11, 1997, a contingent capital of CHF 35,000,000, or 3,500,000 shares with a par value of CHF 10 each, was created, of which 2,500,000 shares can be issued in connection with the granting of conversion and/or option rights and 1,000,000 shares can be issued for the purpose of employees' share ownership plans. In 2017, the contingent share capital was cancelled and as of December 31, 2018, there is zero contingent share capital.

b) Profit sharing certificates

As of December 31, 2018, the ZIC Group has zero profit sharing certificates. The profit sharing certificates were revoked in 2017.

c) Additional paid-in capital

On April 25, 2008, a subordinated loan agreement was entered into between Zurich Insurance Company Ltd and Zurich Group Holding, which was assumed by Zurich Insurance Group Ltd as a consequence of its merger with Zurich Group Holding. The remaining loan was CHF 2.1 billion (USD 2.2 billion) and CHF 4.8 billion (USD 5 billion) as of December 31, 2018 and 2017, respectively.

The loan is undated and pays interest subject to solvency thresholds and the payment of interest is optional if Zurich Insurance Company Ltd does not declare or pay any dividends or other profit distributions to its shareholders. The loan is classified as an equity instrument under IFRS as it meets the classification criteria as such under IAS 32.

20. Employee benefits

Personnel and other related costs incurred were USD 5.9 billion and 5.6 billion for the years ended December 31, 2018 and 2017, respectively, including wages and salaries of USD 4.8 billion for both years.

The ZIC Group operates a number of retirement benefit arrangements for employees. Historically, the majority of employees belonged to defined benefit pension plans and will still have past service benefits accrued in those plans.

However, the majority of employees now going forward accrue benefits for future service under defined contribution plans, which provide benefits equal to the amounts contributed by both the employer and the employee plus investment returns.

Certain of the ZIC Group's operating companies also provide post-employment benefit plans covering medical care and life insurance, mainly in the U.S. Eligibility for these plans is generally based on completion of a specified period of eligible service and reaching a specified age. The plans typically pay a stated percentage of medical expenses subject to deductibles and other factors. The cost of post-employment benefits is accrued during the employees' service periods.

Governance of the ZIC Group's pension and post-employment benefit plans is the responsibility of the Group Pensions Committee. This committee is responsible for developing, reviewing and advising on the ZIC Group governance framework for matters related to pension and post-retirement benefit plans, including the relevant policies and processes. The committee provides oversight and guidance over the ZIC Group's principal pension and post-retirement benefit plans for accounting, benefit design, funding and investment and plan governance purposes. This includes, but is not limited to:

- oversight of the impact of the ZIC Group's principal defined benefit pension and post-retirement benefit plans in terms of cash, expense, and balance sheet accounting impact and capital implications
- development and maintenance of policies on funding, asset allocation, risk assessment and management, and assumption setting

The Group Pensions Committee provides a point of focus and co-ordination on the topic of pensions and post-retirement benefits at ZIC Group level for the supervision and exercise of company powers and obligations in relation to pension and post-retirement benefit plans.

The ZIC Group's policy on funding and asset allocation is subject to local legal and regulatory requirements and tax efficiency.

a) Defined benefit pension plans
Employees of the ZIC Group's companies are or have been covered by various pension plans, the largest of which are in Switzerland, the UK, the U.S. and Germany, which together comprise over 90 percent of the ZIC Group's total defined benefit obligation. The remaining plans in other countries are not individually significant, therefore no separate disclosure is provided.

Certain ZIC Group companies provide defined benefit pension plans, some of which provide benefits on retirement, death or disability related to employees' service periods and pensionable earnings. Others provide cash balance plans where the participants receive the benefit of the accumulated employer and employee contributions (where paid) together with additional cash credits in line with the rules of the plan. Eligibility for participation in the various plans is either immediate on commencement of employment or based on completion of a specified period of continuous service.

Most of the ZIC Group's defined benefit pension plans are funded through contributions by the ZIC Group and, in some cases also by employees, to investment vehicles managed by trusts or foundations independent of the ZIC Group's finances, or by management committees with fiduciary responsibilities. Where a trust or foundation exists, it is required by law or by articles of association to act in the interests of the fund and of all relevant beneficiaries to the plan, which can also include the sponsoring company, and is responsible for the investment policy with regard to the assets of the fund. The trust/foundation board or committee is usually composed of representatives from both employers and plan members. In these cases, the annual funding requirements are determined in accordance with the ZIC Group's overall funding policy and local regulation. Independent actuarial valuations for the plans are performed as required. It is the ZIC Group's general principle to ensure that the plans are appropriately funded in accordance with local pension regulations in each country.

The pension plans typically expose the company to risks such as interest rate, price inflation, longevity and salary risks. To the extent that pension plans are funded, the assets held mitigate some of the liability risk but introduce investment risk.

The overall investment policy and strategy for the ZIC Group's defined benefit pension plans is to achieve an investment return which, together with contributions, targets having sufficient assets to pay pension benefits as they fall due while also mitigating the various risks in the plans. The actual asset allocation is determined by reference to current and expected economic and market conditions and in consideration of specific asset class risk in the risk profile. The ZIC Group has a governance framework to ensure the trust/foundation board or committee considers how the asset investment strategy correlates with the maturity profile of the plan liabilities and the potential impact on the funding status of the plans, including short-term liquidity requirements. The investment strategies for each pension plan are independently determined by the governance body in each country, with oversight by the Group Pensions Committee. The pension assets are invested in diversified portfolios across geographical regions and asset classes to ensure diversified returns, also taking into account local pension laws. The investment strategies aim to mitigate asset-liability mismatches in the long run.

For post-employment defined benefit plans, total contributions to funded plans and benefits paid directly by the Group were USD 642 million for 2018 compared with USD 550 million for 2017. The estimated total for 2019 is USD 279 million (actual amount may differ).

Swiss pension plan

The plan provides benefits that exceed the minimum benefit requirements under Swiss pension law. It provides a lifetime pension to members at the normal retirement age of 65 (age 62 for Executive Staff). Participants can draw retirement benefits early from age 60 (age 58 for Executive Staff). Alternatively, the benefit can be taken as a lump sum payment at retirement. Contributions to the plan are paid by the employees and the employer, both for retirement savings and to finance risk benefits paid out in the event of death and disability. The accumulated balance on the pension account is based on the employee and employer pension contributions and interest accrued. The interest rate credited is defined annually by the plan's Board of Trustees which is responsible for the governance of the plans. The amount of pension payable on retirement is a result of the conversion rate applied on the accumulated balance of the individual participant's pension account at the retirement date.

As of December 31, 2017, the technical interest rate was reduced from 2.75 percent to 1.75 percent and the conversion rate at age 65 is being phased down to 5 percent over a six-year period until 2023 to align more closely with the low interest rate environment and increased life expectancy. Both the employer and employee savings contributions were increased. The flexibility of both plans was improved by introducing three levels of savings. Together with other changes the insured salary was increased.

Top-up payments were introduced to those members' pension accounts which had been part of the plan in 2017. This ensures that benefits at normal retirement age will be at least equal to 98.5 percent of their pensions expectations under the previous conversion rates.

Although the Swiss plan operates like a defined contribution plan under local regulations, it is accounted for as a defined benefit pension plan under IAS 19 'Employee Benefits' because of the need to accrue interest on the pension accounts and the payment of a lifetime pension at a fixed conversion rate under the plan rules.

Actuarial valuations are completed annually and if the plan becomes underfunded under local regulations, options for dealing with this include the ZIC Group paying additional contributions into the plan and/or reducing future benefits. At present, the plan is sufficiently funded, meaning that no additional contributions into the plans are expected to be required in the next year. The investment strategy of the Swiss plan is constrained by Swiss pension law including regulations related to diversification of plan assets. Under IAS 19, volatility arises in the Swiss pension plan net asset because the fair value of the plan assets is not directly correlated to movements in the value of the plan's defined benefit obligation in the short-term.

UK pension plan

The major UK pension plan is a hybrid arrangement and defined benefits entitlements accrued to December 31, 2015 increase in line with salary increases. Normal retirement age for the plan is 60. The plan is split into distinct sections and the two defined benefit sections are closed to new entrants and, with effect from January 1, 2016, to future benefit accrual. All employees now participate in a defined contribution section within the same trust. The notes that follow consider only the defined benefit sections. The UK Pension Trustee Board is responsible for the governance of the plan. The employer contributions are determined based on regular triennial actuarial valuations which are conducted using assumptions agreed by the Trustee Board and the sponsoring company. A local statutory valuation was carried out at an effective date of June 30, 2016 and was finalized in June 2017. This valuation disclosed a funding surplus of USD 411 million (GBP 304 million) after taking into account the value of the asset-backed funding arrangement established in 2014.

The ongoing funding of the plan is closely monitored by the Trustee Board and a dedicated funding committee is made up of representatives from the Trustee Board and the ZIC Group. The plan rules and UK pension legislation set out maximum levels of inflationary increases applied to plan benefits. The plan assets are invested in diversified classes of assets.

U.S. pension plans

There are two major pension plans in the U.S., the Zurich North America (ZNA) plan and the Farmers Group, Inc. (FGI) pension plan. These are both cash balance pension plans funded entirely by the participating employers. The ZNA plan is entirely cash balance and the FGI pension plan provides benefits on a cash balance pension formula for benefits accruing after January 1, 2009, except with respect to certain grandfathered participants. A final average pay defined benefit formula applies for the grandfathered participants. For both cash balance plans, an amount is credited to the cash balance account each quarter, determined by an employee's age, service and their level of earnings up to and above the social security taxable wage base. The minimum annual interest earned on the account balance is 5 percent. The cash balance account is available from age 65, or age 55 with five years of service. The benefit can be taken as a monthly annuity or as a lump sum. Both the ZNA plan and the FGI pension plan have fiduciaries as required under local pension laws. The fiduciaries are responsible for the governance of the plans. Actuarial valuations are completed regularly. The annual employer minimum required contributions are equal to the present value of benefits accrued each year, plus a rolling amortization of any prior underfunding. The FGI plan has been frozen with effect from December 31, 2018 following a Plan amendment decision in late 2016. FGI employees participating in the cash balance component of the FGI pension plan will continue to earn interest credits on their existing cash balance account balance after the freeze date. FGI employees participating in the final average pay formula will continue to earn eligibility service used to determine vesting and the percentage of pension benefit payable for early retirement before normal retirement age of 65. Farmers Group employees will earn only defined contribution retirement benefits starting January 1, 2019.

The ZNA cash balance pension plan was amended effective December 31, 2018 following a decision in November 2017 so that employees will no longer earn pay credits. However, ZNA employees will continue to earn interest credits on their existing account balance. The impact resulted in a past service credit in 2017. In conjunction with the change in the pension plan, ZNA employees will receive an additional company contribution within their defined contribution plan.

German pension plans

There are a number of legacy defined benefit plans in Germany, most of which were set up under works council agreements. In 2007, a contractual trust arrangement was set up to support all pension commitments of the employing companies in Germany. From this time, new contributions to the contractual trust arrangement relate to the pension payment refund of the employer companies.

A separate arrangement was also established in 2010 to provide for retirement obligations that were in payment at that time. Consideration is given from time to time based on the fiscal efficiency of adding recent retirees to this arrangement and to adding assets to the contractual trust.

The defined benefit plans provide benefits on either a final salary, career average salary or a cash balance basis. These plans are now closed to new entrants, who instead participate in a new cash balance arrangement, which has the characteristics of a defined contribution arrangement with a capital guarantee on members' balances, which mirrors the capital guarantee given in a conventional life insurance arrangement in Germany.

Tables 20.1a and 20.1b set out the reconciliation of the defined benefit obligation and plan assets for the ZIC Group's post-employment defined benefit plans.

Movement in defined benefit obligation and fair value of assets – current period

Table 20.1a

in USD millions	Defined benefit obligation	Fair value of assets	Asset ceiling	Net defined benefit asset/ (liability)
As of January 1, 2018	(23,227)	19,934	(95)	(3,388)
Net post-employment benefit (expense)/income:				
Current service cost	(252)	–	–	(252)
Interest (expense)/income	(429)	350	–	(78)
Settlements gains/(losses)	169	(149)	–	20
Past service (cost)/credit	(28)	–	–	(28)
Net post-employment benefit (expense)/income	(540)	201	–	(339)
Remeasurement effects included in other comprehensive income:				
Return on plan assets excluding interest income	–	(713)	–	(713)
Experience gains/(losses)	199	–	–	199
Actuarial gains/(losses) arising from changes in demographic assumptions	316	–	–	316
Actuarial gains/(losses) arising from changes in financial assumptions	909	–	–	909
Change in asset ceiling	–	–	(18)	(18)
Remeasurement effects included in other comprehensive income	1,424	(713)	(18)	693
Employer contributions	–	611	–	611
Employer contributions paid to meet benefits directly	34	–	–	34
Plan participants' contributions	(65)	65	–	–
Payments from the plan (incl. settlements)	965	(965)	–	–
Foreign currency translation effects	816	(686)	–	129
As of December 31, 2018	**(20,593)**	**18,447**	**(113)**	**(2,260)**
of which: Assets for defined pension plans				232
of which: Liabilities for defined pension plans				(2,491)

Consolidated financial statements (continued)

Movement in defined benefit obligation and fair value of assets – prior period

Table 20.1b

in USD millions	Defined benefit obligation	Fair value of assets	Asset ceiling	Net defined benefit asset/ (liability)
As of January 1, 2017	(22,191)	17,883	(9)	(4,317)
Net post-employment benefit (expense)/income:				
Current service cost	(262)	–	–	(262)
Interest (expense)/income	(444)	349	–	(95)
Settlements gains/(losses)	(2)	–	–	(2)
Past service (cost)/credit	123	–	–	123
Net post-employment benefit (expense)/income	(584)	349	–	(235)
Remeasurement effects included in other comprehensive income:				
Return on plan assets excluding interest income	–	582	–	582
Experience gains/(losses)	(65)	–	–	(65)
Actuarial gains/(losses) arising from changes in demographic assumptions	517	–	–	517
Actuarial gains/(losses) arising from changes in financial assumptions	(41)	–	–	(41)
Change in asset ceiling	–	–	(86)	(86)
Remeasurement effects included in other comprehensive income	411	582	(86)	907
Employer contributions	–	513	–	513
Employer contributions paid to meet benefits directly	37	–	–	37
Plan participants' contributions	(57)	57	–	–
Payments from the plan (incl. settlements)	734	(734)	–	–
Foreign currency translation effects	(1,578)	1,284	–	(294)
As of December 31, 2017	**(23,227)**	**19,934**	**(95)**	**(3,388)**
of which: Assets for defined pension plans				201
of which: Liabilities for defined pension plans				(3,590)

Net post-employment benefit (expense)/income is recognized in other employee benefits, which is included within administrative and other operating expense.

Post-employment benefits are long-term by nature. However, short-term variations between long-term actuarial assumptions and actual experience may be positive or negative, resulting in actuarial gains or losses, which are recognized in full in the period in which they occur, and are included within other comprehensive income.

Table 20.2 provides a breakdown of plan assets by asset class.

Table 20.2

Fair value of assets held in funded defined benefit pension plans

in USD millions, as of December 31	2018				2017			
	Quoted in active markets	Other	Total	% of Total	Quoted in active markets	Other	Total	% of Total
Cash and cash equivalents	(282)	–	(282)	(2%)	88	–	88	–
Equity securities	3,658	132	3,790	21%	4,162	116	4,277	21%
Debt securities	84	13,112	13,196	72%	84	13,691	13,775	69%
Investment property	–	1,443	1,443	8%	–	1,491	1,491	7%
Mortgage loans	–	291	291	2%	–	293	293	1%
Other assets[1]	–	7	7	–	–	8	8	–
Total	**3,461**	**14,986**	**18,447**	**100%**	**4,335**	**15,599**	**19,934**	**100%**

[1] UK annuity policies

For the classification of pension assets the ZIC Group follows the same principles as outlined in note 23 (Fair value measurement). Assets meeting the criteria of Level 1 are generally considered quoted in active markets, while assets meeting the criteria of Level 2 or Level 3 are generally considered in other assets.

As a matter of policy, pension plan investment guidelines do not permit investment in any assets in which the ZIC Group or its subsidiaries have an interest, including shares or other financial instruments issued and own use property. Exceptions to the policy require approval by the Group Pensions Committee.

Tables 20.3a and 20.3b provide a breakdown of the key information included in tables 20.1a and 20.1b for the main countries for the years ended December 31, 2018 and 2017, respectively.

Table 20.3a

Key information by main country – current period

in USD millions, as of December 31, 2018	Switzerland	United Kingdom	United States	Germany	Other	Total
Defined benefit obligation	(4,590)	(10,140)	(3,387)	(1,316)	(1,160)	(20,593)
Fair value of plan assets	4,881	8,410	3,008	1,181	967	18,447
Impact of asset ceiling	(95)	(18)	–	–	–	(113)
Net defined benefit asset/(liability)	**196**	**(1,748)**	**(380)**	**(135)**	**(193)**	**(2,260)**
Net post-employment benefit (expense)/income	(98)	(95)	(106)	(26)	(13)	(339)

Table 20.3b

Key information by main country – prior period

in USD millions, as of December 31, 2017	Switzerland	United Kingdom	United States	Germany	Other	Total
Defined benefit obligation	(4,793)	(11,952)	(3,644)	(1,424)	(1,414)	(23,227)
Fair value of plan assets	5,081	9,439	3,003	1,275	1,135	19,934
Impact of asset ceiling	(87)	(8)	–	–	–	(95)
Net defined benefit asset/(liability)	**201**	**(2,521)**	**(640)**	**(149)**	**(280)**	**(3,388)**
Net post-employment benefit (expense)/income[1]	(64)	(80)	(39)	(17)	(35)	(235)

[1] Switzerland and the U.S. include a past service credit of USD 35 million and USD 81 million, respectively.

Table 20.4 shows the key financial assumptions used to calculate the ZIC Group's post-employment defined benefit obligations and the ZIC Group's post-employment benefit expenses.

Key financial assumptions used for major plans

Table 20.4

as of December 31	2018				2017			
	Switzerland	**United Kingdom**	**United States**	**Germany**	Switzerland	United Kingdom	United States	Germany
Discount rate	0.8%	2.7%	4.2%	1.7%	0.6%	2.4%	3.6%	1.7%
Inflation rate (CPI)[1]	1.2%	2.2%	2.0%	1.6%	1.3%	2.2%	2.3%	1.8%
Salary increase rate	1.2%	2.0%	4.5%	2.9%	1.3%	2.1%	4.5%	3.1%
Expected future pension increases	0.1%	3.6%	n/a	1.6%	0.1%	3.5%	n/a	1.8%
Interest crediting rate	0.8%	n/a	5.0%	n/a	0.6%	n/a	5.0%	n/a

[1] In the UK part of the liability is linked to the inflation measure of the Retail Price Index (RPI), which is assumed to be 1.0 percent higher than the Consumer Price Index (CPI) as of both December 31, 2018 and 2017.

Tables 20.5a and 20.5b set out the life expectancies used in the valuation of the ZIC Group's major plans. The mortality assumptions in each country have been based on mortality tables in accordance with typical practice in that country.

Mortality tables and life expectancies for major plans – current period

Table 20.5a

in years, as of December 31, 2018		**Life expectancy at age 65 for a male currently**		**Life expectancy at age 65 for a female currently**	
		aged 65	**aged 45**	**aged 65**	**aged 45**
Country	**Mortality table for major plans**				
Switzerland	BVG 2015 Generational	22.50	24.30	24.50	26.40
United Kingdom	PNXA00 with CMI_2017 projection with plan specific adjustments	22.53	23.63	23.25	24.45
	RP 2014 with MP-2018 Generational projection and white collar adjustment	22.19	23.74	23.71	25.23
United States	RP 2014 with plan specific adjustments	21.25	22.22	23.27	24.16
Germany	Heubeck 2018G	20.04	22.83	23.57	25.83

Mortality tables and life expectancies for major plans – prior period

Table 20.5b

in years, as of December 31, 2017		Life expectancy at age 65 for a male currently		Life expectancy at age 65 for a female currently	
		aged 65	aged 45	aged 65	aged 45
Country	**Mortality table for major plans**				
Switzerland	BVG 2015 Generational	22.38	24.26	24.43	26.29
United Kingdom	PNXA00 with CMI_2015 projection	22.92	24.22	23.69	25.19
	RP 2014 with MP-2017 Generational projection and white collar adjustment	22.22	23.76	23.71	25.24
United States	RP 2014 with plan specific adjustments	21.20	22.17	23.22	24.12
Germany	Heubeck 2005G	19.26	21.90	23.32	25.82

Table 20.6 shows the expected benefits to be paid under the ZIC Group's major plans in the future. It should be noted that actual amounts may vary from expected amounts. Therefore future benefit payments may differ from the amounts shown.

Table 20.6

Maturity profile of future benefit payments for major plans

as of December 31	2018				2017			
	Switzerland	United Kingdom	United States	Germany	Switzerland	United Kingdom	United States	Germany
Duration of the defined benefit obligation (in years)	14.1	21.0	12.2	14.0	14.5	21.2	12.8	14.7
Maturity analysis of benefits expected to be paid (in USD millions):								
< 1 year	215	479	220	58	215	563	214	54
1 to 5 years	893	1,819	879	254	891	2,067	876	229
5 to 10 years	1,129	2,070	1,069	348	1,143	2,194	1,077	307

Table 20.7 sets out the sensitivity of the defined benefit obligation to changes in key actuarial assumptions. The effect on the defined benefit obligation shown allows for an alternative value for each assumption while the other actuarial assumptions remain unchanged. While this table illustrates the overall impact on the defined benefit obligation of the changes shown, the significance of the impact and the range of reasonably possible alternative assumptions may differ between the different plans that comprise the overall defined benefit obligation. In particular, the plans differ in benefit design, currency and average term, meaning that different assumptions have different levels of significance for different plans. The sensitivity analysis is intended to illustrate the inherent uncertainty in the evaluation of the defined benefit obligation under market conditions at the measurement date. Its results cannot be extrapolated due to non-linear effects that changes in the key actuarial assumptions may have on the overall defined benefit obligation. Furthermore, the analysis does not indicate a probability of such changes occurring and it does not necessarily represent the Group's view of expected future changes in the defined benefit obligation. Any management actions that may be taken to mitigate the inherent risks in the post-employment defined benefit plans are not reflected in this analysis.

Table 20.7

Sensitivity analysis of significant actuarial assumptions

	Defined benefit obligation[1]	
in USD millions, as of December 31	2018	2017
Discount rate +50 bps	1,647	1,927
Discount rate –50 bps	(1,886)	(2,217)
Salary increase rate +50 bps	(71)	(85)
Salary decrease rate –50 bps	65	89
Price inflation increase rate +50 bps	(865)	(1,036)
Price inflation decrease rate –50 bps	763	920
Cash balance interest credit rate +50 bps	(116)	(128)
Cash balance interest credit rate –50 bps	73	78
Mortality 10% increase in life expectancy	(1,841)	(2,020)
Mortality 10% decrease in life expectancy	1,789	1,890

[1] A negative number indicates an increase and a positive number indicates a decrease in the defined benefit obligation.

b) Defined contribution pension plans

Certain of the ZIC Group's companies sponsor defined contribution pension plans. Eligibility for participation in such plans is either immediate on commencement of employment or based on completion of a specified period of continuous service. The plans provide for voluntary contributions by employees and contributions by the employer which typically range from 2 percent to 12 percent of annual pensionable salary, depending on a number of factors. The ZIC Group's contributions under these plans amounted to USD 184 million and USD 139 million for the years ended December 31, 2018 and 2017, respectively.

21. Share-based compensation and cash incentive plans

The ZIC Group has adopted various share-based compensation and cash incentive plans to attract, retain and motivate executives and employees. The plans are designed to reward employees for their contribution to the performance of the ZIC Group and to encourage employee share ownership. Share-based compensation plans include plans under which shares and options to purchase shares, based on the performance of the businesses, can be awarded. Share-based compensation plans are based on the provision of Zurich Insurance Group Ltd shares, the ultimate parent which is not part of the ZIC Group.

a) Cash incentive plans
Various businesses throughout the Group operate short-term incentive programs for executives, management and, in some cases, for employees of that business. Awards are made in cash, based on the accomplishment of both organizational and individual performance objectives. The expense recognized for these cash incentive plans amounted to USD 523 million and USD 485 million for the years ended December 31, 2018 and 2017, respectively.

b) Share-based compensation plans for employees and executives
The ZIC Group encourages employees to own shares in Zurich Insurance Group Ltd and has set up a framework based on the implementation of performance share programs. Actual plans are tailored to meet local market requirements.

The cost of share-based payments depend on various factors, including achievement of targets, and are subject to the discretion of the Remuneration Committee. Costs may therefore vary significantly from year to year. The net amounts of USD 302 million and USD 157 million for the years ended December 31, 2018 and 2017, respectively, reflect all aspects of share-based compensation, including adjustments made during the year.

The explanations below provide a more detailed overview of the main plans of the ZIC Group.

Employee share plans
Share Incentive Plan for employees in the UK
The ZIC Group established an Inland Revenue approved Share Incentive Plan and launched the Partnership Shares element of this plan in 2003, which enabled participating employees to make monthly purchases of Zurich Insurance Group Ltd shares at the prevailing market price from their gross earnings. This plan was terminated in 2007. There were 47 and 55 participants in the plan as of December 31, 2018 and 2017, respectively.

A revised Partnership Share Scheme was launched in March 2013. Participants benefit from purchasing shares by making deductions from gross salary up to a maximum of GBP 1,800 or 10 percent of their year-to-date earnings. There were 688 and 754 active participants in the plan as of December 31, 2018 and 2017, respectively.

The Group also operates a profit-sharing element of the Share Incentive Plan (Reward Shares) which was launched in 2004 with annual share allocations being made in May each year subject to business performance. The awards are based on business operating profit (BOP) after tax for the year achieved by the business unit of each participating employee. Individual awards are subject to a maximum of 5 percent of a participant's base salary (before any flexible benefit adjustments) with an overall maximum of GBP 3,600. The total number of participating employees in Reward Shares as of December 31, 2018 and 2017 was 3,192 and 4,174, respectively.

A Dividend Shares scheme was launched in 2014 which allows employees to reinvest their dividends from Partnership Shares 3 and Reward Shares 3. As of December 31, 2018 and 2017, there were 385 and 313 participants in the scheme, respectively.

Share Incentive Plan for employees in Switzerland
Under this plan, employees have the option to acquire sales-restricted shares at a 30 percent discount to the market value. The maximum permitted investment in shares is equivalent to CHF 3,500 per employee per annum. During 2018, 4,097 employees were eligible to participate in the share incentive plan, compared with 4,161 in 2017. For the years ended December 31, 2018 and 2017, 1,648 and 1,672 employees, respectively, purchased shares under the 2017 and 2018 share plans.

The Zurich Insurance Group Long-Term Incentive Plan (LTIP)
Participants in this plan are allocated a target number of performance shares as notional shares of Zurich Insurance Group Ltd in April each year (target shares). The number of target shares is calculated as a percentage of annual base salary of each participant.

Target shares allocated in 2018 will vest after a period of three years following the year of allocation (three year cliff vesting), with the actual level of vesting between 0 percent and 200 percent of the target shares allocated, depending on the achievement of pre-defined performance criteria. The performance criteria used to determine the level of vesting are the Zurich Insurance Group's return on shareholders' equity (ROE), the position of its relative total shareholder return (TSR) measured against an international peer group of insurance companies, and the achievement of cash remittance targets. The three pre-defined performance criteria are each assessed over a period of three consecutive financial years starting in the year of allocation and have an equal weighting. One half of the shares that actually vest are sales-restricted for a further three years. To further align the participants with the interests of the shareholders, effective from January 1, 2014, the target shares are credited with dividend equivalent shares during the vesting period to compensate participants in LTIP for dividends paid to Zurich Insurance Group shareholders. As of December 31, 2018 and 2017 there were 1,031 and 1,129 participants in this plan, respectively.

Table 21

Shares allocated during the period

for the years ended December 31	Number		Fair value at the allocation date (in CHF)	
	2018	2017	**2018**	2017
Shares allocated during the period	544,780	592,859	310	264

The shares allocated each year are based on target under the Zurich Insurance Group's LTIP. The level of vesting will depend on the level of achievements in the performance criteria. If the vesting level is different to target, the actual cost of the share-based payments is adjusted accordingly in the year when the level of vesting is determined.

Prior to 2011, for selected senior executives, options in shares of Zurich Insurance Group Ltd were allocated. For the years ended December 31, 2018 and 2017, nil and 172,978 share options, respectively, were exercised.

22. Commitments and contingencies, legal proceedings and regulatory investigations

The ZIC Group has provided contractual commitments and financial guarantees to external parties, associates and joint ventures as well as partnerships. These arrangements include commitments under certain conditions to make liquidity advances to cover default principal and interest payments, make capital contributions or provide equity financing.

Quantifiable commitments and contingencies

Table 22.1

in USD millions, as of December 31	**2018**	2017
Remaining commitments under investment agreements	2,283	1,820
Guarantees and letters of credit[1]	2,083	871
Future operating lease commitments	2,149	2,127
Undrawn loan commitments	2	16
Other commitments and contingent liabilities[2]	2,346	2,625

[1] Guarantee features embedded in life insurance products are not included.
[2] Other commitments include an agreement related to the acquisition of ANZ's life insurance businesses (see note 5).

Commitments under investment agreements

The ZIC Group has committed to contribute capital to third parties that engage in making investments in direct private equity, private equity funds and real estate. Commitments may be called by the counterparty over the term of the investment (generally three to five years) and must be funded by the ZIC Group on a timely basis.

Guarantees and letters of credit

In 2018 and 2017, USD 605 million and USD 642 million, respectively, related to guarantees in the aggregate amount of GBP 475 million which were provided to the directors of a wholly owned subsidiary in connection with the repatriation of capital. These guarantees have no expiry date.

The ZIC Group knows of no event of default that would require it to satisfy financial guarantees. Irrevocable letters of credit have been issued to secure certain reinsurance contracts.

The ZIC Group is active in numerous countries where insurance guarantee funds exist. The design of such funds varies from jurisdiction to jurisdiction. In some, funding is based on premiums written, in others the ZIC Group may be called upon to contribute to such funds in case of a failure of another market participant. In addition, in some jurisdictions the amount of contribution may be limited, for example, to a percentage of the net underwriting reserve net of payments already made.

The ZIC Group carries certain contingencies in the ordinary course of business in connection with the sale of its companies and businesses. These are primarily in the form of indemnification obligations provided to the acquirer in a transaction in which a ZIC Group company is the seller. They vary in scope and duration by counterparty and generally are intended to shift the potential risk of certain unquantifiable and unknown loss contingencies from the acquirer to the seller.

Zurich Insurance Group Ltd has provided unlimited guarantees in support of entities belonging to the Zurich Capital Markets group of companies.

Commitments under lease agreements

The ZIC Group has entered into various non-cancellable operating leases as lessee for office space and certain computer and other equipment. Lease expenses totaled USD 256 million for both years ended December 31, 2018 and 2017.

Table 22.2

Future payments under non-cancelable operating leases with terms in excess of one year

in USD millions, as of December 31	2018	2017
< 1 year	283	285
1 to 2 years	248	249
2 to 3 years	229	202
3 to 4 years	181	188
4 to 5 years	164	148
> 5 years	1,044	1,055
Total	**2,149**	**2,127**

Other contingent liabilities

The ZIC Group has received notices from various tax authorities asserting deficiencies in taxes for various years. The ZIC Group is of the view that the ultimate outcome of these reviews will not materially affect the ZIC Group's consolidated financial position.

The ZIC Group has commitments to provide collateral on certain contracts in the event of a financial strength downgrading for Zurich Insurance Company Ltd from the current AA– by Standard & Poor's. Should the rating by Standard & Poor's fall to A+, then the additional collateral based on information available amounts to nil as of both December 31, 2018 and 2017.

In common with other insurance companies, the ZIC Group is mindful of the trend toward enhanced consumer protection. There is significant uncertainty about the ultimate cost this trend might have on our business. The main areas of uncertainty concern court decisions as well as the volume of potential customer complaints related to sales activities and withdrawal rights, and their respective individual assessments.

Pledged assets

The majority of assets pledged to secure the ZIC Group's liabilities relate to debt securities pledged under short-term sale and repurchase agreements. The total amount of pledged financial assets including the securities under short-term sale and repurchase agreements amounted to USD 2 billion and USD 2.4 billion as of December 31, 2018 and 2017, respectively.

Terms and conditions associated with the financial assets pledged to secure the ZIC Group's liabilities are usual and standard in the markets in which the underlying agreements were executed.

Legal, compliance and regulatory developments

In recent years there has been an increase in the number of legislative initiatives that require information gathering and tax reporting regarding the ZIC Group's customers and their contracts, including the U.S. Foreign Account Tax Compliance Act (FATCA) and the expected introduction of other automatic tax information exchange regimes based on the Common Reporting Standard (CRS). The ZIC Group's compliance activities in this area could result in higher compliance costs, remedial actions and other related expenses for its life insurance, savings and pension business. There has also been increased scrutiny by various tax and law enforcement officials regarding cross-border business activities, including in particular by U.S. government authorities looking into activities of U.S. taxpayers with investments held outside the U.S. and activities of non-U.S. financial institutions that hold such investments.

The ZIC Group, on its own initiative, undertook an internal review of the life insurance, savings and pension business sold by its non-U.S. operating companies with relevant cross-border business to customers with a nexus to the U.S. The ZIC Group engaged outside counsel and other advisors to assist in this review, which was focused on assessing compliance with relevant U.S. tax laws. The review confirmed that the ZIC Group's cross-border business with U.S. persons was very limited and of a legacy nature, with the large majority of sales having occurred more than a decade ago. The review also confirmed that the ZIC Group's U.S. operating companies were not involved in or connected to those activities.

The ZIC Group has voluntarily disclosed the results of the review and the regulatory issues presented by sales to U.S. residents to the Swiss Financial Market Supervisory Authority (FINMA), the U.S. Department of Justice (DOJ) and other authorities. The ZIC Group is cooperating with these authorities.

While the process remains ongoing, the ZIC Group does not currently believe this matter will have a material adverse effect on the ZIC Group's business or the ZIC Group's consolidated financial condition.

Legal proceedings and regulatory investigations

The ZIC Group's business is subject to extensive supervision, and the ZIC Group is in regular contact with various regulatory authorities. The ZIC Group is continuously involved in legal proceedings, claims and regulatory investigations arising, for the most part, in the ordinary course of its business operations.

While the ZIC Group believes that it is not a party to, nor are any of its subsidiaries the subject of, any unresolved current legal proceedings, claims, litigation and investigations that will have a material adverse effect on the ZIC Group's consolidated financial condition, proceedings are inherently unpredictable, and it is possible that the outcome of any proceeding could have a material impact on results of operations in the particular reporting period in which it is resolved.

23. Fair value measurement

To measure fair value, the ZIC Group gives the highest priority to quoted and unadjusted prices in active markets. In the absence of quoted prices, fair values are calculated through valuation techniques, making the maximum use of relevant observable market data inputs. Whenever observable parameters are not available, the inputs used to derive the fair value are based on common market assumptions that market participants would use when pricing assets and liabilities. Depending on the observability of prices and inputs to valuation techniques, the ZIC Group classifies instruments measured at fair value within the following three levels (the fair value hierarchy):

Level 1 – includes assets and liabilities for which fair values are determined directly from unadjusted current quoted prices resulting from orderly transactions in active markets for identical assets/liabilities.

Level 2 – includes assets and liabilities for which fair values are determined using significant inputs other than quoted prices included in level 1 that are observable for the asset or liability, either directly or indirectly. These inputs include quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, and other observable market inputs.

Level 3 – includes assets and liabilities for which fair values are determined using valuation techniques with at least one significant input not being based on observable market data. This approach is used only in circumstances when there is little, if any, market activity for a certain instrument, and the ZIC Group is required to rely on third party providers or develop internal valuation inputs based on the best information available about the assumptions that market participants would use when pricing the asset or liability.

The governance framework and oversight of the ZIC Group's standards and procedures regarding the valuation of financial instruments measured at fair value lies within the responsibility of Group Risk Management, Group Investment Management, Treasury Capital Management and Group Finance. Specialists from these departments ensure the adequacy of valuation models, approve methodologies and sources to derive model input parameters, provide oversight over the selection of third party pricing providers, and on a semi-annual basis review the classification within the fair value hierarchy of the financial instruments in scope.

The ZIC Group makes extensive use of third-party pricing providers to determine the fair values of its available-for-sale and fair value through profit or loss financial instruments, and only in rare cases places reliance on prices that are derived from internal models. Investment accounting, operations and process functions, are independent from those responsible for buying and selling the assets, and are responsible for receiving, challenging and verifying values provided by third party pricing providers to ensure that fair values are reliable, as well as ensuring compliance with applicable accounting and valuation policies. The quality control procedures used depend on the nature and complexity of the invested assets. They include variance and stale price analysis, and comparisons with fair values of similar instruments and with alternative values obtained from asset managers and brokers.

Table 23.1 compares the fair value with the carrying value of financial assets and financial liabilities. Certain financial instruments are not included in this table as their carrying value is a reasonable approximation of their fair value. Such instruments include cash and cash equivalents, obligations to repurchase securities, deposits made under assumed reinsurance contracts, deposits received under ceded reinsurance contracts and other financial assets and liabilities. This table excludes financial assets and financial liabilities related to unit-linked contracts.

Table 23.1

Fair value and carrying value of financial assets and financial liabilities

in USD millions, as of December 31	Total fair value		Total carrying value	
	2018	2017	**2018**	2017
Available-for-sale securities				
Equity securities	13,282	14,542	13,282	14,542
Debt securities	132,522	140,240	132,522	140,240
Total available-for-sale securities	145,805	154,781	145,805	154,781
Fair value through profit or loss securities				
Equity securities	3,633	3,597	3,633	3,597
Debt securities	5,229	5,699	5,229	5,699
Total fair value through profit or loss securities	8,862	9,295	8,862	9,295
Derivative assets	899	903	899	903
Held-to-maturity debt securities	2,655	2,966	2,118	2,322
Mortgage loans	6,935	7,501	6,556	7,047
Other loans	9,123	10,396	7,614	8,730
Total financial assets	**174,278**	**185,843**	**171,853**	**183,079**
Derivative liabilities	(325)	(214)	(325)	(214)
Financial liabilities held at amortized cost				
Liabilities related to investment contracts	(606)	(631)	(504)	(510)
Senior debt	(5,428)	(4,075)	(5,336)	(3,950)
Subordinated debt	(6,722)	(7,594)	(6,775)	(6,938)
Total financial liabilities held at amortized cost	(12,756)	(12,300)	(12,615)	(11,398)
Total financial liabilities	**(13,082)**	**(12,514)**	**(12,941)**	**(11,613)**

All of the ZIC Group's financial assets and financial liabilities are initially recorded at fair value. Subsequently, available-for-sale financial assets, fair value through profit or loss financial assets, and derivative financial instruments are carried at fair value as of the balance sheet date. All other financial instruments are carried at amortized cost and the valuation techniques used to determine their fair value measurement are described below.

Fair values of held-to-maturity debt securities and senior and subordinated debt are obtained from third party pricing providers. The fair value received from these pricing providers may be based on quoted prices in an active market for identical assets, alternative pricing methods such as matrix pricing or an income approach employing discounted cash flow models. Such instruments are categorized within level 2.

Discounted cash flow models are used for mortgage loans and other loans. The discount yields in these models use interest rates that reflect the return a market participant would expect to receive on instruments with similar remaining maturities, cash flow patterns, currencies, credit risk and collateral. Such instruments are categorized within level 3.

Fair values of liabilities related to investment contracts and investment contracts with DPF are determined using discounted cash flow models. Such instruments are categorized within level 3 due to the unobservability of certain inputs used in the valuation.

Recurring fair value measurements of assets and liabilities

Fair value hierarchy – non unit-linked – current period

Table 23.2a

in USD millions, as of December 31, 2018	Level 1	Level 2	Level 3	Total
Available-for-sale securities				
Equity securities	9,548	2,515	1,219	13,282
Debt securities	–	124,963	7,559	132,522
Total available-for-sale securities	9,548	127,478	8,778	145,805
Fair value through profit or loss securities				
Equity securities	1,409	25	2,198	3,633
Debt securities	–	5,151	78	5,229
Total fair value through profit or loss securities	1,409	5,176	2,276	8,862
Derivative assets	10	810	79	899
Investment property	–	2,269	10,082	12,351
Reinsurers' share of liabilities for insurance contracts fair value option[1]	–	–	204	204
Total	**10,968**	**135,733**	**21,419**	**168,120**
Derivative liabilities	(2)	(288)	(35)	(325)
Liabilities for insurance contracts fair value option[2]	–	–	(2,203)	(2,203)
Total	**(2)**	**(288)**	**(2,238)**	**(2,528)**

[1] Included within reinsurers' share of liabilities for insurance contracts.
[2] Included within liabilities for insurance contracts.

Fair value hierarchy – non unit-linked – prior period

Table 23.2b

in USD millions, as of December 31, 2017	Level 1	Level 2	Level 3	Total
Available-for-sale securities				
Equity securities	11,211	2,342	988	14,542
Debt securities	–	133,989	6,251	140,240
Total available-for-sale securities	11,211	136,331	7,239	154,781
Fair value through profit or loss securities				
Equity securities	959	71	2,566	3,597
Debt securities	–	5,615	84	5,699
Total fair value through profit or loss securities	959	5,686	2,650	9,295
Derivative assets	–	842	61	903
Investment property	–	2,774	9,464	12,238
Reinsurers' share of liabilities for insurance contracts fair value option[1]	–	–	224	224
Total	**12,171**	**145,634**	**19,638**	**177,443**
Derivative liabilities	(3)	(182)	(30)	(214)
Liabilities for insurance contracts fair value option[2]	–	–	(2,436)	(2,436)
Total	**(3)**	**(182)**	**(2,465)**	**(2,650)**

[1] Included within reinsurers' share of liabilities for insurance contracts.
[2] Included within liabilities for insurance contracts.

Consolidated financial statements (continued)

Fair value hierarchy – unit-linked – current period

Table 23.3a

in USD millions, as of December 31, 2018	Level 1	Level 2	Level 3	Total
Fair value through profit or loss securities				
Equity securities	76,887	18,985	619	96,490
Debt securities	–	6,431	21	6,452
Other loans	–	2,667	–	2,667
Total fair value through profit or loss securities	**76,887**	**28,083**	**640**	**105,610**
Derivative assets	1	2	–	3
Investment property	–	–	3,222	3,222
Total investments for unit-linked contracts[1]	**76,888**	**28,084**	**3,863**	**108,835**
Financial liabilities at FV through profit or loss				
Liabilities related to unit-linked investment contracts	–	(40,828)	–	(40,828)
Derivative liabilities	(11)	(1)	–	(12)
Total	**(11)**	**(40,829)**	**–**	**(40,840)**

[1] Excluding cash and cash equivalents.

Fair value hierarchy – unit-linked – prior period

Table 23.3b

in USD millions, as of December 31, 2017	Level 1	Level 2	Level 3	Total
Fair value through profit or loss securities				
Equity securities	85,886	20,256	503	106,645
Debt securities	–	7,064	51	7,115
Other loans	288	2,620	–	2,907
Total fair value through profit or loss securities	**86,174**	**29,939**	**554**	**116,667**
Derivative assets	4	15	–	19
Investment property	–	–	3,410	3,410
Total investments for unit-linked contracts[1]	**86,178**	**29,954**	**3,963**	**120,096**
Financial liabilities at FV through profit or loss				
Liabilities related to unit-linked investment contracts	–	(45,484)	–	(45,484)
Derivative liabilities	(3)	(12)	–	(15)
Total	**(3)**	**(45,496)**	**–**	**(45,500)**

[1] Excluding cash and cash equivalents.

Within level 1, the ZIC Group has classified common stocks, exchange traded derivative financial instruments, investments in unit trusts that are exchange listed and daily published and other highly liquid financial instruments.

Within level 2, the ZIC Group has classified government and corporate bonds, investments in unit trusts, agency mortgage-backed securities (MBS) and 'AAA' rated non-agency MBS and other asset-backed securities (ABS) where valuations are obtained from independent pricing providers. The fair value received from these pricing providers may be based on quoted prices in an active market for similar assets, alternative pricing methods such as matrix pricing or an income approach employing discounted cash flow models. If such quoted prices are not available, then fair values are estimated on the basis of information from external pricing providers or internal pricing models (for example, discounted cash flow models or other recognized valuation techniques).

Where there are active and transparent markets and no significant adjustments to the observable data required, the ZIC Group classified also a small portion of its investment property within level 2.

Over the counter derivative financial instruments are valued using internal models. The fair values are determined using dealer price quotations, discounted cash flow models and option pricing models, which use various inputs including current market and contractual prices for underlying instruments, time to expiry, yield curves and volatility of underlying instruments. Such instruments are classified within level 2 as the inputs used in pricing models are generally market observable or derived from market observable data.

Fair values of liabilities related to unit-linked investment contracts are usually determined by reference to the fair value of the underlying assets backing these liabilities. Such instruments are classified within level 2.

Within level 3, the ZIC Group has classified:

- Unlisted stocks, private equity funds and hedge funds that are not actively traded. Such instruments are obtained from net asset value information and audited financial statements provided by the issuing company. Quantitative unobservable inputs are not developed by the ZIC Group when measuring fair value of these assets.
- Non-agency MBS and ABS rated below 'AAA' that are valued by independent pricing providers using a variety of valuation techniques which may require use of significant unobservable input parameters such as asset prepayment rate, default rates and credit curves. Quantitative unobservable inputs are not developed by the ZIC Group when measuring fair value of these assets.
- Options and long-dated derivative financial instruments with fair values determined using counterparty valuations or calculated using significant unobservable inputs such as historical volatilities, historical correlation, implied volatilities from the counterparty or derived using extrapolation techniques. Quantitative information on unobservable inputs are not available when counterparty pricing was used. For internally calculated fair values significant increases/(decreases) in volatilities or correlation, would result in a significantly higher/(lower) fair value measurement.
- Investment properties for which fair value is based on valuations performed annually by internal valuation specialists and generally on a rotation basis at least once every three years by an independent qualified appraiser. In general the portfolio is valued using an internal income capitalization approach. The model is asset specific and capitalizes the sustainable investment income of a property with its risk specific cap rate. This cap rate is an 'all risk yield' with components such as asset class yield for core assets (lowest risk) plus additional premiums for additional risks, for example second tier location or deterioration risk. All cap rate components (risk premiums) are reviewed and, if necessary, adjusted annually before revaluations are performed. The model takes into consideration external factors such as interest rate, market rent and vacancy rate. The significant unobservable inputs which are outside this model, are estimated rental value, rental growth, long term vacancy rate and discount rate. Significant increases/(decreases) in rental value and rental growth, in isolation, would result in a significantly higher/(lower) fair value measurement. Significant increases/(decreases) in the long term vacancy rate and discount rate, in isolation, would result in a significantly lower/(higher) fair value measurement.
- Reinsurers' share of liabilities and liabilities for insurance contracts fair value option. The fair values are determined using discounted cash flow models. The discount factors used are based on derived rates for LIBOR swap forwards, spreads to U.S. Treasuries and spreads to U.S. corporate A or higher rated bond segments for financials, industrials and utilities. The liability-projected cash flows use contractual information for premiums, benefits and agent commissions, administrative expenses under third party administrative service agreements and best estimate parameters for policy decrements. The primary unobservable inputs are the policy decrement assumptions used in projecting cash flows. These include disability claim parameters for incidence and termination (whether for recovery or death) and lapse rates. Significant increases/(decreases) in claim incidence rates and significant decreases/(increases) in claim termination rates would result in a significantly higher/(lower) fair value measurement.
- The ZIC Group's private debt holdings comprise certain private placements and other collateralized loan obligations (CLO) which are valued by dedicated external asset managers applying a combination of expert judgment and other specific adjustments for which interest rates as well as credit spreads serve as input parameters. Quantitative unobservable inputs are not developed by the ZIC Group when measuring fair value of these assets.

For details on ZIC Group investments sensitivities, refer to section analysis by risk type in the risk review.

The fair value hierarchy is reviewed at the end of each reporting period to determine whether significant transfers between levels have occurred. Transfers between levels mainly arise as a result of changes in market activity and observability of the inputs to the valuation techniques used to determine the fair value of certain instruments.

For the year ended December 31, 2018, the ZIC Group transferred USD 1.3 billion of fair value UL equity securities out of level 2 into level 1 and 932 million of fair value UL equity securities out of level 1 into level 2 as a result of a review of the classification of certain mutual fund investments.

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Development of assets and liabilities classified within level 3 – non unit-linked – current period

Table 23.4a

in USD millions	Available-for-sale securities		Fair value through profit or loss securities				
	Equity securities	Debt securities	Equity securities	Debt securities	Derivative assets	Derivative liabilities	Investment property
As of January 1, 2018	988	6,251	2,566	84	61	(30)	9,464
Realized gains/(losses) recognized in income[1]	104	14	38	–	(1)	–	123
Unrealized gains/(losses) recognized in income[1, 2]	(9)	(15)	(43)	(2)	(6)	(5)	136
Unrealized gains/(losses) recognized in other comprehensive income	102	(163)	–	–	11	1	–
Purchases	278	2,456	511	–	8	(4)	689
Settlements/sales/redemptions	(212)	(1,181)	(870)	(2)	(6)	–	(668)
Transfer to assets held for sale	–	–	–	–	–	–	(15)
Transfers into level 3	4	352	–	–	17	–	554
Transfers out of level 3	–	(43)	–	–	–	–	–
Foreign currency translation effects	(37)	(111)	(4)	(2)	(3)	2	(201)
As of December 31, 2018	**1,219**	**7,559**	**2,198**	**78**	**79**	**(35)**	**10,082**

[1] Presented as net capital gains/(losses) and impairments on Group investments in the consolidated income statements.
[2] Unrealized gains/(losses) recognized in income for available-for-sale securities relate to impairments.

For the year ended December 31, 2018, the ZIC Group transferred USD 352 million of available-for-sale debt securities out of level 2 into level 3. The transfers were mainly due to a review of the classification of certain collateralized loan obligations due to the observability of the inputs used in the valuation techniques to determine its fair value. The ZIC Group also transferred USD 554 million of investment property out of level 2 into level 3. The transfer resulted from a review of the classification of the real estate property due to the observability of the inputs used in the valuation techniques to determine its fair value.

Development of assets and liabilities classified within level 3 – non unit-linked – prior period

Table 23.4b

in USD millions	Available-for-sale securities		Fair value through profit or loss securities				
	Equity securities	Debt securities	Equity securities	Debt securities	Derivative assets	Derivative liabilities	Investment property
As of January 1, 2017	917	5,508	2,536	97	422	(61)	8,555
Realized gains/(losses) recognized in income[1]	199	8	6	1	2	(48)	177
Unrealized gains/(losses) recognized in income[1, 2]	2	(9)	238	4	(56)	41	129
Unrealized gains/(losses) recognized in other comprehensive income	(40)	34	–	–	(2)	(4)	38
Purchases	212	1,753	206	44	7	(1)	668
Settlements/sales/redemptions	(334)	(1,263)	(455)	(67)	(10)	48	(563)
Transfer from/to assets held for own use	–	–	–	–	–	–	51
Transfer to assets held for sale	–	–	–	–	–	–	(37)
Transfers into level 3	–	121	–	–	–	–	–
Transfers out of level 3	–	(115)	–	–	(316)	–	–
Foreign currency translation effects	32	214	34	4	14	(5)	446
As of December 31, 2017	**988**	**6,251**	**2,566**	**84**	**61**	**(30)**	**9,464**

[1] Presented as net capital gains/(losses) and impairments on Group investments in the consolidated income statements.
[2] Unrealized gains/(losses) recognized in income for available-for-sale securities relate to impairments.

For the year ended December 31, 2017, the ZIC Group transferred USD 115 million of available-for-sale debt securities out of level 3 into level 2. The transfers were mainly due to credit rating upgrades of certain asset-backed securities resulting in an increase in market activity of these instruments. The ZIC Group also transferred derivatives with a market value of USD 316 million out of level 3 into level 2. The transfers resulted from an increase in significance of certain observable input parameters used to derive the fair value.

Development of liabilities for insurance contracts fair value option classified within level 3 – current period

Table 23.5a

in USD millions	Gross	Ceded	Net
As of January 1, 2018	2,436	(224)	2,212
Premiums	62	(5)	57
Claims	(249)	22	(227)
Fee income and other expenses	(15)	2	(12)
Interest and bonuses credited to policyholders	(26)	1	(24)
Changes in assumptions	(6)	–	(6)
As of December 31, 2018	**2,203**	**(204)**	**1,999**

Development of liabilities for insurance contracts fair value option classified within level 3 – prior period

Table 23.5b

in USD millions	Gross	Ceded	Net
As of January 1, 2017	2,720	(237)	2,483
Premiums	69	(6)	64
Claims	(365)	22	(343)
Fee income and other expenses	(10)	1	(9)
Interest and bonuses credited to policyholders	43	(4)	38
Changes in assumptions	11	–	11
(Decreases)/increases recorded in other comprehensive income	(33)	–	(33)
As of December 31, 2017	**2,436**	**(224)**	**2,212**

Development assets and liabilities classified within level 3 – unit-linked – current period

Table 23.6a

in USD millions	Fair value through profit or loss securities		
	Equity securities	Debt securities	Investment property
As of January 1, 2018	503	51	3,410
Realized gains/(losses) recognized in income[1]	6	–	134
Unrealized gains/(losses) recognized in income[1]	–	1	(18)
Purchases	162	–	232
Sales/redemptions	(84)	(14)	(333)
Transfers into level 3	32	–	–
Transfers out of level 3	–	(16)	–
Acquisitions and divestments	–	–	(9)
Foreign currency translation effects	(1)	(1)	(195)
As of December 31, 2018	**619**	**21**	**3,222**

[1] Presented as net investment result on unit-linked investments in the consolidated income statements.

Consolidated financial statements (continued)

Table 23.6b

Development assets and liabilities classified within level 3 – unit-linked – prior period

in USD millions	Fair value through profit or loss securities		
	Equity securities	Debt securities	Investment property
As of January 1, 2017	446	30	3,138
Realized gains/(losses) recognized in income[1]	–	(1)	(20)
Unrealized gains/(losses) recognized in income[1]	38	(3)	128
Purchases	89	17	133
Sales/redemptions	(56)	–	(189)
Transfers into level 3	–	8	–
Transfers out of level 3	(16)	(1)	–
Acquisitions and divestments	–	–	(79)
Foreign currency translation effects	1	2	300
As of December 31, 2017	**503**	**51**	**3,410**

[1] Presented as net investment result on unit-linked investments in the consolidated income statements.

Non-recurring fair value measurements of assets and liabilities

Under certain circumstances, the ZIC Group may measure certain assets or liabilities at fair value on a non-recurring basis when an impairment charge is recognized.

24. Analysis of financial assets

Tables 24.1a and 24.1b provide an analysis, for non unit-linked businesses, of the age of financial assets that are past due but not impaired, and of financial assets that are individually determined to be impaired.

Table 24.1a

Analysis of financial assets – current period

in USD millions, as of December 31, 2018	Debt securities	Mortgage loans	Other loans	Receivables and other financial assets	Total
Neither past due nor impaired financial assets	139,831	6,475	7,592	12,057	165,956
Past due but not impaired financial assets					
Past due by:					
1 to 90 days	–	58	–	1,425	1,482
91 to 180 days	–	9	–	214	222
181 to 365 days	–	4	–	234	239
> 365 days	–	4	–	208	212
Past due but not impaired financial assets	–	75	–	2,080	2,155
Financial assets impaired	39	12	21	133	204
Gross carrying value	**139,870**	**6,561**	**7,614**	**14,270**	**168,315**
Less: impairment allowance					
Impairment allowances on individually assessed financial assets	–	1	–	74	75
Impairment allowances on collectively assessed financial assets	–	4	–	169	174
Net carrying value	**139,870**	**6,556**	**7,614**	**14,027**	**168,066**

Table 24.1b

Analysis of financial assets – prior period

in USD millions, as of December 31, 2017	Debt securities	Mortgage loans	Other loans	Receivables and other financial assets	Total
Neither past due nor impaired financial assets	148,159	6,943	8,720	12,626	176,448
Past due but not impaired financial assets					
Past due by:					
1 to 90 days	–	69	–	1,393	1,463
91 to 180 days	–	9	–	197	206
181 to 365 days	–	4	–	158	163
> 365 days	–	7	–	182	189
Past due but not impaired financial assets	–	90	–	1,931	2,020
Financial assets impaired	102	22	21	164	308
Gross carrying value	**148,261**	**7,054**	**8,741**	**14,721**	**178,776**
Less: impairment allowance					
Impairment allowances on individually assessed financial assets	–	2	11	92	105
Impairment allowances on collectively assessed financial assets	–	5	–	167	172
Net carrying value	**148,261**	**7,047**	**8,730**	**14,462**	**178,500**

Tables 24.2a and 24.2b show how the allowances for impairments of financial assets in tables 24.1a and 24.1b developed during the periods ended December 31, 2018 and 2017, respectively.

Development of allowance for impairments – current period

Table 24.2a

in USD millions	Mortgage loans	Other loans	Receivables
As of January 1, 2018	7	11	258
Increase/(decrease) in allowance for impairments	(1)	(12)	(10)
Amounts written-off	–	–	–
Acquisitions and divestments	–	–	15
Foreign currency translation effects	–	–	(20)
As of December 31, 2018	**6**	**–**	**243**

Development of allowance for impairments – prior period

Table 24.2b

in USD millions	Mortgage loans	Other loans	Receivables
As of January 1, 2017	6	20	230
Increase/(decrease) in allowance for impairments	–	(8)	70
Amounts written-off	–	–	(49)
Acquisitions and divestments	–	–	(1)
Foreign currency translation effects	1	–	8
As of December 31, 2017	**7**	**11**	**258**

The ZIC Group has elected to defer the full implementation of IFRS 9 until IFRS 17 becomes effective on January 1, 2021. For further information on the ZIC Group's eligibility to the temporary exemption from IFRS 9, please refer to note 2.

Under IFRS 9, the classification and measurement of all debt instruments will be driven by the business model in which these assets are held and by their contractual terms. The combined effect of the application of the business model and contractual cash flows characteristics determine whether the financial assets are measured at amortized cost, fair value with changes recognized in other comprehensive income (OCI) or fair value through profit or loss. The business model will be assessed at the date of the initial application of IFRS 9.

Debt instruments with contractual terms that give rise to cash flows that are solely payment of principal and interest on the principal amount outstanding (SPPI) will be measured at either amortized cost or at fair value with changes recognized in OCI, unless they are managed on a fair value basis. The assessment of the features of the contractual terms is referred to as the SPPI test. Debt instruments that do not pass the SPPI test will always be measured at fair value through profit or loss.

Equity instruments including fund investments will be accounted for at fair value through profit or loss. The ZIC Group does not intend to make use of the election to present changes in fair value of certain equity instruments that are not held for trading in OCI with no subsequent reclassification of realized gains or losses to the income statement.

Table 24.3a and Table 24.3b show the fair value and the carrying value at the end of current and previous reporting period for the following two groups of financial assets:

- Financial assets with contractual terms that give rise to cash flows that are SPPI;
- Other financial assets not passing the SPPI test, as well as financial assets managed on a fair value basis for which no SPPI assessment has been performed. Financial assets that have not passed the SPPI test include equities, callable bonds with significant prepayment features, hybrid bonds with certain cash flows at the discretion of the issuer and some ABS/MBS that do not fulfill the SPPI criteria for contractually linked instruments.

Net unrealized gains/(losses) on debt securities available for sale that are not SPPI amounted to USD (143) million and USD 152 million for the years ended December 31, 2018 and 2017, respectively. The carrying value on held-to-maturity debt securities, mortgage loans, other loans, and receivables include impairment allowances of USD 249 million and USD 277 million of the years ended December 31, 2018 and 2017, respectively.

Fair value and carrying value of financial assets split by SPPI and other financial assets – current period

Table 24.3a

in USD millions, as of December 31, 2018	SPPI Fair value	SPPI Carrying value	Other financial assets Fair value	Other financial assets Carrying value	Total Fair value	Total Carrying value
Available-for-sale securities						
Equity securities	–	–	13,282	13,282	13,282	13,282
Debt securities	124,829	124,829	7,694	7,694	132,522	132,522
Total available-for-sale securities	124,829	124,829	20,976	20,976	145,805	145,805
Fair value through profit or loss securities						
Equity securities	–	–	3,633	3,633	3,633	3,633
Debt securities	–	–	5,229	5,229	5,229	5,229
Total fair value through profit or loss securities	–	–	8,862	8,862	8,862	8,862
Held-to-maturity debt securities	2,655	2,118	–	–	2,655	2,118
Mortgage loans	6,935	6,556	–	–	6,935	6,556
Other loans[1]	8,295	6,865	86	112	8,381	6,978
Receivables	12,954	12,954	–	–	12,954	12,954
Derivative assets	–	–	899	899	899	899
Total financial assets	**155,668**	**153,322**	**30,822**	**30,849**	**186,490**	**184,171**

[1] Other loans do not include policyholder loans, which will come under IFRS 17 and are therefore not applicable for IFRS 9, of USD 742 million and USD 636 million for fair value and carrying value, respectively.

Fair value and carrying value of financial assets split by SPPI and other financial assets – prior period

Table 24.3b

in USD millions, as of December 31, 2017	SPPI Fair value	SPPI Carrying value	Other financial assets Fair value	Other financial assets Carrying value	Total Fair value	Total Carrying value
Available-for-sale securities						
Equity securities	–	–	14,542	14,542	14,542	14,542
Debt securities	132,141	132,141	8,099	8,099	140,240	140,240
Total available-for-sale securities	132,141	132,141	22,641	22,641	154,781	154,781
Fair value through profit or loss securities						
Equity securities	–	–	3,597	3,597	3,597	3,597
Debt securities	–	–	5,699	5,699	5,699	5,699
Total fair value through profit or loss securities	–	–	9,295	9,295	9,295	9,295
Held-to-maturity debt securities	2,966	2,322	–	–	2,966	2,322
Mortgage loans	7,501	7,047	–	–	7,501	7,047
Other loans[1]	8,924	8,021	690	50	9,615	8,071
Receivables	13,087	13,087	–	–	13,087	13,087
Derivative assets	–	–	903	903	903	903
Total financial assets	**164,619**	**162,619**	**33,530**	**32,889**	**198,149**	**195,508**

[1] Other loans do not include policyholder loans, which will come under IFRS 17 and are therefore not applicable for IFRS 9, of USD 782 million and USD 659 million for fair value and carrying value, respectively.

With IFRS 9, the incurred loss impairment approach will be replaced by a forward-looking expected credit loss (ECL) approach that will apply to debt securities, loans and receivables that are not accounted for at fair value through profit or loss. Thus, the same ECL requirements will apply to all financial assets measured at amortized cost and those measured at fair value with changes recognized in OCI.

At initial recognition of a debt instrument, a loss allowance is recognized for expected credit losses resulting from default events within the next 12 months after the reporting date (12-month ECL). Such instruments are classified as Stage 1. The ZIC Group does not originate or acquire financial assets that are credit-impaired at initial recognition.

In the event of a significant increase in credit risk (SICR) since initial recognition, IFRS 9 requires the ECL allowance to be measured at an amount equal to lifetime expected credit losses resulting from all possible default events over the expected life of the financial instrument (lifetime ECL). Such instruments are referred to as Stage 2.

The ZIC Group applies the 'low credit risk practical expedient', by assuming that no increase in credit risk has occurred since initial recognition for financial assets that have an external or internal rating equivalent to 'investment grade' (i.e., AAA to BBB–) at the reporting date. For the remaining financial assets, the ZIC Group considers all relevant reasonable supporting information that is available without undue cost or effort when determining whether a SICR has occurred since initial recognition, or not. An increase in credit risk is assessed using a transition matrix approach that determines SICR thresholds depending on the credit rating at initial recognition and residual time to maturity of the instrument. Where necessary, the quantitative assessment is supplemented by a qualitative assessment of the issuer's credit quality. For certain less material portfolios, including residential mortgage loans, the '30 days past due' criterion is used as a primary indicator of a SICR. Where a SICR is no longer observed, the instrument transitions back to stage 1.

The ZIC Group has elected to apply the simplified approach for receivables from policyholders and other receivables that are allocated to 'Stage 2' unless individually impaired. Financial assets that have become credit-impaired are allocated to stage 3 based on similar principles as are applied under IAS 39 to determine whether credit loss has been incurred.

The tables 24.4a and 24.4b show the fair value and the carrying amount (before adjusting for any impairment in case of financial assets measured at amortized cost) of financial assets whose contractual terms give rise to cash flows that are SPPI, by impairment stages:

Financial assets (SPPI) by stages – current period

Table 24.4a

in USD millions, as of December 31, 2018	Stage 1		Stage 2		Stage 3		Total	
	Fair value	Carrying value	Fair value	Carrying value	Fair value	Carrying value	Fair value	Carrying value
Available-for-sale debt securities	124,194	124,194	502	502	132	132	124,829	124,829
Held-to-maturity debt securities	2,653	2,115	3	3	–	–	2,655	2,118
Mortgage loans	6,870	6,498	36	34	29	29	6,935	6,561
Other loans[1]	8,191	6,762	40	40	64	64	8,295	6,866
Receivables	1,632	1,642	11,230	11,419	92	136	12,954	13,198
Total financial assets	**143,540**	**141,212**	**11,810**	**11,998**	**318**	**362**	**155,668**	**153,572**

[1] Other loans do not include policyholder loans, which will come under IFRS 17 and are therefore not applicable for IFRS 9, of USD 742 million and USD 636 million for fair value and carrying value, respectively.

Financial assets (SPPI) by stages – prior period

Table 24.4b

in USD millions, as of December 31, 2017	Stage 1		Stage 2		Stage 3		Total	
	Fair value	Carrying value	Fair value	Carrying value	Fair value	Carrying value	Fair value	Carrying value
Available-for-sale debt securities	131,470	131,470	495	495	176	176	132,141	132,141
Held-to-maturity debt securities	2,966	2,322	–	–	–	–	2,966	2,322
Mortgage loans	7,153	6,708	297	297	51	49	7,501	7,054
Other loans[1]	8,731	7,819	85	85	108	108	8,924	8,013
Receivables	1,989	2,015	11,012	11,183	86	148	13,087	13,346
Total financial assets	**152,309**	**150,335**	**11,889**	**12,060**	**421**	**481**	**164,619**	**162,876**

[1] Other loans do not include policyholder loans, which will come under IFRS 17 and are therefore not applicable for IFRS 9, of USD 782 million and USD 659 million for fair value and carrying value, respectively.

25. Related-party transactions

In the normal course of business, the ZIC Group enters into various transactions with related companies, including various reinsurance and cost-sharing arrangements. These transactions are not considered material to the ZIC Group, either individually or in aggregate. Parties are considered to be related if one party has the ability to control or exercise significant influence over the other party in making financial or operational decisions.

Table 25.1 sets out related-party transactions reflected in the consolidated income statements and consolidated balance sheets.

Related party transactions included in the consolidated financial statements

Table 25.1

in USD millions for the years ended December 31	2018	2017
Net earned premiums and policy fees	–	4
Net investment result on Group investments	(1)	–
Other income	1	1
Insurance benefits and losses, net of reinsurance	(1)	–
Underwriting and policy acquisition costs, net of reinsurance	–	(1)
Administrative and other operating expense	(24)	(21)
Interest expense on debt	(1)	(1)
Interest credited to policyholders and other interest	1	–
in USD millions, as of December 31		
Cash and cash equivalents	66	258
Equity securities	695	352
Other loans	13	15
Receivables and other assets	1	3
Other liabilities	(6)	(812)
Senior debt	(99)	(104)

On April 25, 2008 a subordinated loan agreement was entered into between Zurich Insurance Company Ltd and Zurich Group Holding, which was assumed by Zurich Insurance Group Ltd as a consequence of its merger with Zurich Group Holding. The remaining loan was CHF 2.1 billion (USD 2.1 billion) and CHF 4.8 billion (USD 5 billion) as of December 31, 2018 and 2017, respectively (see note 19).

Table 25.2 summarizes related-party transactions with key personnel reflected in the consolidated financial statements. Key personnel includes members of the Board of Directors of Zurich Insurance Group Ltd and Zurich Insurance Company Ltd and members of the Executive Committee.

Related party transactions – key personnel

Table 25.2

in USD millions, for the years ended December 31	2018	2017
Remuneration of key personnel of the Group		
Cash compensation, current benefits and fees	30	28
Post-employment benefits	4	4
Share-based compensation	23	22
Other remuneration	3	3
Total remuneration of key personnel	**60**	**56**

As of December 31, 2018 and 2017, there were no loans, advances or credits outstanding from members of the Executive Committee. Outstanding loans and guarantees granted to members of the Board of Directors amounted to nil for the years ended December 31, 2018 and 2017. The terms 'members of the Board of Directors' and 'members of the Executive Committee' in this context include the individual as well as members of their respective households. The figures in table 25 include the fees paid to members of the Board of Directors of Zurich Insurance Group Ltd and Zurich Insurance Company Ltd, which were USD 4 million for both years ended December 31, 2018 and 2017.

The cash compensation, current benefits and fees are short term in nature.

26. Relationship with the Farmers Exchanges

Farmers Group, Inc. and its subsidiaries (FGI) provide certain non-claims administrative, management, and ancillary services to the Farmers Exchanges, which are managed by Farmers Group Inc., a wholly owned subsidiary of the Zurich Insurance Group. Non-claims and management services primarily include risk selection, preparation and mailing of policy documents and invoices, premium collection, management of the investment portfolios and certain other administrative and managerial functions. Fees for these services are primarily determined as a percentage of gross premiums earned by the Farmers Exchanges. Ancillary services primarily include information technology services that are not covered under the attorney-in-fact contracts. The finances and operations of the Farmers Exchanges are governed by independent Boards of Governors. In addition, the ZIC Group has the following relationships with the Farmers Exchanges.

a) Certificates of contribution/surplus notes issued by the Farmers Exchanges

As of December 31, 2018 and 2017, FGI and other ZIC Group companies held the following certificates of contribution and surplus note issued by the Farmers Exchanges. Originally these were purchased by FGI in order to supplement the policyholders' surplus of the Farmers Exchanges.

Certificates of contribution/surplus notes

Table 26.1

in USD millions, as of December 31	**2018**	2017
6.15% certificate of contribution, due June 2021	–	200
3.758% surplus note, due December 2027	100	100
Various other certificates of contribution	23	23
Total	**123**	**323**

In June 2018, the Farmers Exchanges repaid the USD 200 million certificate of contribution at the 6.15 percent rate to Zurich American Insurance Company. The USD 100 million of 10-year, no call five year notes at a 3.758 percent rate that the Farmers Exchanges issued to Farmers New World Life Insurance Company remain unchanged.

Conditions governing payment of interest and repayment of principal are outlined in the certificates of contribution and surplus note. Generally, repayment of principal and payment of interest may be made only when the issuer has an appropriate amount of surplus, and then only after approval is granted by the appropriate state insurance regulatory department in the U.S. Additionally, the approval by the issuer's governing board is needed for repayment of principal.

b) Quota share reinsurance treaties with the Farmers Exchanges

The Farmers Exchanges cede risk through quota share reinsurance treaties to Farmers Reinsurance Company (Farmers Re Co), a wholly owned subsidiary of FGI, and to Zurich Insurance Company Ltd (ZIC). These treaties can be terminated after 90 days' notice by any of the parties.

The Farmers Exchanges participate in an All Lines Quota Share reinsurance agreement (All Lines agreement) with Farmers Re Co and ZIC. The All Lines agreement provides for a cession of a quota share of the premiums written and the ultimate net losses sustained in all lines of business written by the Farmers Exchanges.

Quota share reinsurance treaties

Table 26.2

in USD millions, for the years ended December 31	All Lines agreement	
	2018[1]	2017[2]
Net earned premiums and policy fees	193	1,541
Insurance benefits and losses, net[3]	(129)	(1,049)
Total net technical expenses[4]	(62)	(493)
Net underwriting result	**2**	**(1)**

[1] From January 1, 2018, Farmers Re Co assumed a 1.0 percent quota share. Another 28.0 percent was assumed by third parties. ZIC has no participation in the December 31, 2017 All Lines agreement.
[2] From January 1, 2017, ZIC assumed an 8.0 percent quota share. Another 16.0 percent was assumed by third parties. Farmers Re has no participation in the December 31, 2016 All Lines agreement.
[3] Under the All Lines agreement the Farmers Exchanges catastrophe losses are subject to a provisional maximum of 6.5 percent of net earned premiums dependent on loss experience and recoveries at a specified rate for each year. Based on the results for 2018, the total catastrophe recoveries subject to the All Lines agreement was USD 1.3 billion.
[4] Under the All Lines agreement, the Farmers Exchanges receive a ceding commission of 26.7 percent, 8.1 percent of premiums for unallocated loss adjustment expenses and 5.3 percent of premiums for other expenses

c) Farmers management fees and other related revenues

FGI as the appointed attorney-in-fact of the Farmers Exchanges, which are managed but not owned by FGI, a wholly owned subsidiary of the Zurich Insurance Group, is permitted by policyholders of the Farmers Exchanges to receive a management fee of up to 20 percent (up to 25 percent in the case of the Fire Insurance Exchange) of the gross premiums earned by the Farmers Exchanges. Other related revenues include reimbursement of certain ancillary service costs incurred by FGI on behalf of primarily the Farmers Exchanges that are not covered under the attorney-in-fact contracts. The amounts incurred for these services are reimbursed to FGI at cost in accordance with allocations that are subject to approval by the Farmers Exchanges Board of Governors.

FGI has historically charged a lower management fee than the amount allowed by policyholders. The range of fees has varied by line of business over time and from year to year. The gross earned premiums of the Farmers Exchanges were USD 20.2 billion and USD 19.8 billion for the years ended December 31, 2018 and 2017, respectively.

27. Segment information

The Group pursues a customer-centric strategy, where the Property & Casualty (P&C) and Life businesses are managed on a regional basis. The Group's reportable segments have been identified on the basis of the businesses operated by the Group and how these are strategically managed to offer different products and services to specific customer groups. The Group has identified 13 reportable segments in accordance with IFRS 8 'Operating Segments' and segment information is presented accordingly as follows:

- Property & Casualty regions
- Life regions
- Farmers
- Group Functions and Operations
- Non-Core Businesses

The Group's reportable segments comprise the following:

Property & Casualty and Life regions

- Europe, Middle East & Africa
- North America
- Asia Pacific
- Latin America
- Group Reinsurance

Property & Casualty regions provide a variety of motor, home and commercial products and services for individuals, as well as small and large businesses on both a local and global basis. Products are sold through multiple distribution channels including agents, brokers and bank distribution.

Life regions provide a comprehensive range of life and health insurance products on both an individual and a group basis, including annuities, endowment and term insurance, unit-linked and investment-oriented products, as well as full private health, supplemental health and long-term care insurance. In addition to the agent distribution channel, certain of these products are offered via bank distribution channels.

Farmers, through Farmers Group, Inc. and its subsidiaries (FGI), provides certain non-claims administrative, management, and ancillary services to the Farmers Exchanges, which are owned by their policyholders. This segment also includes all reinsurance assumed from the Farmers Exchanges by the Group. Farmers Exchanges are prominent writers of personal and small commercial lines of business in the U.S. In addition, this segment includes the activities of Farmers Life, a writer of individual life insurance business in the U.S.

Group Functions and Operations comprise the Group's Holding and Financing, Headquarter and Zurich Insurance Mobile Solutions (ZIMS) activities. Certain alternative investment positions not allocated to business operating segments are included within Holding and Financing. In addition, this segment includes operational technical governance activities relating to technology, underwriting, claims, actuarial and pricing.

Non-Core Businesses include insurance and reinsurance businesses that the Group does not consider core to its operations and that are therefore mostly managed to achieve a beneficial run-off. Non-core businesses are mainly situated in the U.S., Bermuda, and in Europe.

Aggregations and additional information

Regional Property & Casualty and Life results are further aggregated to show a total Property & Casualty and total Life business view.

- Property & Casualty – Total
- Life – Total

For additional informational purposes, the Group also discloses income statement information for Property & Casualty Commercial Insurance and Property & Casualty Retail and Other Insurance results. Other Insurance includes SME, direct market and other program business.

- Property & Casualty Commercial Insurance
- Property & Casualty Retail and Other Insurance

Business operating profit

The segment information includes the Group's internal performance measure, business operating profit (BOP). This measure is the basis on which the Group manages all of its business units. It indicates the underlying performance of the Group's business units, after non-controlling interests, by eliminating the impact of financial market volatility and other non-operational variables. BOP reflects adjustments for shareholders' taxes, net capital gains/(losses) and impairments on investments (except for certain non-insurance operations included in Non-Core Businesses, investments in hedge funds as at fair value through profit or loss, certain securities held for specific economic hedging purposes and policyholders' share of investment results for the life businesses) and non-operational foreign exchange movements. Significant items arising from special circumstances, including restructuring charges, legal matters or large one-off regulatory projects outside the ordinary course of business, gains and losses on divestment of businesses, certain business combination integration costs and impairments of goodwill are also excluded from BOP.

On 1 July, 2018 the Group amended its BOP policy to exclude certain costs relating to the integration of newly acquired businesses. The policy change was implemented with prospective effect, as the impact on comparable balances was not material to the Group's financial results.

Consolidated financial statements (continued)

Property & Casualty – Overview by segment

Table 27.1

in USD millions, for the year ended December 31	Europe, Middle East & Africa		North America	
	2018	2017	**2018**	2017
Revenues				
Direct written premiums	12,955	12,486	13,912	14,414
Assumed written premiums	1,645	1,589	804	724
Gross written premiums and policy fees	14,600	14,075	14,716	15,137
Less premiums ceded to reinsurers	(2,389)	(2,209)	(4,988)	(4,549)
Net written premiums and policy fees	12,211	11,866	9,728	10,588
Net change in reserves for unearned premiums	(125)	(1)	277	(132)
Net earned premiums and policy fees	12,086	11,865	10,005	10,456
Net investment income on Group investments	621	647	1,026	964
Net capital gains/(losses) and impairments on Group investments	(8)	34	(40)	157
Net investment result on Group investments	613	681	986	1,121
Other income	320	387	50	23
Total BOP revenues	13,019	12,932	11,041	11,600
Benefits, losses and expenses				
Insurance benefits and losses, net	7,884	8,197	7,109	7,917
Policyholder dividends and participation in profits, net	8	(1)	10	8
Underwriting and policy acquisition costs, net	2,315	2,223	2,318	2,461
Administrative and other operating expense (excl. depreciation/amortization)	1,741	1,693	515	356
Interest credited to policyholders and other interest	181	185	(23)	31
Restructuring costs and other items not included in BOP	(108)	(115)	(110)	(50)
Total BOP benefits, losses and expenses (before interest, depreciation and amortization)	12,022	12,182	9,819	10,722
Business operating profit (before interest, depreciation and amortization)	**998**	**751**	**1,222**	**878**
Depreciation and impairments of property and equipment	36	39	37	26
Amortization and impairments of intangible assets	76	143	84	52
Interest expense on debt	16	15	1	–
Business operating profit before non-controlling interests	869	553	1,099	800
Non-controlling interests	18	14	–	–
Business operating profit	**851**	**540**	**1,099**	**800**

Asia Pacific		Latin America		Group Reinsurance		Eliminations		Total	
2018	2017	**2018**	2017	**2018**	2017	**2018**	2017	**2018**	2017
2,646	2,221	2,627	2,560	–	–	–	–	32,139	31,681
212	184	77	79	364	214	(1,736)	(1,447)	1,366	1,343
2,858	2,405	2,704	2,639	364	214	(1,736)	(1,447)	33,505	33,024
(486)	(392)	(466)	(419)	(447)	(369)	1,736	1,447	(7,041)	(6,492)
2,372	2,013	2,237	2,220	(83)	(155)	–	–	26,465	26,532
(122)	(101)	(93)	(287)	28	22	–	–	(34)	(499)
2,250	1,912	2,145	1,933	(55)	(133)	–	–	26,431	26,033
68	60	204	161	13	15	–	–	1,932	1,847
–	–	–	–	–	–	–	–	(48)	191
68	60	204	161	13	15	–	–	1,884	2,038
137	108	32	66	62	131	–	(2)	601	713
2,454	2,080	2,381	2,160	21	13	–	(2)	28,916	28,783
1,304	1,055	960	805	35	(259)	–	–	17,291	17,715
–	–	1	–	–	–	–	–	19	7
580	452	916	832	7	2	–	–	6,136	5,970
463	392	239	223	33	27	–	(2)	2,992	2,688
1	3	–	2	(4)	(3)	–	–	156	218
(13)	(16)	9	(6)	–	2	–	–	(221)	(185)
2,335	1,886	2,126	1,856	72	(230)	–	(2)	26,373	26,414
120	**194**	**255**	**304**	**(51)**	**243**	**–**	**–**	**2,543**	**2,369**
18	16	6	5	3	4	–	–	101	89
16	23	10	10	–	–	–	–	187	228
–	–	–	–	37	85	–	–	55	100
86	155	238	288	(92)	155	–	–	2,200	1,951
–	–	97	111	–	–	–	–	115	124
86	**155**	**141**	**177**	**(92)**	**155**	**–**	**–**	**2,085**	**1,827**

Consolidated financial statements (continued)

Life – Overview by segment

Table 27.2

in USD millions, for the years ended December 31	Europe, Middle East & Africa		North America	
	2018	2017	**2018**	2017
Revenues				
Life insurance deposits	16,025	15,107	227	1,735
Gross written premiums	8,509	8,364	80	58
Policy fees	1,594	1,605	326	265
Gross written premiums and policy fees	10,103	9,969	407	323
Net earned premiums and policy fees	9,439	9,239	392	301
Net investment income on Group investments	2,474	2,430	22	19
Net capital gains/(losses) and impairments on Group investments	367	572	(11)	14
Net investment result on Group investments	2,840	3,002	11	33
Net investment income on unit-linked investments	1,375	1,301	–	(4)
Net capital gains/(losses) and impairments on unit-linked investments	(6,534)	7,978	(29)	80
Net investment result on unit-linked investments	(5,159)	9,279	(29)	75
Other income	458	432	36	17
Total BOP revenues	7,579	21,952	408	426
Benefits, losses and expenses				
Insurance benefits and losses, net	7,774	7,754	267	131
Policyholder dividends and participation in profits, net	(3,596)	10,423	(29)	117
Income tax expense/(benefit) attributable to policyholders	(171)	157	–	–
Underwriting and policy acquisition costs, net	925	1,173	68	81
Administrative and other operating expense (excl. depreciation/amortization)	1,302	1,293	57	70
Interest credited to policyholders and other interest	218	235	8	28
Restructuring costs and other items not included in BOP	(47)	(104)	–	(1)
Total BOP benefits, losses and expenses (before interest, depreciation and amortization)	6,404	20,930	372	427
Business operating profit (before interest, depreciation and amortization)	**1,175**	**1,021**	**37**	**–**
Depreciation and impairments of property and equipment	12	10	–	–
Amortization and impairments of intangible assets	103	133	5	1
Interest expense on debt	4	9	–	–
Business operating profit before non-controlling interests	1,056	870	31	(2)
Non-controlling interests	46	40	–	–
Business operating profit	**1,010**	**831**	**31**	**(2)**

Life includes approximately USD 2.3 billion and USD 2.2 billion of gross written premiums and future life policyholder benefits for certain universal life-type contracts in the ZIC Group's Spanish operations for the years ended December 31, 2018 and 2017, respectively.

Asia Pacific		Latin America		Group Reinsurance		Eliminations		Total	
2018	2017	**2018**	2017	**2018**	2017	**2018**	2017	**2018**	2017
103	102	2,339	2,228	–	–	–	–	18,694	19,172
1,249	931	2,831	2,690	20	7	(28)	(16)	12,662	12,034
130	117	43	49	–	–	–	–	2,093	2,036
1,379	1,048	2,874	2,739	20	7	(28)	(16)	14,754	14,070
1,199	792	2,473	2,478	12	1	–	–	13,514	12,810
152	118	390	361	–	–	(2)	(2)	3,035	2,925
(35)	56	18	7	–	–	–	–	338	649
117	174	407	368	–	–	(2)	(2)	3,373	3,574
104	92	22	17	–	–	–	–	1,501	1,406
(163)	110	990	1,319	–	–	–	–	(5,737)	9,486
(60)	202	1,012	1,336	–	–	–	–	(4,236)	10,892
25	29	64	74	–	–	(1)	–	582	552
1,281	1,196	3,956	4,256	12	1	(3)	(2)	13,234	27,829
522	286	1,137	1,088	2	–	–	–	9,702	9,259
(21)	229	1,006	1,326	–	–	–	–	(2,640)	12,095
(12)	15	–	–	–	–	–	–	(183)	171
220	163	1,037	1,072	2	–	(1)	–	2,252	2,489
337	310	174	197	–	–	–	–	1,871	1,870
35	40	20	11	–	–	–	–	282	315
(12)	6	10	(4)	–	–	–	–	(50)	(104)
1,070	1,049	3,385	3,690	4	–	(1)	–	11,234	26,096
212	**147**	**571**	**566**	**8**	**1**	**(2)**	**(2)**	**2,000**	**1,733**
3	2	3	3	–	–	–	–	17	15
12	13	12	14	–	–	–	–	133	161
13	2	–	–	–	–	(2)	(2)	15	9
183	129	556	549	8	1	–	–	1,834	1,548
(2)	(3)	237	253	–	–	–	–	281	289
186	**132**	**319**	**296**	**8**	**1**	**–**	**–**	**1,554**	**1,258**

Consolidated financial statements (continued)

Table 27.3

Business operating profit by business

in USD millions, for the year ended December 31

	Property & Casualty		Life	
	2018	2017	**2018**	2017
Revenues				
Direct written premiums	32,139	31,681	12,310	11,857
Assumed written premiums	1,366	1,343	352	177
Gross Written Premiums	33,505	33,024	12,662	12,034
Policy fees	–	–	2,093	2,036
Gross written premiums and policy fees	33,505	33,024	14,754	14,070
Less premiums ceded to reinsurers	(7,041)	(6,492)	(1,038)	(1,128)
Net written premiums and policy fees	26,465	26,532	13,717	12,942
Net change in reserves for unearned premiums	(34)	(499)	(202)	(132)
Net earned premiums and policy fees	26,431	26,033	13,514	12,810
Farmers management fees and other related revenues	–	–	–	–
Net investment income on Group investments	1,932	1,847	3,035	2,925
Net capital gains/(losses) and impairments on Group investments	(48)	191	338	649
Net investment result on Group investments	1,884	2,038	3,373	3,574
Net investment result on unit-linked investments	–	–	(4,236)	10,892
Other income	601	713	582	552
Total BOP revenues	28,916	28,783	13,234	27,829
of which: Inter-segment revenues	(143)	(202)	(141)	(126)
Benefits, losses and expenses				
Losses and loss adjustment expenses, net	17,293	17,716	–	–
Life insurance death and other benefits, net	(2)	(1)	9,702	9,258
Insurance benefits and losses, net	17,291	17,715	9,702	9,259
Policyholder dividends and participation in profits, net	19	7	(2,640)	12,095
Income tax expense/(benefit) attributable to policyholders	–	–	(183)	171
Underwriting and policy acquisition costs, net	6,136	5,970	2,252	2,489
Administrative and other operating expense (excl. depreciation/amortization)	2,992	2,688	1,871	1,870
Interest credited to policyholders and other interest	156	218	282	315
Restructuring costs and other items not included in BOP	(221)	(185)	(50)	(104)
Total BOP benefits, losses and expenses (before interest, depreciation and amortization)	26,373	26,414	11,234	26,096
Business operating profit (before interest, depreciation and amortization)	**2,543**	**2,369**	**2,000**	**1,733**
Depreciation and impairments of property and equipment	101	89	17	15
Amortization and impairments of intangible assets	187	228	133	161
Interest expense on debt	55	100	15	9
Business operating profit before non-controlling interests	2,200	1,951	1,834	1,548
Non-controlling interests	115	124	281	289
Business operating profit	**2,085**	**1,827**	**1,554**	**1,258**

Life includes approximately USD 2.3 billion and USD 2.2 billion of gross written premiums and future life policyholder benefits for certain universal life-type contracts in the ZIC Group’s Spanish operations for the years ended December 31, 2018 and 2017, respectively (see note 3).

Farmers		Group Functions and Operations		Non-Core Businesses		Eliminations		Total	
2018	2017	**2018**	2017	**2018**	2017	**2018**	2017	**2018**	2017
580	566	–	–	42	41	–	–	45,071	44,145
194	995	5	48	64	79	(14)	(102)	1,967	2,539
774	1,561	5	48	106	120	(14)	(102)	47,038	46,685
321	310	–	–	34	83	–	–	2,447	2,429
1,095	1,871	5	48	140	202	(14)	(102)	49,485	49,114
(179)	(195)	–	(42)	(11)	(222)	14	102	(8,255)	(7,977)
916	1,676	5	6	129	(19)	–	–	41,230	41,136
(1)	546	–	–	12	5	–	–	(224)	(79)
915	2,223	5	6	141	(14)	–	–	41,007	41,057
3,204	2,892	–	–	–	–	–	–	3,204	2,892
213	215	197	170	221	232	(212)	(177)	5,385	5,212
(1)	1	–	–	(109)	(8)	–	–	181	833
211	216	197	170	112	224	(212)	(177)	5,565	6,045
(52)	136	–	–	(86)	636	–	–	(4,374)	11,664
95	153	194	227	33	43	(425)	(507)	1,080	1,181
4,373	5,619	397	403	200	889	(637)	(684)	46,482	62,839
(51)	(37)	(282)	(303)	(20)	(16)	637	684	–	–
129	1,044	1	–	(27)	18	–	–	17,397	18,779
434	389	–	–	116	(97)	–	–	10,250	9,548
563	1,434	1	–	89	(79)	–	–	27,646	28,328
(43)	144	–	–	(72)	737	–	–	(2,736)	12,984
–	–	–	–	–	–	–	–	(183)	171
167	582	–	1	10	4	–	(7)	8,565	9,039
1,800	1,521	410	284	73	87	6	12	7,151	6,464
95	109	135	119	44	54	(279)	(269)	433	546
(49)	(22)	(43)	(66)	(1)	(2)	–	–	(364)	(378)
2,533	3,769	503	338	143	802	(273)	(264)	40,512	57,154
1,840	**1,850**	**(107)**	**65**	**57**	**87**	**(364)**	**(420)**	**5,969**	**5,685**
45	34	9	12	–	–	–	–	173	152
152	125	30	55	–	–	–	–	501	570
–	–	676	710	20	13	(364)	(420)	403	412
1,643	1,691	(822)	(712)	37	74	–	–	4,893	4,552
74	75	–	(1)	–	–	–	–	470	487
1,569	**1,616**	**(822)**	**(711)**	**37**	**74**	**–**	**–**	**4,423**	**4,065**

Consolidated financial statements (continued)

Reconciliation of BOP to net income after income taxes

Table 27.4

in USD millions, for the year ended December 31

	Property & Casualty		Life	
	2018	2017	**2018**	2017
Business operating profit	**2,085**	**1,827**	**1,554**	**1,258**
Revenues/(expenses) not included in BOP:				
Net capital gains/(losses) on investments and impairments, net of policyholder allocation	481	972	197	238
Net gains/(losses) on divestment of businesses[1]	(19)	(96)	(5)	7
Restructuring costs	(212)	(182)	(67)	(86)
Other adjustments	(9)	(3)	18	(18)
Add back:				
Business operating profit attributable to non-controlling interests	115	124	281	289
Net income before shareholders' taxes	2,441	2,642	1,977	1,689
Income tax expense/(benefit) attributable to policyholders	–	–	(183)	171
Net income before income taxes	**2,441**	**2,642**	**1,794**	**1,861**
Income tax (expense)/benefit				
attributable to policyholders				
attributable to shareholders				
Net income after taxes				
attributable to non-controlling interests				
attributable to shareholders				

[1] In 2018, Property & Casualty included losses of USD 19 million related to the sale of Endsleigh Limited companies (see note 5), Group Functions and Operations included provision release gains of USD 16 million related to the sale of insurance operations in Morocco, Middle East and South Africa and Non-Core Businesses included losses of USD 15 million related to a portfolio transfer in Singapore. In 2017, Property & Casualty included losses of USD 97 million for re-measurements of assets held for sale based on agreements to sell businesses in the UK (see note 5).

	Farmers		Group Functions and Operations		Non-Core Businesses		Total	
	2018	2017	**2018**	2017	**2018**	2017	**2018**	2017
	1,569	**1,616**	**(822)**	**(711)**	**37**	**74**	**4,423**	**4,065**
	28	35	(8)	(53)	24	10	722	1,203
	–	–	16	5	(15)	–	(24)	(84)
	(45)	(19)	(25)	(67)	(1)	(2)	(350)	(356)
	(4)	(3)	(18)	2	–	–	(14)	(23)
	74	75	–	(1)	–	–	470	487
	1,622	1,705	(857)	(827)	45	83	5,227	5,292
	–	–	–	–	–	–	(183)	171
	1,622	**1,705**	**(857)**	**(827)**	**45**	**83**	**5,044**	**5,463**
							(1,126)	(1,831)
							183	(171)
							(1,310)	(1,660)
							3,917	**3,632**
							320	375
							3,597	3,257

Consolidated financial statements (continued)

Assets and liabilities by business

Table 27.5

in USD millions, as of December 31

	Property & Casualty		Life	
	2018	2017	**2018**	2017
Assets				
Cash and cash equivalents	7,402	9,724	4,575	3,664
Total Group Investments	70,140	74,590	101,292	106,905
Equity securities	8,351	9,434	7,047	7,558
Debt securities	51,773	55,582	74,750	78,537
Investment property	4,884	4,501	7,309	7,481
Mortgage loans	1,236	1,293	4,743	5,175
Other loans	3,894	3,777	7,428	8,137
Investments in associates and joint ventures	2	2	14	15
Investments for unit-linked contracts[1]	–	–	104,695	115,659
Total investments	70,140	74,590	205,988	222,564
Reinsurers' share of liabilities for insurance contracts	14,454	13,414	1,803	1,858
Deposits made under assumed reinsurance contracts	172	158	57	70
Deferred policy acquisition costs	5,367	5,289	12,350	11,624
Deferred origination costs	–	–	419	460
Goodwill	1,492	1,350	271	183
Other intangible assets	1,587	1,483	2,466	2,766
Other assets[2]	15,619	15,152	29,389	35,493
Total assets (after cons. of investments in subsidiaries)	**116,233**	**121,160**	**257,319**	**278,682**
Liabilities				
Liabilities for investment contracts	–	–	51,042	55,227
Liabilities for insurance contracts, gross	78,041	79,521	152,787	162,055
Reserves for losses and loss adjustment expenses, gross	58,835	60,080	–	–
Reserves for unearned premiums, gross	16,620	16,976	1	–
Future life policyholder benefits, gross	32	36	69,420	71,828
Policyholder contract deposits and other funds, gross	30	23	18,284	18,880
Reserves for unit-linked insurance contracts, gross[1]	–	–	64,168	70,371
Other insurance liabilities, gross	2,524	2,406	914	976
Senior debt	719	703	681	–
Subordinated debt	918	973	612	649
Other liabilities[2]	13,637	17,517	36,829	43,730
Total liabilities	**93,315**	**98,714**	**241,951**	**261,661**
Equity				
Shareholders' equity				
Non-controlling interests				
Total equity				
Total liabilities and equity				
Supplementary information				
Additions and capital improvements to property, equipment and intangible assets	816	264	99	185

[1] In 2017, the ZIC Group transferred a portfolio of stable value products (SVP) marketed with life insurance policies (Bank Owned Life Insurance, BOLI) from Non-Core Businesses to Life. The change resulted in a transfer of USD 8.3 billion of investments for unit-linked contracts and of reserves for unit-linked contracts.

[2] In 2018, the ZIC Group reclassified assets and liabilities of USD 24 billion respectively, to held for sale based on agreements to sell businesses in the UK, Venezuela and Germany.
In 2017, the ZIC Group reclassified assets and liabilities of USD 29 billion respectively, to held for sale based on agreements to sell businesses in the UK (see note 5).

Farmers		Group Functions and Operations		Non-Core Businesses		Eliminations		Total	
2018	2017	**2018**	2017	**2018**	2017	**2018**	2017	**2018**	2017
1,428	1,103	10,277	12,268	1,379	1,532	(16,366)	(19,828)	8,695	8,464
5,348	5,939	10,435	10,819	6,077	6,642	(9,950)	(10,460)	183,341	194,435
65	31	1,325	941	126	174	–	–	16,915	18,138
3,462	3,246	6,030	6,701	4,841	5,389	(987)	(1,196)	139,870	148,261
133	169	–	10	25	78	–	–	12,351	12,238
577	579	–	–	–	–	–	–	6,556	7,047
1,110	1,914	3,063	3,168	1,081	998	(8,963)	(9,265)	7,614	8,730
–	–	16	–	3	3	–	–	36	21
746	807	–	–	3,852	4,233	–	–	109,294	120,699
6,094	6,746	10,435	10,819	9,928	10,875	(9,950)	(10,460)	292,635	315,134
2,242	2,319	–	–	2,765	3,389	(67)	(61)	21,197	20,918
400	771	–	–	254	271	–	–	883	1,269
1,818	1,730	–	–	2	15	3	5	19,541	18,663
–	–	–	–	–	–	–	–	419	460
819	819	52	–	–	–	–	–	2,634	2,353
402	443	88	70	–	–	–	–	4,542	4,762
1,657	1,623	868	843	1,670	1,768	(3,708)	(4,258)	45,496	50,621
14,860	**15,554**	**21,719**	**24,000**	**15,998**	**17,851**	**(30,087)**	**(34,602)**	**396,042**	**422,645**
213	204	–	–	184	197	–	–	51,439	55,627
7,311	7,669	27	50	11,139	14,688	(96)	(176)	249,208	263,805
467	809	23	22	1,649	4,508	(61)	(50)	60,913	65,368
79	79	2	3	14	8	(2)	(5)	16,714	17,060
2,151	2,073	2	2	3,348	3,596	(4)	(6)	74,950	77,529
3,882	3,915	–	–	2,071	2,126	–	–	24,266	24,944
746	807	–	–	3,852	4,235	–	–	68,766	75,413
(16)	(13)	–	24	206	214	(29)	(115)	3,599	3,491
–	–	11,160	10,581	273	288	(7,497)	(7,622)	5,336	3,950
–	–	7,579	7,752	–	–	(2,334)	(2,436)	6,775	6,938
1,756	1,790	14,650	16,190	4,523	3,125	(20,159)	(24,366)	51,234	57,986
9,279	**9,663**	**33,416**	**34,573**	**16,118**	**18,297**	**(30,087)**	**(34,601)**	**363,992**	**388,306**
								29,844	31,969
								2,206	2,370
								32,050	34,338
								396,042	**422,645**
181	174	56	30	–	–	–	–	1,152	653

Property & Casualty – Commercial and Retail Insurance overview[1]

Table 27.6

in USD millions, for the year ended December 31	Commercial Insurance		Retail and Other Insurance	
	2018	2017	**2018**	2017
Gross written premiums and policy fees	15,450	15,852	19,443	18,441
Net earned premiums and policy fees	10,425	11,007	16,061	15,159
Insurance benefits and losses, net	8,071	9,080	9,185	8,893
Policyholder dividends and participation in profits, net	14	8	5	–
Total net technical expenses	2,776	3,038	5,872	5,270
Net underwriting result	(437)	(1,119)	1,000	996
Net investment income	1,180	1,122	739	710
Net capital gains/(losses) and impairments on investments	(37)	149	(11)	42
Net non-technical result (excl. items not included in BOP)	(92)	(45)	(51)	(59)
Business operating profit before non-controlling interests	614	107	1,677	1,689
Non-controlling interest	10	20	106	104
Business operating profit	**605**	**87**	**1,572**	**1,585**

[1] Commercial and Retail Insurance overview exclude Group Reinsurance

Property & Casualty – Revenues and non-current assets by region

Table 27.7

in USD millions

	Gross written premiums and policy fees from external customers – Total, for the years ended December 31		of which Commercial Insurance, for the years ended December 31		of which Retail and Other Insurance, for the years ended December 31		Property, equipment and intangible assets, as of December 31	
	2018	2017	2018	2017	2018	2017	2018	2017
Europe								
Austria	597	554					40	32
France	302	309					1	1
Germany	2,787	2,656					117	134
Italy	1,501	1,414					30	38
Ireland	369	375					46	51
Portugal	312	267					15	18
Spain	1,188	1,133					300	335
Switzerland	2,905	3,043					507	481
United Kingdom	2,986	2,830					115	114
Rest of Europe	700	643					79	112
Middle East & Africa								
Middle East	97	87					–	–
Europe, Middle East & Africa	13,744	13,311	4,798	4,898	8,946	8,413	1,249	1,316
North America								
Canada	464	458					8	9
United States	13,846	14,299					716	760
North America	14,310	14,756	7,600	8,078	6,710	6,678	724	769
Asia Pacific								
Australia	933	725					748	789
Hong Kong	300	302					26	27
Japan	830	778					21	17
Malaysia	292	219					46	40
Rest of Asia Pacific	323	315					4	3
Asia Pacific	2,678	2,339	887	970	1,791	1,369	844	876
Latin America								
Argentina	615	419					187	4
Brazil	1,117	1,203					549	335
Chile	342	313					19	22
Mexico	605	650					148	147
Venezuela	11	19					–	–
Rest of Latin America	74	24					40	4
Latin America	2,765	2,628	770	662	1,995	1,966	942	512
Group Reinsurance								
Group Reinsurance	9	(13)	–	–	9	(13)	7	9
Total	**33,505**	**33,020**	**14,054**	**14,608**	**19,451**	**18,412**	**3,766**	**3,483**

Consolidated financial statements (continued)

Life – Revenues and non-current assets by region

Table 27.8

in USD millions	Gross written premiums and policy fees from external customers for the years ended December 31		Life insurance deposits for the years ended December 31		Property, equipment and intangible assets as of December 31	
	2018	2017	**2018**	2017	**2018**	2017
Europe, Middle East & Africa						
Austria	136	183	53	49	25	27
Germany	1,811	1,762	2,076	1,885	290	284
Italy	1,010	822	1,834	1,121	45	55
Ireland[1]	625	611	3,389	3,043	5	8
Spain	3,004	3,148	30	31	1,188	1,342
Switzerland	1,217	1,246	201	181	3	3
United Kingdom	1,690	1,560	6,782	7,171	132	148
Zurich International[2]	423	405	1,480	1,447	37	20
Rest of Europe, Middle East & Africa	167	171	179	179	5	4
Europe, Middle East & Africa	10,083	9,909	16,025	15,107	1,731	1,891
North America						
United States	407	323	227	1,735	1	6
North America	407	323	227	1,735	1	6
Asia Pacific						
Australia	515	521	25	39	194	218
Hong Kong	66	54	22	26	–	–
Indonesia	50	33	–	–	1	2
Japan	328	246	–	–	14	15
Malaysia	228	194	55	36	81	82
Rest of Asia Pacific[3]	191	–	–	–	–	–
Asia Pacific	1,379	1,048	103	102	291	317
Latin America						
Argentina	105	134	89	81	9	19
Brazil	1,398	1,455	2,130	2,038	354	450
Chile	965	765	81	109	360	260
Mexico	379	369	39	–	111	119
Uruguay	26	15	–	–	–	–
Venezuela	–	1	–	–	–	–
Latin America	2,874	2,739	2,339	2,228	834	848
Total	**14,742**	**14,019**	**18,694**	**19,172**	**2,857**	**3,061**

1 Includes business written under freedom of services and freedom of establishment in Europe, and the related assets.
2 Includes business written through licenses, mainly into Asia Pacific and Middle East, and the related assets.
3 Primarily relates to the quota share agreement with OnePath Life, a part of ANZ Banking Group Limited.

28. Interest in subsidiaries

Significant subsidiaries are defined as those subsidiaries which either individually or in aggregate, contribute significantly to gross written premiums, shareholder's equity, total assets or net income attributable to shareholders.

Significant subsidiaries – non-listed

Table 28.1

as of December 31, 2018	Registered office	Voting rights %	Ownership interest %	Nominal value of share capital (in local currency millions)	
Australia					
Cover-More Group Limited	Sydney	100	100	AUD	1,014.2
Zurich Australia Limited	Sydney	100	100	AUD	426.5
Zurich Australian Insurance Limited	Sydney	100	100	AUD	6.6
Zurich Financial Services Australia Limited	Sydney	100	100	AUD	2,198.8
Austria					
Zürich Versicherungs-Aktiengesellschaft	Vienna	99.98	99.98	EUR	12.0
Brazil					
Zurich Santander Brasil Seguros e Previdência S.A.	Sao Paulo	51	51	BRL	2,509.2
Zurich Minas Brasil Seguros S.A.	Belo Horizonte	100	100	BRL	4,726.8
Zurich Resseguradora Brasil S.A.	Sao Paulo	100	100	BRL	204.0
Chile					
Chilena Consolidada Seguros de Vida S.A.	Santiago	98.97	98.97	CLP	177,382.6
Zurich Santander Seguros de Vida Chile S.A.	Santiago	51	51	CLP	24,252.9
Germany					
Deutscher Herold Aktiengesellschaft	Bonn	100	100	EUR	18.4
Zürich Beteiligungs-Aktiengesellschaft (Deutschland)	Frankfurt	100	100	EUR	152.9
Zurich Deutscher Herold Lebensversicherung Aktiengesellschaft	Bonn	100	100	EUR	68.5
Ireland					
Zurich Life Assurance plc	Dublin	100	100	EUR	17.5
Zurich Holding Ireland Limited	Dublin	100	100	EUR	0.1
Zurich Insurance plc	Dublin	100	100	EUR	8.2
Italy					
Zurich Investments Life S.p.A.	Milan	100	100	EUR	199.0
Luxembourg					
REX-ZDHL S.C.S. SICAV-SIF	Leudelange	100	100	EUR	981.0
Malaysia					
Zurich Life Insurance Malaysia Berhad	Kuala Lumpur	100	100	MYR	579.0
Zurich Holdings Malaysia Berhad	Kuala Lumpur	100	100	MYR	515.4
Mexico					
Zurich Santander Seguros México, S.A.[1]	Mexico City	99.99	99.99	MXN	190.0

Consolidated financial statements (continued)

Significant subsidiaries – non-listed (continued)

Table 28.1

as of December 31, 2018	Registered office	Voting rights %	Ownership interest %	Nominal value of share capital (in local currency millions)	
Spain					
Bansabadell Pensiones, E.G.F.P, S.A.[2]	Barcelona	50	50	EUR	7.8
Bansabadell Seguros Generales, S.A. de Seguros y Reaseguros[2]	Barcelona	50	50	EUR	10.0
Bansabadell Vida S.A. de Seguros y Reaseguros[2]	Barcelona	50	50	EUR	43.9
Zurich Latin America Holding S.L. - Sociedad Unipersonal	Barcelona	100	100	EUR	43.0
Zurich Santander Holding (Spain), S.L.	Boadilla del Monte	100	100	EUR	94.3
Zurich Santander Holding Dos (Spain), S.L.	Madrid	100	100	EUR	40.0
Zurich Santander Insurance America, S.L.	Madrid	51	51	EUR	177.0
Zurich Vida, Compañía de Seguros y Reaseguros, S.A. - Sociedad Unipersonal	Madrid	100	100	EUR	56.4
Switzerland					
Genevoise Real Estate Company Ltd	Geneva	100	100	CHF	20.4
Zurich Finance Company AG	Zurich	100	100	CHF	0.2
Zurich Insurance Company Ltd	Zurich	100	100	CHF	825.0
Zurich Investment Management AG	Zurich	100	100	CHF	10.0
Zurich Life Insurance Company Ltd	Zurich	100	100	CHF	60.0
Zürich Rückversicherungs-Gesellschaft AG	Zurich	100	100	CHF	11.7
United Kingdom					
Allied Zurich Holdings Limited	St. Hélier	100	100	GBP	90.7
Zurich Assurance Ltd	Cheltenham, England	100	100	GBP	236.1
Zurich Employment Services Limited	Cheltenham, England	100	100	GBP	215.8
Zurich Financial Services (UKISA) Limited	Cheltenham, England	100	100	GBP	1,652.1
Zurich Holdings (UK) Limited	Fareham, England	100	100	GBP	190.2
Zurich International Life Limited	Douglas, Isle of Man	100	100	GBP	123.4
Zurich UK General Services Limited	Fareham, England	100	100	GBP	300.7

Significant subsidiaries – non-listed (continued)

Table 28.1

as of December 31, 2018

	Registered office	Voting rights %	Ownership interest %	Nominal value of share capital (in local currency millions)	
United States of America					
Farmers Group, Inc.[3]	Carson City, NV	87.90	95.38	USD	0.001
Farmers Reinsurance Company[3]	Woodland Hills, CA	87.90	95.38	USD	58.8
Farmers New World Life Insurance Company[3]	Bellevue, WA	87.90	95.38	USD	6.6
Zurich American Corporation	Wilmington, DE	100	100	USD	0.00001
Zurich American Insurance Company (and subsidiaries)	New York, NY	100	100	USD	5.0
Rural Community Insurance Company	Anoka, MN	100	100	USD	3.0
Zurich American Life Insurance Company	Schaumburg, IL	100	100	USD	2.5
Zurich Holding Company of America, Inc.[4]	Wilmington, DE	100	100	USD	0.0
ZCM Matched Funding Corp.	George Town, Cayman Islands	100	100	USD	0.00100
Centre Group Holdings (U.S.) Limited	Wilmington, DE	100	100	USD	0.000010
ZCM (U.S.) Limited	Wilmington, DE	100	100	USD	0.00001
Zurich Capital Markets Inc.	Wilmington, DE	100	100	USD	0.00001
Zurich Structured Finance, Inc.	Wilmington, DE	100	100	USD	0.012

1 The controlling shareholder of this subsidiary is Zurich Santander Holding Dos (Spain), S.L.
2 Relates to Bansabadell insurance entities which are controlled by the ZIC Group.
3 The ownership percentages in Farmers Group, Inc. and its fully owned subsidiaries have been calculated based on the participation rights of ZIC Group in a situation of liquidation, dissolution or winding up of Farmers Group, Inc.
4 Shares have no nominal value in accordance with the company's articles of incorporation and local legislation.

Consolidated financial statements (continued)

Due to the nature of the insurance industry, the Group's business is subject to extensive regulatory supervision, and companies in the Group are subject to numerous legal restrictions and regulations. These restrictions may refer to minimum capital requirements or the ability of the Group's subsidiaries to pay dividends imposed by regulators in the countries in which the subsidiaries operate. These are considered industry norms, generally applicable to insurers who operate in the same markets.

For Zurich Santander Insurance America, S.L. and its subsidiaries, and the Bansabadell insurance entities, certain protective rights exist, which, among others, include liquidation, material sale of assets, transactions affecting the legal ownership structure, dividend distribution and capital increase, distribution channel partnerships and governance, which are not quantifiable.

For details on the Group's capital restrictions, see the capital management section in the risk review, which forms an integral part of the consolidated financial statements.

Table 28.2 shows the summarized financial information for each subsidiary that has non-controlling interests that are material to the ZIC Group. Farmers Group, Inc. and its subsidiaries are owned 95.38 percent by the ZIC Group and in total a 100 percent by the Zurich Insurance Group. Therefore, they are not separately disclosed.

Non-controlling interests

Table 28.2

in USD millions, as of December 31	Zurich Santander Insurance America, S.L. and its subsidiaries		Bansabadell insurance entities	
	2018	2017	**2018**	2017
Non-controlling interests percentage	49%	49%	50%	50%
Total Investments	13,284	14,224	10,706	10,368
Other assets	3,165	3,390	1,614	1,927
Insurance and investment contract liabilities[1]	14,093	14,799	10,699	10,451
Other liabilities	882	1,132	318	353
Net assets	**1,474**	**1,684**	**1,302**	**1,491**
Non-controlling interests in net assets	**722**	**825**	**651**	**745**
Total revenues	2,943	3,447	3,039	3,022
Net income after taxes	418	417	73	89
Other comprehensive income	(204)	71	(31)	238
Total comprehensive income	**214**	**488**	**42**	**327**
Non-controlling interests in total comprehensive income	**105**	**239**	**21**	**163**
Dividends paid to non-controlling interests	201	205	–	120

[1] Includes reserves for premium refunds, liabilities for investment contracts, deposits received under ceded reinsurance contracts, deferred front-end fees and liabilities for insurance contracts.

29. Events after the balance sheet date

On February 11, 2019, the ZIC Group announced the successful placement of EUR 500 million of dated subordinated notes that will mature in February 2049 and are first callable in February 2029. The notes are issued by Zurich Insurance Company Ltd.

On January 16, 2019, the ZIC Group announced the successful placement of CHF 200 million of senior unsecured notes. The notes are issued by Zurich Insurance Company Ltd and will mature in October 2027.

Report of the statutory auditor

to the General Meeting of Zurich Insurance Company Ltd, Zurich

Report on the audit of the consolidated financial statements

Opinion

We have audited the consolidated financial statements of Zurich Insurance Company Ltd and its subsidiaries (the ZIC Group), which comprise the consolidated balance sheet as at December 31, 2018 and the consolidated income statement, consolidated statement of comprehensive income, consolidated statement of cash flows and consolidated statement of changes in equity for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the consolidated financial statements (pages 35 to 141 and the risk review on pages 3 to 24) give a true and fair view of the consolidated financial position of the ZIC Group as at December 31, 2018 and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with the International Financial Reporting Standards (IFRS) and comply with Swiss law.

Basis for opinion

We conducted our audit in accordance with Swiss law, International Standards on Auditing (ISAs) and Swiss Auditing Standards. Our responsibilities under those provisions and standards are further described in the "Auditor's responsibilities for the audit of the consolidated financial statements" section of our report.

We are independent of the ZIC Group in accordance with the provisions of Swiss law and the requirements of the Swiss audit profession, as well as the IESBA Code of Ethics for Professional Accountants, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Our audit approach

Overview

Overall ZIC Group audit materiality: USD 225 million

We concluded full scope audit work at 19 business units in 8 countries. The full scope audit work addressed 72% and 79% of the ZIC Group's gross written premiums and policy fees (GWP) and total assets, respectively. In addition, specific procedures were performed on a further 16 business units in 8 countries representing a further 4% and 6% of the ZIC Group's GWP and total assets, respectively.

As key audit matters the following areas of focus have been identified:

- Valuation of actuarially determined life insurance assets and liabilities
- Valuation of property and casualty reserves
- Recoverability of goodwill, distribution agreements and attorney-in-fact contracts

Audit scope

We tailored the scope of our audit in order to perform sufficient work to enable us to provide an opinion on the consolidated financial statements as a whole, taking into account the structure of the ZIC Group, the accounting processes and controls, and the industry in which the ZIC Group operates.

In establishing the overall approach to the ZIC Group audit, we determined the type of work that needed to be performed at the business units by us, as the ZIC Group engagement team, or by component auditors from PwC network firms operating under our instruction. Where the work was performed by component auditors, we determined the level of involvement we needed to have in the audit work at those business units to be able to conclude whether sufficient appropriate audit evidence had been obtained as a basis for our opinion on the consolidated financial statements of the ZIC Group as a whole.

The ZIC Group's business units vary significantly in size and we identified 19 which, in our view, required an audit of their complete financial information, due to their size or risk characteristics. Audits of these business units were performed using materiality levels lower than the materiality level for the ZIC Group as a whole, ranging from USD 20 million to USD 150 million, and established by reference to the size of, and risks associated with, the business concerned. Specific audit procedures on certain balances and transactions were performed at a further 16 business units. Together the full scope audits and specific audit procedures accounted for 76% and 85% of ZIC Group GWP and total assets, respectively.

Our involvement included various site visits and component auditor working paper reviews across significant business units, together with discussions around audit approach and audit results arising from the work during regular conference calls with the component audit teams.

Audit materiality

The scope of our audit was influenced by our application of materiality. Our audit opinion aims to provide reasonable assurance that the consolidated financial statements are free from material misstatement. Misstatements may arise due to fraud or error. They are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the consolidated financial statements.

Based on our professional judgment, we determined certain quantitative thresholds for materiality, including the overall ZIC Group materiality for the consolidated financial statements as a whole as set out in the table below. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures and to evaluate the effect of misstatements, both individually and in aggregate, on the consolidated financial statements as a whole.

Overall group audit materiality	Overall ZIC Group audit materiality USD 225 million
How we determined it	We determined our materiality for the audit of the consolidated financial statements using quantitative and qualitative factors. Based on these factors we have selected a combined 3 year average of net income before income taxes (NIBIT) and business operating profit (BOP) as appropriate benchmarks for measuring audit materiality. We applied a 5% rule of thumb which resulted in a selected overall audit materiality of USD 225 million.
Rationale for the materiality benchmark applied	We chose NIBIT as a benchmark because, in our view, it is the benchmark against which the ZIC Group's performance is most commonly measured, and is a generally accepted benchmark. We also consider BOP as a benchmark because, in our view, BOP is a key indicator for analysts and external parties.

We agreed with the Audit Committee that we would report to them misstatements above USD 20 million identified during our audit as well as any misstatements below that amount which, in our view, warranted reporting for qualitative reasons.

Key audit matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Valuation of actuarially determined life insurance assets and liabilities

Key audit matter

The ZIC Group's valuation of the actuarially determined life insurance assets (including deferred policy acquisition costs, deferred origination costs, and present value of future profits) and liabilities (reserves for insurance contracts and deferred front-end fees) is based on complex actuarial methodologies and models and involves comprehensive assumption setting processes with regards to future events. Actuarial assumptions selected by the ZIC Group with respect to interest rates, investment returns, mortality, morbidity, longevity, persistency, expenses, stock market volatility and future policyholder behaviour and the underlying methodologies and assumptions used may result in material impacts on the valuation of actuarially determined life insurance assets and liabilities.

Specifically, the continued low interest rate environment results in reduced investment returns influences policyholders' behaviours creating a risk of accelerated amortization of deferred policy acquisition costs and a strain on the sufficiency of reserves for traditional life insurance contracts.

Refer to Notes 4, 8 and 11 to the consolidated financial statements.

How our audit addressed the key audit matter

We assessed and tested the design and operating effectiveness of selected key controls over actuarial methodology, integrity of data used in the actuarial valuation, and the assumptions setting processes used by management related to the valuation of actuarially determined life insurance assets and liabilities.

In relation to the particular matters set out opposite, our substantive testing procedures included the following:

– Testing the completeness and accuracy of underlying data to source documentation.
– Involving our life insurance actuarial specialists to independently test and challenge management's methodology and the assumptions used, with particular consideration of industry studies, the ZIC Group's experience and management's liability adequacy testing procedures. We focused on the changes to life actuarial methodology and assumptions during the year and assessed whether the methodologies are in compliance with recognized actuarial practices as well as regulatory and reporting requirements.
– Assessing the consistency of the life actuarial methods used across the ZIC Group's business units.
– Testing, on a sample basis, the calculation models applied to estimate the actuarially determined life insurance assets and liabilities.

Based on the work performed we determined that the methodologies, assumptions and underlying data used in the valuation of actuarially determined life insurance assets and liabilities are reasonable and in line with financial reporting requirements and industry accepted practice.

Valuation of property and casualty reserves

Key audit matter

The valuation of property and casualty loss reserves involves a high degree of subjectivity and complexity. Reserves for losses and loss adjustment expenses represent estimates of future payments of reported and unreported claims for losses and related expenses at a given date. The ZIC Group uses a range of actuarial methodologies to estimate these provisions. Property and casualty loss reserves require significant judgment relating to factors and assumptions such as inflation, claims development patterns and regulatory changes.

Specifically, long-tail lines of business, which often have low frequency, high severity claims settlements, are generally more difficult to project and subject to greater uncertainties than short-tail, high frequency claims. Further, not all natural catastrophes can be modeled using actuarial methodologies, which increases the degree of judgment needed in estimating property and casualty loss reserves.

Refer to Notes 4 and 8 to the consolidated financial statements.

How our audit addressed the key audit matter

We assessed and tested the design and operating effectiveness of selected key controls over actuarial methodology, integrity of data used in the actuarial valuation, and the assumptions setting and governance processes used by management related to the valuation of property and casualty reserves.

In relation to the particular matters set out opposite, our substantive testing procedures included the following:

- Testing the completeness and accuracy of underlying claims data utilized by the ZIC Group's actuaries in estimating property and casualty loss reserves.
- Utilizing information technology audit techniques to analyse claims through claims data plausibility checks and recalculation of claims development patterns.
- Involving our actuarial specialists to independently test management's property and casualty loss reserve studies and evaluate the reasonableness of the methodology and assumptions used against recognized actuarial practices and industry standards.
- Performing independent re-projections on selected product lines, particularly focusing on the largest and most uncertain property and casualty reserves. For these product lines our actuarial specialists compared their re-projected reserves to those recorded by the ZIC Group, and assessed whether the recorded reserves were within a reasonable range.
- Performing sensitivity testing and evaluated the appropriateness of any significant adjustments made to management's property and casualty reserve estimates.

Based on the work performed we determined the methodology and assumptions used in the valuation of property and casualty reserves are reasonable and in line with financial reporting requirements and industry accepted practice.

Report of the statutory auditor (continued)

Recoverability of goodwill, distribution agreements and attorney-in-fact contracts

Key audit matter

The ZIC Group's goodwill is allocated to cash generating units (CGUs) that are identified generally at a segment level. The valuation and recoverability of significant goodwill, distribution agreements and attorney-in-fact contracts involves complex judgments and estimates, including projections of future income, terminal growth rate assumptions, and discount rates. These assumptions and estimates can have a material impact on the valuations and impairment decisions reflected in the consolidated financial statements of the ZIC Group.

Refer to Notes 3, 4 and 14 to the consolidated financial statements.

How our audit addressed the key audit matter

We assessed the design effectiveness of selected key controls over terminal growth rate assumptions, and discount rates related to the recoverability of goodwill, distribution agreements and attorney-in-fact contracts. In relation to the particular matters set out opposite, our substantive testing procedures included the following:

- Corroborating the justification of the CGUs defined by management for goodwill allocation.
- Testing the principles and integrity of the ZIC Group's discounted cash flow model that supports the value-in-use calculations in order to assess the appropriateness of the methodology applied in the ZIC Group's annual impairment assessment.
- Testing the reasonableness of the assumptions used in the impairment assessment including projections of future income (comparing forecast to actual results), terminal growth rate assumptions, discount rates and sensitivity analyses to determine the impact of those assumptions.
- Engaging our internal valuation experts to assist in the testing of key assumptions and inputs.

Based on the work performed we deem management's assessment is reasonable that no impairment of goodwill, distribution agreements and attorney-in-fact contracts is needed.

Other information in the annual report
The Board of Directors is responsible for the other information in the annual report. The other information comprises all information included in the annual report, but does not include the consolidated financial statements, the financial statements – statutory accounts of Zurich Insurance Company Ltd, the risk review on pages 3 to 24 and our auditor's reports thereon. Our opinion on the consolidated financial statements does not cover the other information in the annual report and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information in the annual report and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of the Board of Directors for the consolidated financial statements
The Board of Directors is responsible for the preparation of the consolidated financial statements that give a true and fair view in accordance with IFRS and the provisions of Swiss law, and for such internal control as the Board of Directors determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the Board of Directors is responsible for assessing the ZIC Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the ZIC Group or to cease operations, or has no realistic alternative but to do so.

Auditor's responsibilities for the audit of the consolidated financial statements
Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Swiss law, ISAs and Swiss Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

A further description of our responsibilities for the audit of the consolidated financial statements is located at the website of EXPERTsuisse: http://expertsuisse.ch/en/audit-report-for-public-companies. This description forms part of our auditor's report.

Report on other legal and regulatory requirements
In accordance with article 728a paragraph 1 item 3 CO and Swiss Auditing Standard 890, we confirm that an internal control system exists which has been designed for the preparation of consolidated financial statements according to the instructions of the Board of Directors.

We recommend that the consolidated financial statements submitted to you be approved.

PricewaterhouseCoopers AG

Alex Finn Audit expert Auditor in charge	Mark Humphreys Audit expert

Zurich, March 8, 2019

Financial statements – statutory accounts

Board of Directors and auditors, as of December 31, 2018

Board of Directors and auditors

	Residence	Expiration of current term of office
Board of Directors		
Michel M. Liès, Chairman	Zollikon, Switzerland	2019
Christoph Franz, Vice Chairman	Zürich, Switzerland	2019
Joan Amble	Darien, CT, USA	2019
Catherine Bessant	Charlotte, NC, USA	2019
Alison Carnwath	Devon, United Kingdom	2019
Jeffrey Hayman	Moorestown, NJ, USA	2019
Monica Mächler	Pfäffikon, SZ, Switzerland	2019
Kishore Mahbubani	Singapore, Singapore	2019
David Nish	Kilmacolm, United Kingdom	2019
Claudia Biedermann, Company Secretary		
Auditors		
PricewaterhouseCoopers AG		

Fritz Gerber is the Honorary Chairman of Zurich Insurance Company Ltd. He was chairman of Zurich Insurance Company Ltd between 1977 and 1995 and its Chief Executive Officer between 1977 and 1991. In recognition of his leadership and services to the Company, he was appointed Honorary Chairman. Such designation does not confer Board membership or any Director’s duties or rights, nor does it entitle him to any Director’s fees.

Management report

Zurich Insurance Company Ltd (ZIC or the Company) is a public limited company domiciled in Zurich, Switzerland, and was incorporated on November 1, 1872. The Company is the principal operating insurance company of the Zurich Insurance Group (ZIG or the Group). As well as being an insurance company, it also acts as the holding company for all subsidiaries and other affiliates of the Group except for the Group's property loans and banking activities.

The results of ZIC include the direct Property & Casualty insurance business in Switzerland with its largest branches located in Canada, Japan and Hong Kong as well as assumed reinsurance business from its subsidiaries and the Farmers Exchanges.[1]

ZIC reported a net income after taxes of CHF 3,358 million in 2018, a 150 percent increase compared to 2017. This increase is mainly driven by improvements in the net underwriting result of CHF 1,372 million and in the net investment result of CHF 583 million.

Total gross written premiums and policy fees decreased by CHF 4,648 million or 25 percent to CHF 14,101 million for the year ended December 31, 2018. In local currency, gross written premiums and policy fees decreased by 26 percent or CHF 4,804 million. Direct gross written premiums and policy fees increased by CHF 92 million to CHF 4,168 million mainly due to growing business in Japan and Italy. Assumed reinsurance gross written premiums and policy fees decreased by CHF 4,740 million to CHF 9,933 million due to the termination of the Whole Account Quota Share (WAQS) reinsurance treaty with Zurich American Insurance Company, which is an indirect subsidiary of the Company, as of January 1, 2018, as well as the non-renewal of the All Lines Quota Share reinsurance agreement with Farmers Exchanges as of December 31, 2017.

The net insurance reserves decreased by CHF 3,780 million compared with the year ended December 31, 2017, mainly reflecting the termination of the WAQS reinsurance treaty with Zurich American Insurance Company and the non-renewal of the All Lines Quota Share reinsurance agreement with Farmers Exchanges. This was partially offset by a new reinsurance treaty with OnePath Life, a part of ANZ Banking Group Limited, and by new Group internal reinsurance treaties.

Additionally, administrative and other expense decreased by CHF 767 million in 2018 thanks to favorable development in foreign exchange rates as well as the Company has progressed well against savings targets.

The net investment result increased by CHF 583 million to CHF 3,808 million, mainly due to an increase in income from investments in subsidiaries and associates of CHF 1,445 million and a reduction in write-downs on investments in subsidiaries and associates of CHF 447 million. This was partially offset by a decrease in the value of single investor funds following lower write-ups of debt securities as well as due to the overall stagnation in the equity securities markets during 2018.

Shareholder's equity increased by CHF 3,358 million to CHF 24'974 million for the year ended December 31, 2018, from CHF 21,616 million for the year ended December 31, 2017. This increase reflects solely the net income after taxes in 2018 as no dividend has been paid to Zurich Insurance Group Ltd in 2018.

ZIC is fully integrated into the Group-wide risk assessment process of the Zurich Insurance Group. This risk process also addresses the nature and scope of business activities and the specific risks of ZIC. For more information, see the Risk review on page 3 to 24 of this Annual Report.

[1] The Farmers Exchanges are owned by their policyholders. Farmers Group, Inc., a wholly owned subsidiary of the Zurich Insurance Group, provides certain non-claims administrative, management, and ancillary services to the Farmers Exchanges as attorney-in-fact and receives fees for its services.

As in 2017, the Company has strengthened its customer focus through key acquisitions in 2018.

On March 12, 2018, the Group announced the acquisition of Travel Ace and Universal Assistance, the leading providers of traveler assistance in Latin America for approximately CHF 81 million. The transaction encompassed nineteen legal entities operating throughout Latin America, most notably in Argentina, Brazil, Chile, Columbia and Mexico. Fourteen legal entities are direct investments in subsidiaries and associates of the Company. Their carrying value amounted to CHF 101 million as of December 31, 2018.

On February 24, 2018, the Group entered into an agreement to acquire the Latin American operations of the Australian insurer QBE Insurance Group Limited (QBE) with operations in Argentina, Brazil, Columbia, Ecuador and Mexico subject to closing adjustments and regulatory approvals. On July 2, 2018, the acquisitions of Argentina and Brazil were closed, whereof two legal entities in Argentina were directly acquired by the Company for an amount of CHF 221 million. The acquisition of Mexico and Ecuador were closed on August 31, 2018, and October 1, 2018, for an amount of CHF 33 million and CHF 53 million, respectively. The acquisition of Colombia was completed on February 1, 2019, for an amount of CHF 35 million.

On September 27, 2018, Zurich Insurance Group entered into agreements to acquire 80% of PT Asuransi Adira Dinamika (Adira Insurance) from PT Bank Danamon Indonesia (Bank Danamon) and a minority investor for approximately USD 414 million (CHF 407 million), with potential future incremental payments based on business performance. The transaction includes two separate long-term strategic cooperation agreements with Bank Danamon and PT Adira Dinamika Multi Finance TbK. The transaction is expected to close in the first half of 2019, subject to regulatory approval.

In 2019, the Company expects to further strengthen its underwriting results and to deliver its cost savings.

Income statements

Income statements

in CHF millions, for the years ended December 31	Notes	2018	2017
Gross written premiums and policy fees		14,101	18,748
Premiums ceded to reinsurers		(3,484)	(3,181)
Net written premiums and policy fees		10,616	15,568
Change in reserves for unearned premiums, gross		29	536
Change in reserves for unearned premiums, ceded		108	66
Net earned premiums and policy fees		10,754	16,170
Other income		1,069	1,258
Total technical income		**11,823**	**17,427**
Claims paid, annuities and loss adjustment expenses, gross		(12,233)	(12,440)
Claims paid, annuities and loss adjustment expenses, ceded		1,983	1,629
Change in insurance reserves, gross	14	2,676	(1,407)
Change in insurance reserves, ceded	14	473	612
Insurance benefits and losses, net of reinsurance		(7,101)	(11,606)
Underwriting & policy acquisition costs, gross		(3,147)	(4,716)
Underwriting & policy acquisition costs, ceded		572	436
Underwriting & policy acquisition costs, net of reinsurance		(2,575)	(4,280)
Administrative and other expense	4	(1,873)	(2,640)
Total technical expense		**(11,550)**	**(18,526)**
Investment income	5	4,848	4,176
Investment expenses	6	(1,040)	(951)
Net investment result		3,808	3,225
Other financial income		221	274
Other financial expense		(278)	(382)
Operating result		**4,025**	**2,018**
Interest expense on debt and other interest expense		(565)	(544)
Net income before taxes		**3,459**	**1,474**
Direct tax expenses		(101)	(130)
Net income after taxes		**3,358**	**1,344**

The notes to the financial statements are an integral part of these financial statements.

Financial statements – statutory accounts (continued)

Balance sheets

Assets

in CHF millions, as of December 31	Notes	2018	2017
Investments			
Real estate		1,489	1,471
Investments in subsidiaries and associates	7	32,333	29,755
Debt securities		19,777	22,542
Other loans		5,158	5,465
Mortgage loans		1,158	1,197
Equity securities		4,582	4,728
Other investments	8	8,511	8,993
Total investments		**73,007**	**74,151**
Other assets			
Derivative assets		350	475
Deposits made under assumed reinsurance contracts		2,478	3,226
Cash and cash equivalents		5,460	5,340
Insurance reserves, ceded	13	6,405	5,975
Fixed assets	9	105	106
Deferred acquisition costs, net	10	1,951	1,226
Intangible assets	11	155	174
Receivables from insurance and reinsurance business	12	1,604	1,565
Other receivables		636	598
Other assets		20	22
Accrued assets		632	686
Total other assets		**19,797**	**19,393**
Total assets		**92,803**	**93,544**

The notes to the financial statements are an integral part of these financial statements.

Liabilities and shareholder's equity

in CHF millions, as of December 31	Notes	2018	2017
Liabilities			
Insurance reserves, gross	13	39,394	42,744
Provisions	16	1,051	916
Senior and other debt	17	14,938	13,409
Derivative liabilities		266	75
Deposits received under ceded reinsurance contracts		131	123
Liabilities from insurance and reinsurance business	18	1,102	911
Other liabilities		1,257	1,336
Accrued liabilities		1,435	1,383
Subordinated debt	17	8,255	11,032
Total liabilities		**67,830**	**71,928**
Shareholder's equity (before appropriation of available earnings)			
Share capital	19	825	825
Capital contribution reserve		5,570	5,570
Legal reserve		485	485
General free reserve		4,272	4,272
Retained earnings:			
Beginning of year		*10,464*	*11,420*
Dividend paid		*–*	*(2,300)*
Net income after taxes		*3,358*	*1,344*
Retained earnings, end of year		13,822	10,464
Total shareholder's equity (before appropriation of available earnings)		**24,974**	**21,616**
Total liabilities and shareholder's equity		**92,803**	**93,544**

The notes to the financial statements are an integral part of these financial statements.

Notes to the financial statements

1. Basis of presentation

The Company's financial statements are presented in accordance with the Swiss Code of Obligations and relevant insurance supervisory law, including the FINMA Insurance Supervision Ordinance (ISO-FINMA), revised December 15, 2015.

All amounts in the financial statements, unless otherwise stated, are shown in CHF, rounded to the nearest million with the consequence that the rounded amounts may not add up to the total in all cases. All variances are calculated using the actual figures rather than the rounded amounts.

2. Summary of significant accounting policies

Investments

Real estate held for investment and for own use held in Switzerland is carried at the acquisition cost less required or permissible impairment, and is valued on a single valuation basis. Real estate held for investment and for own use held by branches located outside Switzerland is carried at the local statutory value valid in the country where the real estate is located, valued on a single valuation basis.

Investments in subsidiaries and associates are held at acquisition cost less necessary impairments. The method to determine the necessary impairments is considering the similarity of the underlying investments in subsidiaries and associates such as the fungibility of capital or the pooling of reinsurance as well as the potential dependency with other investments in subsidiaries and associates. Investments in subsidiaries and associates in both "Property and Casualty (P&C)" and "Life" are assessed on a regional basis (Europe, Middle East and Africa, North America, Asia Pacific, Latin America and Group Reinsurance), further "Farmers", "Group Functions and Operations" and "Non-Core Businesses" are considered as similar assets. For these regional sub-groups, the book value of the sub-group is compared to its market value. If needed, the carrying value of the investments in subsidiaries and associates is impaired accordingly.

Debt securities are carried at amortized cost using the effective interest rate method. The valuation of debt securities held in the single investor funds in Switzerland is the same as for directly held securities.

Mortgage and other loans are valued at their nominal value less any necessary impairments.

Equity securities which are quoted on a stock exchange are carried at the stock exchange price as of December 31. Unquoted equity securities are carried at the acquisition cost with a deduction for necessary impairments. The valuation of equity securities held in single investor funds in Switzerland is the same as for directly held securities.

Other investments consists of asset-backed securities, which are valued at amortized cost using the effective interest rate method.

Other assets

Derivative financial instruments

Derivative financial instruments held for purposes of economic hedging are carried at fair value.

Deposits made under assumed reinsurance contracts

Reinsurance deposits consist of funds deposited with ceding insurers to guarantee contractual liabilities for assumed reinsurance.

Deferred acquisition costs, net

Acquisition costs related to reinsurance business are deferred. For P&C business the deferred costs are subsequently amortized over the period in which the related assumed premiums are earned. For the life business the deferred costs are amortized over the life of the contract based on expected premiums or the estimated gross margin expected to be realized over the life of the contract, depending on the type of underlying contracts.

Accrued assets
This amount relates primarily to interest income accruals, other prepaid expenses and other accrued income. Accrued investment income within the single investor funds in Switzerland is recorded as a write-up on investments.

Insurance reserves

Reserves for unearned premiums represent the portion of the premiums written relating to the unexpired term of insurance coverage as of the balance sheet date. In many insurance contracts, the insurance period for which the insurance company assumes a risk against a premium paid does not correspond to the Company's financial year. Thus, an amount equivalent to the unearned portion of the premium is set up as a reserve at the end of the financial year.

Reserves for losses and loss adjustment expenses represent reserves for reported claims and reserves for losses incurred but not yet reported (IBNR). In addition, equalization reserves are included where these are accepted or required by the regulator in the country where such reserves are held. The reserves represent estimates of future payments of reported and unreported claims for losses and related expenses with respect to insured events that have occurred. Reserving is a complex process dealing with uncertainty, requiring the use of informed estimates and judgments. Any changes in estimates are reflected in the income statements in the period in which estimates are changed.

Future life policyholders' benefits represent the estimated future benefit liability for life insurance policies and include the value of accumulated declared bonuses or dividends that have vested to policyholders. These liabilities relate to assumed reinsurance contracts. The liabilities are primarily measured using current financial and non-financial assumptions. Certain pension and annuity liabilities are calculated using a net level premium valuation method based on actuarial assumptions including mortality, expenses and investment return adjusted for a margin for adverse deviations.

Other income and administrative and other expense

Other income includes interest income on deposits received under ceded reinsurance contracts as well as other technical and other non-technical income. Administrative and other expense represent primarily technical expense in connection with the operation of the insurance business.

Investment income and expense

Realized capital gains/losses on investments occur when the sales price or redemption value is higher or lower than the carrying value at the time of sale. The gain/loss is the difference between carrying value and the sales price.

Write-downs and write-ups on investments include losses arising from a decrease in the fair value below cost or the carrying value at the previous year end on equity securities and necessary impairments of debt securities and investments in subsidiaries and associates. Write-ups of quoted equity securities are gains resulting from the difference between the lower book value at the beginning of the year or at the later purchase date and the higher book value as of the end of December. Write-ups also include gains as a result of the reversal of impairments on unquoted equity securities up to the acquisition cost value. Write-downs and write-ups further include the change in valuation of the single investor funds, which also include the investment income of the investments within these funds.

Other financial income and expense

Other financial income includes interest income on cash and cash equivalents as well as gains on derivatives. Other financial expenses includes losses on derivatives.

Direct tax expenses

Direct tax expenses include both Swiss and foreign income tax expense and capital tax expense in Switzerland as well as foreign withholding tax expense on investment income.

3. Exchange rates

The presentation currency for ZIC and its branches is the Swiss franc. Several ZIC branches operate outside Switzerland with different functional currencies. A functional currency is the currency of the primary economic environment in which the branch operates. Assets and liabilities of those branches with functional currencies other than the Swiss franc are translated into the presentation currency at end-of-period exchange rates, except for investments in subsidiaries and associates where historical exchange rates are used. Revenues and expenses are translated using the average exchange rate of the year. The resulting exchange differences are recorded in the income statements.

The table below summarizes the principal exchange rates that have been used for translation purposes.

Principal exchange rates

CHF per foreign currency unit	Balance sheets		Income statements	
	12/31/2018	12/31/2017	**2018**	2017
Canadian dollar	0.72	0.78	0.76	0.76
Euro	1.13	1.17	1.16	1.11
British pound	1.25	1.32	1.31	1.27
U.S. dollar	0.98	0.97	0.98	0.98

4. Administrative and other expense

Administrative and other expense

in CHF millions, for the years ended December 31	**2018**	2017
Administration and other general expenses	(859)	(1,020)
Personnel expenses	(1,026)	(1,049)
Foreign currency transaction gains and losses	345	(834)
Gains and losses on foreign currency derivatives	(251)	398
Amortization and impairments of software and equipment	(83)	(135)
Total administrative and other expense	**(1,873)**	**(2,640)**

5. Investment income

Investment income

in CHF millions, for the years ended December 31	Current income		Write-ups		Realized capital gains		Totals	
	2018	2017	**2018**	2017	**2018**	2017	**2018**	2017
Real estate	98	96	4	2	20	11	122	108
Investments in subsidiaries and associates	3,326	1,881	–	–	–	145	3,326	2,026
Debt securities	357	359	44	382	38	77	440	819
Other loans	159	130	–	–	47	5	205	136
Mortgage loans	21	24	–	–	–	–	21	24
Equity securities	87	82	26	368	334	343	446	793
Other investments	245	222	–	–	42	48	287	271
Total investment income	**4,294**	**2,794**	**74**	**752**	**481**	**629**	**4,848**	**4,176**

Total investment income increased by CHF 672 million or 16 percent to CHF 4,848 million in 2018. Dividend income from subsidiaries and associates increased by CHF 1,445 million or 77 percent to CHF 3,326 million in 2018, mainly due to a dividend payment from Zurich Life Insurance Company Ltd of CHF 1,457 million and to higher dividend income from Farmers Group, Inc., partially offset by lower dividend income from Zurich Holding Ireland Limited and Zurich Reinsurance Company Ltd. The prior year realized gains on investments in subsidiaries and associates were due to the sale of Zurich Insurance (Taiwan) Ltd. to Hotai Motor Co. The lower write-ups on debt securities and equity securities in 2018 were mainly driven by the decrease in the value of the single investor funds as well as the overall deterioration in equity securities markets compared to 2017.

6. Investment expenses

Investment expenses

in CHF millions, for the years ended December 31	Write-downs		Realized capital losses		Totals	
	2018	2017	**2018**	2017	**2018**	2017
Real estate	(33)	(15)	(4)	(2)	(37)	(17)
Investments in subsidiaries and associates	(160)	(607)	–	(2)	(160)	(609)
Debt securities	(15)	(6)	(118)	(71)	(133)	(77)
Other loans	–	–	(56)	(40)	(56)	(40)
Mortgage loans	–	–	–	–	–	–
Equity securities	(431)	(59)	(84)	(22)	(515)	(82)
Other investments	–	–	(66)	(44)	(66)	(44)
Sub-total investment expenses	**(639)**	**(688)**	**(328)**	**(181)**	**(967)**	**(869)**
Investment general expenses	n.a.	n.a.	n.a.	n.a.	(73)	(82)
Total investment expenses					**(1,040)**	**(951)**

Total investment expenses increased by CHF 89 million or 9 percent to CHF 1,040 million in 2018, mainly due to higher write-downs on equity securities due to the challenging market environment in 2018. This increase was partially offset by lower write-downs on investments in subsidiaries and associates of CHF 160 million in 2018 compared to CHF 607 million in 2017. In 2018, there were mainly impairments of Zurich Minas Brasil Seguros S.A. as well as of the entity holding the Company's business in Venezuela. The impairments in 2017 were mainly related to subsidiaries in Bermuda and Brazil.

7. Investments in subsidiaries and associates

The table below shows the significant subsidiaries of ZIC with a carrying value of at least CHF 500 million and/or net income exceeding CHF 100 million. The carrying value of the listed subsidiaries and associates represents 90 percent of the total investments in subsidiaries and associates of CHF 32,333 million.

Significant subsidiaries

as of December 31, 2018	Registered office	Voting rights %	Ownership interest %		Nominal value of common stock (in local currency millions)
Australia					
Zurich Financial Services Australia Limited[1]	Sydney	100	100	AUD	2,198.8
Brazil					
Zurich Minas Brasil Seguros S.A.[1]	Belo Horizonte	100	100	BRL	4,726.8
Germany					
Zürich Beteiligungs-Aktiengesellschaft (Deutschland)	Frankfurt	100	100	EUR	152.9
Ireland					
Zurich Holding Ireland Limited	Dublin	100	100	EUR	0.1
Zurich Insurance plc[1]	Dublin	4.5	4.5	EUR	8.2
Italy					
Zurich Investments Life S.p.A.	Milan	100	100	EUR	199.0
Spain					
Zurich Latin America Holding S.L. - Sociedad Unipersonal[2]	Barcelona	100.0	100.0	EUR	43.0
Zurich Vida, Compañía de Seguros y Reaseguros, S.A. - Sociedad Unipersonal[1, 2]	Madrid	100.0	100.0	EUR	56.4
Switzerland					
Zurich Life Insurance Company Ltd[1]	Zurich	100	100	CHF	60.0
Zurich Finance Company AG	Zurich	100	100	CHF	0.2
Zurich Reinsurance Company Ltd[1]	Zurich	100	100	CHF	11.7
United Kingdom					
Allied Zurich Holdings Limited	St. Hélier	100	100	GBP	90.7
Zurich International Life Limited[1]	Douglas, Isle of Man	100	100	GBP	123.4
United States of America					
Farmers Group, Inc.[3, 4]	Carson City, NV	87.9	95.4	USD	0.0
Zurich Holding Company of America, Inc.	Wilmington, DE	100.0	100.0	USD	0.0

[1] Regulated insurance companies.
[2] Zurich Latin America Holding S.L. - Sociedad Unipersonal and Zurich Vida, Compañía de Seguros y Reaseguros, S.A. - Sociedad Unipersonal have been added to the list of significant subsidiaries. These subsidiaries were part of a dividend in kind of Zurich Life Insurance Company Ltd to ZIC.
[3] The ownership percentages in Farmers Group, Inc., and its fully owned subsidiaries have been calculated based on the participation rights of ZIC in a situation of liquidation, dissolution or winding up of Farmers Group, Inc.
[4] The Farmers Exchanges are owned by their policyholders. Farmers Group, Inc., a wholly owned subsidiary of the Zurich Insurance Group, provides certain non-claims administrative, management, and ancillary services to the Farmers Exchanges as attorney-in-fact and receives fees for its services.

The table below shows the most significant indirectly held subsidiaries of ZIC with a net asset value exceeding USD 1,000 million (based on IFRS values) and ownership interest of more than 10 percent.

Significant indirect subsidiaries

as of December 31, 2018	Registered office	Parent company	Voting rights %	Ownership interest %
Germany				
Zurich Deutscher Herold Lebensversicherung Aktiengesellschaft	Bonn	Zürich Beteiligungs-Aktiengesellschaft (Deutschland)[1]	32.5	32.5
		Deutscher Herold Aktiengesellschaft	67.5	67.5
Luxembourg				
REX-ZDHL S.C.S SICAV-SIF	Leudelange	Zurich Deutscher Herold Lebensversicherung Aktiengesellschaft	100.0	100.0
Spain				
Zurich Santander Holding (Spain), S.L.	Boadilla del Monte	Zurich Santander Insurance America, S.L.	100.0	100.0
United Kingdom				
Zurich Assurance Ltd	Cheltenham, England	Eagle Star Holdings Limited	100.0	100.0
United States of America				
Farmers New World Life Insurance Company	Bellevue, WA	Farmers Group, Inc.[1]	100.0	100.0
Zurich American Corporation	Wilmington, DE	Zurich Holding Company of America, Inc.[1]	100.0	100.0
Zurich American Insurance Company	New York, NY	Zurich Holding Company of America, Inc.[1]	100.0	100.0
Zurich Global, Ltd.[2]	Pembroke, Bermuda	Zurich Holding Company of America, Inc.[1]	100.0	100.0

[1] Direct subsidiary of the Company.
[2] Zurich Global, Ltd., has been added to the list of significant subsidiaries.

8. Other investments

Other investments

in CHF millions, as of December 31	2018	2017
Asset-backed securities	8,511	8,993
Total other investments	**8,511**	**8,993**

9. Fixed assets

Fixed assets

in CHF millions, as of December 31	2018	2017
Furniture and equipment	370	361
Accumulated amortization	(265)	(255)
Total fixed assets	**105**	**106**

10. Deferred acquisition costs

Deferred acquisition costs, net

in CHF millions, as of December 31	2018	2017
Deferred acquisition costs, assumed reinsurance	2,023	1,292
Deferred acquisition costs, retroceded reinsurance	(72)	(66)
Total deferred acquisition costs, net	**1,951**	**1,226**

The increase in deferred acquisition costs was mainly due to the new Quota Share reinsurance agreement with OnePath Life in 2018.

11. Intangible assets

Intangible assets

in CHF millions, as of December 31	2018	2017
Software	155	174
Total intangible assets	**155**	**174**

12. Receivables from insurance and reinsurance business

Receivables from insurance and reinsurance business

in CHF millions, as of December 31	2018	2017
Receivables from policyholders	104	95
Receivables from agents and intermediaries	214	175
Receivables from insurance and reinsurance companies	1,286	1,295
Total receivables from insurance and reinsurance business	**1,604**	**1,565**

13. Insurance reserves, net

Insurance reserves, net

in CHF millions, as of December 31	2018	2017
Gross		
Reserves for unearned premiums	4,111	4,257
Reserves for losses and loss adjustment expenses	29,710	33,197
Other technical reserves	902	831
Future life policyholders' benefits	4,654	4,441
Reserves for policyholders' dividends	18	19
Total insurance reserves, gross	**39,394**	**42,744**
Ceded		
Reserves for unearned premiums	(1,211)	(1,126)
Reserves for losses and loss adjustment expenses	(4,935)	(4,500)
Future life policyholders' benefits	(257)	(348)
Reserves for policyholders' dividends	(1)	(1)
Total insurance reserves, ceded	**(6,405)**	**(5,975)**
Net		
Reserves for unearned premiums	2,899	3,132
Reserves for losses and loss adjustment expenses	24,774	28,697
Other technical reserves	902	831
Future life policyholders' benefits	4,397	4,093
Reserves for policyholders' dividends	17	17
Total insurance reserves, net of reinsurance	**32,990**	**36,769**

Total net insurance reserves decreased by CHF 3,780 million or 10 percent to CHF 32,990 million. In local currency, the insurance reserves decreased by CHF 3,493 million. The net reserves for losses and loss adjustment expenses decreased by CHF 3,922 million. This decrease is reflecting the impacts of the termination of the WAQS reinsurance treaty with Zurich American Insurance Company as of January 1, 2018, as well as the non-renewal of the All Lines Quota Share reinsurance agreement with Farmers Exchanges as of December 31, 2017. The net future life policyholders' benefits increased by CHF 304 million mainly because of the new reinsurance treaty with OnePath Life as well as new Group internal reinsurance treaties.

14. Change in insurance reserves, net

Change in insurance reserves, net

in CHF millions, for the years ended December 31	2018	2017
Gross		
Change in reserves for losses and loss adjustment expenses	3,023	(1,078)
Change in other technical reserves	(99)	(20)
Change in reserves for future life policyholders' benefits	(240)	(161)
Change in reserves for policyholders' dividends	(7)	(147)
Total change in insurance reserves, gross	**2,676**	**(1,407)**
Ceded		
Change in reserves for losses and loss adjustment expenses	557	512
Change in reserves for future life policyholders' benefits	(84)	100
Change in reserves for policyholders' dividends	–	–
Total change in insurance reserves, ceded	**473**	**612**
Net		
Change in reserves for losses and loss adjustment expenses	3,579	(566)
Change in other technical reserves	(99)	(20)
Change in reserves for future life policyholders' benefits	(324)	(61)
Change in reserves for policyholders' dividends	(7)	(147)
Total change in insurance reserves, net of reinsurance	**3,149**	**(795)**

The positive change in net insurance reserves in 2018 mainly reflects the impact of the termination of the WAQS reinsurance treaty with Zurich American Insurance Company as well as the non-renewal of the All Lines Quota Share reinsurance agreement with Farmers Exchanges. Also, the overall favorable development in losses occuring in prior years stems from the reduction in reserves for claims related to the hurricanes Harvey, Irma and Maria (HIM) as well as reserve releases in Switzerland. The change in net insurance reserves in 2017 was impacted by catastrophe and weather related events beyond historical levels, in particular the hurricanes impacting the U.S. in the third quarter 2017, HIM of USD 945 million (CHF 930 million) on a gross and USD 480 million (CHF 472 million) on a net basis.

15. Direct and assumed business

Direct and assumed business

in CHF millions, for the years ended December 31	2018	2017
Gross written premiums and policy fees, direct business	4,168	4,075
Gross written premiums and policy fees, assumed business	9,933	14,673
Premiums ceded to reinsurers	(3,484)	(3,181)
Net written premiums and policy fees	**10,616**	**15,568**
Change in reserves for unearned premiums, direct business	(15)	62
Change in reserves for unearned premiums, assumed business	45	474
Change in reserves for unearned premiums, ceded	108	66
Change in reserves for unearned premiums, net of reinsurance	**137**	**602**
Claims paid, annuities and loss adjustment expenses, direct business	(2,922)	(2,604)
Claims paid, annuities and loss adjustment expenses, assumed business	(9,311)	(9,836)
Claims paid, annuities and loss adjustment expenses, ceded	1,983	1,629
Claims paid, annuities and loss adjustment expenses, net of reinsurance	**(10,250)**	**(10,811)**
Change in insurance reserves, direct business	(55)	161
Change in insurance reserves, assumed business	2,731	(1,568)
Change in insurance reserves, ceded	473	612
Change in insurance reserves, net of reinsurance	**3,149**	**(795)**
Underwriting & policy acquisition costs, direct business	(808)	(824)
Underwriting & policy acquisition costs, assumed business	(2,339)	(3,892)
Underwriting & policy acquisition costs, ceded	572	436
Underwriting & policy acquisition costs, net of reinsurance	**(2,575)**	**(4,280)**

The overall reduction of the assumed business in 2018 is due to the non-renewal of the Group internal reinsurance agreements mentioned in note 14.

16. Provisions

The provisions were established in anticipation of expected, estimated or perceived expenditures or exposures and increased by CHF 136 million in 2018, mainly due to an increase of the provisions to employees. The provision for restructuring costs decreased by CHF 13 million and amounted to CHF 45 million.

Financial statements – statutory accounts (continued)

17. Debt

a) Senior and other debt

Senior and other debt

in CHF millions, as of December 31		**2018**	2017
Issuances to capital markets under Euro Medium Term Note Programme	2.375% CHF 525 million, due November 2018	–	525
	1.5% CHF 400 million, due June 2019	400	400
	1.125% CHF 400 million, due September 2019	400	400
	0.625% CHF 250 million, due July 2020	250	250
	2.875% CHF 250 million, due July 2021	250	250
	3.375% EUR 500 million, due June 2022	563	585
	1.875% CHF 100 million, due September 2023	100	100
	1.75% EUR 500 million, due September 2024	563	585
	0.5% CHF 350 million, due December 2024	350	–
	1.5% CHF 150 million, due July 2026	150	150
	1% CHF 200 million, due October 2028	200	–
	1.5% EUR 500 million, due December 2028	563	–
Zurich Insurance Group	various	11,013	10,144
Other debt	various	135	19
Total senior and other debt		**14,938**	**13,409**
	thereof due in one to five years	*1,163*	*1,885*
	thereof due in more than five years	*1,947*	*835*

b) Subordinated debt

Subordinated debt

in CHF millions, as of December 31		**2018**	2017
Zurich Insurance Group Ltd	6.30% CHF 2,132 million perpetual loan	2,132	4,832
Issuances to capital markets under Euro Medium Term Note Programme	8.25% USD 500 million perpetual capital notes, first callable on January 18, 2018	–	487
	4.625% CHF 500 million perpetual notes, first callable on May 16, 2018	–	500
	7.5% EUR 425 million notes, first callable on July 24, 2019, due July 2039	479	497
	2.75% CHF 225 million perpetual capital notes, callable on June 2, 2021	225	225
	2.75% CHF 200 million perpetual capital notes, first callable on September 30, 2021	200	200
	4.75% USD 1 billion perpetual notes, first callable on January 20, 2022	984	975
	4.25% EUR 1 billion notes, first callable on October 2, 2023, due October 2043	1,127	1,170
	4.25% USD 300 million subordinated notes, first callable on October 1, 2025, due October 2045	295	292
	5.625% USD 1 billion subordinated notes, first callable on June 24, 2026, due June 2046	984	975
	3.5% EUR 750 million subordinated notes, first callable on October 1, 2026, due October 2046	845	878
	5.125% USD 500 million subordinated notes, first callable on June 1, 2028, due June 2048	492	–
	4.875% USD 500 million subordinated notes, first callable on October 2, 2028, due October 2048	492	–
Total subordinated debt		**8,255**	**11,032**
	thereof due in one to five years	*2,536*	*1,897*
	thereof due in more than five years	*5,240*	*8,147*

In April 2018, the Company repaid CHF 2,700 million of the existing perpetual loan to Zurich Insurance Group Ltd.

18. Liabilities from insurance and reinsurance business

Liabilities from insurance and reinsurance business

in CHF millions, as of December 31	2018	2017
Amounts due to policyholders	56	32
Amounts due to agents and intermediaries	25	18
Amounts due to insurance and reinsurance companies	1,021	861
Total liabilities from insurance and reinsurance business	**1,102**	**911**

19. Share capital

Share capital and profit sharing certificates

number of shares, as of December 31	2018	2017
Issued share capital, CHF 10 par value	82,500,000	82,500,000

a) Issued share capital

As of December 31, 2018 and 2017, ZIC had issued share capital of CHF 825,000,000, consisting of 82,500,000 issued and fully paid registered shares of CHF 10 par value each.

b) Contingent share capital

At the Annual General Meeting on June 11, 1997, contingent share capital of CHF 35,000,000 or 3,500,000 shares with a par value of CHF 10 each, was created, of which 2,500,000 shares can be issued in connection with the granting of conversion and/or option rights, and 1,000,000 shares can be issued under employees' share ownership plans. In 2017, the contingent share capital has been cancelled.

c) Shareholders

As of December 31, 2018 and 2017, 100 percent of the registered shares of the Company were owned by Zurich Insurance Group Ltd.

Shareholder's equity

in CHF millions, as of December 31	2018	2017	changes
Shareholder's equity			
Share capital	825	825	–
Capital contribution reserve	5,570	5,570	–
Legal reserve	485	485	–
General free reserve	4,272	4,272	–
Retained earnings:			
Beginning of year	*10,464*	*11,420*	*(956)*
Dividend paid	*–*	*(2,300)*	*2,300*
Net income after taxes	*3,358*	*1,344*	*2,015*
Retained earnings, end of year	13,822	10,464	3,358
Total shareholder's equity	**24,974**	**21,616**	**3,358**

Financial statements – statutory accounts (continued)

20. Assets and liabilities relating to companies within the Zurich Insurance Group

Assets and liabilities relating to direct and indirect subsidiaries

in CHF millions, as of December 31	**2018**	2017
Assets		
Investments in subsidiaries and associates	32,333	29,755
Debt securities	13	13
Other loans	5,089	5,061
Derivative assets	122	207
Deposits made under assumed reinsurance contracts	1,943	2,330
Cash and cash equivalents	1,194	1,017
Insurance reserves, ceded	1,692	1,508
Deferred acquisition costs, net	1,262	1,236
Receivables from insurance and reinsurance business	767	644
Other receivables	238	291
Accrued assets	271	327
Total assets	**44,924**	**42,388**
Liabilities		
Insurance reserves, gross	28,173	30,750
Provisions	168	191
Senior and other debt	11,010	9,358
Derivative liabilities	62	16
Deposits received under ceded reinsurance contracts	3	4
Liabilities from insurance and reinsurance business	772	660
Other liabilities	121	123
Accrued liabilities	174	183
Total liabilities	**40,483**	**41,285**

Assets and liabilities relating to ZIG Ltd

in CHF millions, as of December 31	**2018**	2017
Assets		
Equity securities	677	335
Derivative assets	–	–
Cash and cash equivalent	65	252
Total assets	**742**	**587**
Liabilities		
Senior and other debt	2	786
Other liabilities	–	–
Accrued liabilities	91	–
Subordinated debt	2,132	4,832
Total liabilities	**2,226**	**5,619**

21. Supplementary information

Supplementary information

in CHF millions, as of December 31	2018	2017
Limited guarantees, indemnity liabilities and pledges in favor of third parties	14,612	13,886
Leasing obligations not recorded on the balance sheet	246	267
Security deposits	11,604	13,516
Number of employees – Average full time equivalents	5,165	5,405
Audit fees	(11)	(14)
Other service fees	(3)	(2)

Limited guarantees, indemnity liabilities and pledges in favor of third parties include a guarantee of USD 3,000 million both in 2018 (CHF 2,952 million) and in 2017 (CHF 2,924 million), in favor of subsidiaries to provide funds under certain circumstances. The total maximum exposure under this guarantee amounted to USD 479 million (CHF 471 million) as of December 31, 2018, and USD 478 million (CHF 466 million) as of December 31, 2017. Further, an agreement related to the acquisition of Australia and New Zealand Banking Group Limited's life insurance business is included.

In addition to the guarantees listed above, the Company has provided unlimited guarantees in support of various subsidiaries belonging to the Zurich Insurance Group.

According to regulatory requirements, CHF 12.5 billion and CHF 13.1 billion were attributed to tied assets, as of December 31, 2018 and 2017, respectively.

To secure the insurance reserves of the assumed reinsurance business, investments with a value of CHF 11,604 million and CHF 13,516 million as of December 31, 2018 and 2017, respectively, were deposited in favor of ceding companies.

22. Net release of hidden reserves

In 2018 and in 2017, there was no material release of hidden reserves.

23. Subsequent events

On January 16, 2019, the Company announced the successful placement of CHF 200 million of senior unsecured notes which will mature in October 2027.

On February 1, 2019, the Company completed the acquisition of the QBE legal entity in Colombia for an amount of CHF 35 million.

On February 11, 2019, the Company announced the successful placement of EUR 500 million of dated subordinated notes which will mature in February 2049.

Appropriation of available earnings as proposed by the Board of Directors

number of shares, as of December 31	**2018**	2017
Dividend-paying registered shares		
Dividend-paying shares	82,500,000	82,500,000

in CHF, as of December 31	**2018 (Proposed)**	2017 (Approved)
Appropriation of available earnings as proposed by the Board of Directors		
Balance brought forward	10,463,578,098	9,119,682,444
Net income after taxes	3,358,458,682	1,343,895,654
Available earnings	**13,822,036,780**	**10,463,578,098**
Dividend	(2,750,000,000)	–
Balance carried forward	**11,072,036,780**	**10,463,578,098**

The Board of Directors proposes to its shareholder at the Annual General Meeting on April 3, 2019, to pay a dividend of CHF 2,750,000,000 and to carry forward available earnings of CHF 11,072,036,780 as shown in the above table.

On behalf of the Board of Directors of Zurich Insurance Company Ltd

Michel M. Liès

Chairman

Zurich, March 8, 2019

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Report of the statutory auditor

Report of the statutory auditor

To the General Meeting of Zurich Insurance Company Ltd, Zurich

Report on the audit of the financial statements

Opinion
We have audited the financial statements of Zurich Insurance Company Ltd (the Company), which comprise the income statement for the year ended December 31, 2018, balance sheet as at December 31, 2018 and notes, including a summary of significant accounting policies.

In our opinion, the accompanying financial statements as at December 31, 2018 comply with Swiss law and the Company's articles of association.

Basis for opinion
We conducted our audit in accordance with Swiss law and Swiss Auditing Standards. Our responsibilities under those provisions and standards are further described in the "Auditor's responsibilities for the audit of the financial statements" section of our report.

We are independent of the entity in accordance with the provisions of Swiss law and the requirements of the Swiss audit profession and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Our audit approach

Overview

Overall audit materiality: CHF 190 million

We concluded full scope audit work at the holding company and 3 business units in 1 country.
The full scope audit work addressed 77% and 73% of the Company's gross written premiums and policy fees (GWP) and total assets, respectively.
In addition, specified procedures were performed on a further 7 business units in 4 countries representing a further 6% and 13% of the Company's GWP and total assets, respectively.

As key audit matters the following areas of focus have been identified:

- Valuation of property and casualty reserves
- Valuation of life insurance reserves
- Valuation of investments in subsidiaries

Audit scope

We tailored the scope of our audit in order to perform sufficient work to enable us to provide an opinion on the financial statements as a whole, taking into account the structure of the entity, the accounting processes and controls, and the industry in which the entity operates.

The structure of the Company consists of a holding company and 57 business units. In establishing the overall approach to the audit, we determined the type of work that needed to be performed at the business units by us, as the Group engagement team, or by component auditors from PwC network firms operating under our instruction. The most significant component teams are located in Switzerland, the United States, and Bermuda. Where the work was performed by component auditors, we determined the level of involvement we needed to have in the audit work at those business units to be able to conclude whether sufficient appropriate audit evidence had been obtained as a basis for our opinion on the financial statements of the Company as a whole.

The Company's business units vary significantly in size and we identified four which, in our view, required an audit of their complete financial information, due to their size or risk characteristics. Audits of these business units were performed using materiality levels lower than the materiality level for the Company as a whole, ranging from CHF 80 million to CHF 188 million, and established by reference to the size of, and risks associated with, the business concerned. Specified audit procedures on certain balances and transactions were performed at a further seven business units. Together full scope audits and the specified audit procedures accounted for 83% and 86% of Company reported GWP and total assets, respectively.

Our engagement team's involvement included various site visits and component auditor working paper reviews across significant business units, together with discussions around audit approach, any audit results arising from our work, and regular conference calls with the component audit teams.

Audit materiality

The scope of our audit was influenced by our application of materiality. Our audit opinion aims to provide reasonable assurance that the financial statements are free from material misstatement. Misstatements may arise due to fraud or error. They are considered material, if individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

Based on our professional judgment, we determined certain quantitative thresholds for materiality, including the overall materiality for the financial statements as a whole as set out in the table below. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures and to evaluate the effect of any misstatements, both individually and in aggregate, on the financial statements as a whole.

Overall audit materiality	CHF 190 million
How we determined it	We determined our materiality for the audit of the financial statements using quantitative and qualitative factors. Based on these factors we have selected the Company's total revenue (premium income and investment income) as appropriate benchmark for measuring materiality. We applied a 1% rule of thumb which resulted in an overall audit materiality of CHF 190 million.
Rationale for the materiality benchmark applied	We chose total revenues as a benchmark because, in our view, it is the benchmark which is the most relevant for the Company, as it is a large insurance company with stable premium and investment income, and is a generally accepted benchmark. Total revenues are an important KPI. It reflects the capability of insurer to write new business and to renew the contracts.

We agreed with the Audit Committee that we would report to them misstatements above CHF 17 million identified during our audit as well as any misstatements below that amount which, in our view, warranted reporting for qualitative reasons.

Report of the statutory auditor (continued)

Report on key audit matters based on the circular 1/2015 of the Federal Audit Oversight Authority
Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Valuation of property and casualty reserves

Key audit matter

The valuation of property and casualty loss reserves involves a high degree of subjectivity and complexity. Reserves for losses and loss adjustment expenses represent estimates of future payments of reported and unreported claims for losses and related expenses at a given date. The Company uses a range of actuarial methodologies to estimate these provisions. Property and casualty loss reserves require significant judgment relating to factors and assumptions such as inflation, claims development patterns and regulatory changes.

Specifically, long-tail lines of business, which often have low frequency, high severity claims settlements, are generally more difficult to project and subject to greater uncertainties than short-tail, high frequency claims. Further, not all catastrophic events can be modeled using actuarial methodologies, which increases the degree of judgment needed in estimating property and casualty loss reserves.

Refer to Note 13 ("Insurance reserves, net") to the 2018 financial statements.

How our audit addressed the key audit matter

We assessed and tested the design and operating effectiveness of selected key controls over actuarial methodology, integrity of data used in the actuarial valuation, and the assumptions setting and governance processes used by management related to the valuation of property and casualty reserves.

In relation to the particular matters set out opposite, our substantive testing procedures included the following:

– Tested the completeness and accuracy of underlying claims data utilized by the Company's actuaries in estimating property and casualty loss reserves.

– Utilized information technology audit techniques to analyze claims through claims data plausibility checks and recalculation of claims development patterns.

– Involved our actuarial specialists to independently test management's property and casualty loss reserve studies and evaluate the reasonableness of the methodology and assumptions used against recognized actuarial practices and industry standards.

– Performed independent re-projections on selected product lines, particularly focusing on the largest and most uncertain property and casualty reserves. For these product lines our actuarial specialists compared their re-projected reserves to those recorded by the Company, and assessed any significant differences.

– Performed sensitivity testing and evaluated the appropriateness of any significant adjustments made to management's property and casualty reserve estimates.

Based on the work performed we determined the methodology and assumptions used in the valuation of property and casualty reserves are reasonable and in line with financial reporting requirements and industry accepted practice.

Valuation of life insurance reserves

Key audit matter

The Company acts as a reinsurance company for life business written by affiliated companies, including 100% of certain US and UK business.

The Company's valuation of the life insurance liabilities (reserves for insurance contracts) is based on complex actuarial methodologies and models and involves comprehensive assumption setting processes with regards to future events. Actuarial assumptions selected by the Company with respect to interest rates, investment returns, mortality, morbidity, longevity, persistency, expenses, stock market volatility and future policyholder behavior and the underlying methodologies and assumptions used may result in material impacts on the valuation of actuarially determined life insurance liabilities.

Specifically, the continued low interest rate environment results in reduced investment returns creating a strain on the sufficiency of reserves for traditional life insurance contracts and also influences policyholders' behaviors.

Refer to Note 13 ("Insurance reserves, net") to the 2018 financial statements.

How our audit addressed the key audit matter

We assessed and tested the design and operating effectiveness of selected key controls over actuarial methodology, integrity of data used in the actuarial valuation, and the assumptions setting processes used by management related to the valuation of actuarially determined life insurance reserves.

In relation to the particular matters set out opposite, our substantive testing procedures included the following:

- Tested the completeness and accuracy of underlying data to source documentation.
- Involved our life insurance actuarial specialists to independently test management's methodology and the assumptions used, with particular consideration of industry studies, the Company's experience and management's liability adequacy testing procedures.
- Assessed the consistency of the life actuarial methods used across the Company's business units.
- Challenged the Company's methodology and assumptions, focusing on changes to life actuarial methodology and assumptions during the year, by applying our industry knowledge and experience to compare whether the methodologies are in compliance with recognized actuarial practices as well as regulatory and reporting requirements.

Based on the work performed we determined the methodology, methods, and assumptions used in the valuation of actuarially determined life insurance reserves are reasonable and in line with financial reporting requirements and industry accepted practice.

Report of the statutory auditor (continued)

Valuation of investments in subsidiaries

Key audit matter

We consider the investments in subsidiaries to be a key audit matter not only due to the judgment involved but also based on the magnitude of CHF 32.3 billion, which makes up 35% of the Company's total assets.

The determination whether an investment in subsidiary needs to be impaired includes assumptions about the profitability of the underlying business and growth, which involves management's judgment.

Investments in subsidiaries are carried at cost less necessary impairments and valued on an individual basis.

Management assesses whether there are any impairments in the carrying value of the investments in subsidiaries. As a first step the Company compares the carrying value to the IFRS net asset value of the subsidiary as at December 31. If the net asset value is below the carrying value, then the Company may perform a valuation of the subsidiary by using a discounted cash flow analysis. If the valuations still indicate a need for an impairment, the Company reduces the carrying value of the investment in subsidiary accordingly.

We refer to Note 2 ("Summary of significant accounting policies") and Note 7 ("Investments in subsidiaries and associates") to the 2018 financial statements.

How our audit addressed the key audit matter

In relation to the particular matters set out opposite, our testing procedures included the following:

– Assessed the appropriateness of the Company's impairment testing methodology.
– Obtained an understanding of management's process and controls, and assessed and tested the design and operating effectiveness of selected key controls over the valuation of investments in subsidiaries.
– Tested the mathematical accuracy of management's calculation.
– Re-performed management's impairment test on the carrying value of all investments in subsidiaries, and challenged the impairment decisions taken.
– Assessed the reasonableness of the methodology and assumptions used including growth projections on future income (including forecast to actual results), terminal growth rate assumptions, discount rates and sensitivity analyses to determine the impact of those assumptions.
– Tested the required disclosures in the notes to the financial statements.

We determined that the carrying value of investments in subsidiaries and the decisions made in connection with potential impairments thereof are reasonable and supportable. The methodology used by management serves as an adequate and sufficient basis for their decisions.

Responsibilities of the Board of Directors for the financial statements
The Board of Directors is responsible for the preparation of the financial statements in accordance with the provisions of Swiss law and the Company's articles of association, and for such internal control as the Board of Directors determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors is responsible for assessing the entity's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the entity or to cease operations, or has no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial statements
Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Swiss law and Swiss Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

A further description of our responsibilities for the audit of the financial statements is located at the website of EXPERTsuisse: http://expertsuisse.ch/en/audit-report-for-public-companies. This description forms part of our auditor's report.

Report on other legal and regulatory requirements
In accordance with article 728a paragraph 1 item 3 CO and Swiss Auditing Standard 890, we confirm that an internal control system exists which has been designed for the preparation of financial statements according to the instructions of the Board of Directors.

We further confirm that the proposed appropriation of available earnings complies with Swiss law and the Company's articles of association. We recommend that the financial statements submitted to you be approved.

PricewaterhouseCoopers AG

Mark Humphreys Audit expert Auditor in charge	Ray Kunz Audit expert

Zurich, March 8, 2019

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