Annual Report 2019

Zurich Insurance Company Group

Contents

About us

Zurich Insurance Group is a leading multi-line insurer that serves its customers in global and local markets. With about 55,000 employees, it provides a wide range of property and casualty, and life insurance products and services in more than 215 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.

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 review (continued)

Risk management

Objectives of risk management

Taking and managing risk is an integral part of the insurance business. Zurich Insurance Group manages and takes risks 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 the Zurich Insurance Group strategy and protect capital, liquidity, earnings and reputation by monitoring that risks are taken within the 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 avoid or 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 the Zurich Insurance Group. The policy describes the Zurich Insurance Group's risk management framework, provides a standardized set of risk types, and defines the 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 Zurich Insurance Group levels. The Zurich Insurance Group has procedures to refer risk topics 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 2019, reporting was supplemented with in-depth risk insights into topics such as information security management, accumulation risk, long-tail Life risk, credit risk and country risk.

Zurich Insurance Group identifies, assesses, manages, monitors and reports risks that have an impact on the achievement of its strategic objectives by applying its proprietary Total Risk Profiling™ (TRP) methodology. The methodology allows Zurich Insurance Group to assess risks in terms of severity and probability and supports the definition and implementation of mitigating actions. At Zurich Insurance Group level, this is an annual process, followed by regular reviews and updates by management.

Zurich Insurance Group's risk appetite and tolerance reflects Zurich Insurance Group's willingness and capacity to take risks in pursuit of value, and sets boundaries within which the businesses act. By monitoring that risks are taken within agreed risk appetite levels and tolerance limits, Zurich Insurance Group protects its capital, liquidity, earnings and reputation. Zurich Insurance Group regularly assesses and, as far as possible, quantifies material risks to which it is exposed.

Zurich Insurance Group's goal is to maintain capital consistent with a 'AA' financial strength rating for Zurich Insurance 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 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)

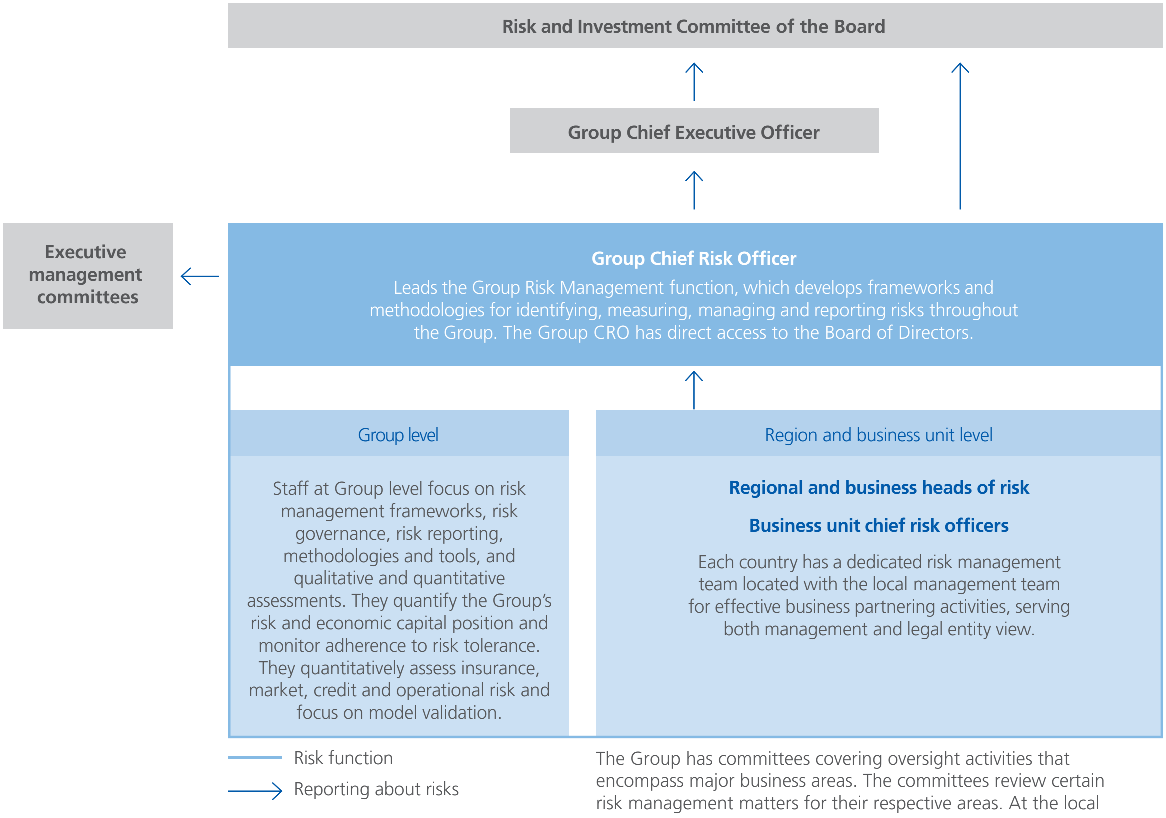
Risk-based remuneration

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 do not encourage inappropriate risk-taking. Group Risk Management's role in respect to remuneration and its interaction with Board committees is described in the remuneration report.

Risk governance and risk management organization

Risk management organization

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



The Group has committees covering oversight activities that encompass major business areas. The committees review certain risk management matters for their respective areas. At the local level, these oversight activities are conducted through risk and control committees.

The risk function is independent of the business by being a vertically integrated function where global risk employees report directly 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.

Risk review (continued)

Capital management

Objectives of capital management

Zurich Insurance Group manages capital to maximize long-term shareholder value while maintaining financial strength within its 'AA' target range, and meeting regulatory, solvency and rating agency requirements.

As of December 31, 2019, shareholders' equity of USD 35.0 billion, subordinated debt of USD 6.9 billion and senior financial debt of USD 3.2 billion, excluding net new issued senior debt since the second quarter of 2018, were part of the capital available in the Zurich Insurance Group's economic framework. Further adjustments usually include items such as intangible assets, deferred tax assets and liabilities, allowing for discounting of liabilities and the value of in-force business, or inclusion of market value margin and expected profit over the next 12 months. For more information, see analysis of Zurich Insurance Group's Z-ECM available financial resources' (unaudited).

Zurich Insurance Group strives to simplify the Zurich Insurance Group's 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 Insurance Group. 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 2019, Zurich Insurance Group paid a dividend out of retained earnings, bought own shares to avoid dilution from share-based employee plans and cancelled shares bought back in 2018 through the public share buy-back program, issued senior debt to finance redemptions and investments in Zurich Insurance Group's development, and called hybrid debt that was re-financed during 2019.

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, 2019, the amount of the statutory general legal reserve was more than 30 times the paid-in share capital. The ability of ZIC's 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 issuances and redemptions of debt, see note 18 of the ZIC Group consolidated financial statements.

Risk review (continued)

Insurance financial strength rating

Zurich Insurance Group has interactive relationships with three global rating agencies: S&P Global Ratings, 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, particularly for the commercial customer segment. The Zurich Insurance Group's credit ratings derived from the financial strength ratings also affect the cost of capital.

On October 29, 2019, S&P Global Ratings revised to positive from stable the outlook of Zurich Insurance Company Ltd and its core subsidiaries and affirmed the 'AA–' long-term insurer financial strength and issuer credit ratings. This rating action is based on S&P Global Ratings increased confidence "in the strength and resilience of Zurich's profitability and business risk profile, relative to peers, and the sustainability of Zurich Insurance Group's very strong capital adequacy."

As of December 31, 2019, the IFSR of Zurich Insurance Company Ltd, the main operating entity of Zurich Insurance Group, was 'AA–/Positive' by S&P Global Ratings, '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 its regulated entities meet local regulatory capital requirements. 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 under local solvency requirements to ensure regulated subsidiaries can absorb volatility and meet local capital requirements.

Regulatory requirements in Switzerland

The main regulatory framework governing insurance companies that are part of the ZIC Group in Switzerland is the Swiss Solvency Test (SST). Under the SST, insurance companies can use a standard model provided by the Swiss Financial Market Supervisory Authority (FINMA) or can apply to use company specific internal models to calculate risk-bearing capital, target capital as well as the SST ratio. ZIC uses a fully approved internal model. The SST ratio has to be calculated as per January 1 and must be submitted to FINMA.

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) that applies an approved internal model.

Regulatory requirements in the UK

The United Kingdom left the EU and the EEA on January 31, 2020. Under the EU Withdrawal Agreement Act, the regulatory requirements are expected to remain consistent with Solvency II until the end of the transition period, December 31, 2020. After that date we currently expect the UK regulatory regime to maintain a high level of ongoing alignment with the Solvency II regulatory requirements.

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 other jurisdictions

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:

- Specific 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 assure that 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 level.

Zurich Insurance Group has an emerging risk group, with cross-functional expertise from core insurance functions such as underwriting, claims and risk management, identifies, assesses and recommends actions for emerging risks.

Actions continue to rebalance the portfolio, reducing exposure to long tail lines. Governance is in place to ensure appropriate 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. The most important peril regions and natural catastrophes (Nat Cat) continue to be U.S. and Caribbean windstorm, California earthquake and Europe windstorm.

Risk review (continued)

Natural catastrophes

Zurich Insurance Group uses third-party models (adjusted to Zurich Insurance Group's view) to manage its underwriting, ensure accumulations stay within intended exposure limits and assess the capital requirement due to natural catastrophes. 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 modeled 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 reviews and expands the scope and sophistication of its modeling and strives to improve data quality. Catastrophe research and development is strengthened to increase the focus on the risks from a changing climate. It supplements internal know-how with external knowledge (e.g., the Advisory Council for Catastrophes). Zurich Insurance Group is a shareholder of catastrophe exposure and loss data aggregation and estimation firm PERILS AG, Switzerland and is a member of the open-source initiative Oasis Loss Modeling 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. 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. Zurich Insurance Group actively monitors and manages its 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.

Risk review (continued)

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 Zurich Insurance Company (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 7.8 billion and USD 7.0 billion for the years ended December 31, 2019 and 2018, respectively. Reinsurance programs are managed on a global basis, and therefore, the net premium after reinsurance is monitored on an aggregated basis.

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, 2019	Motor	Property	Liability	Special lines	Worker injury	Total
Europe, Middle East & Africa	4,050	4,328	2,005	2,009	329	12,722
North America	1,499	5,126	2,719	2,361	2,684	14,389
Other regions	1,673	1,573	386	1,865	144	5,641
Total	**7,222**	**11,027**	**5,110**	**6,236**	**3,158**	**32,752**

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, 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	1,422	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**

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. ZIC 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, 2019	Europe, Middle East & Africa	North America	Asia Pacific	Latin America	Reinsurance	Total
+1% in net loss ratio						
Net income before tax	(115)	(96)	(24)	(22)	–	(256)
Net assets	(87)	(72)	(19)	(16)	–	(194)

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

Table 2.b

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)

Risk review (continued)

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

Life 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 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 the risks. Diversification across regions and businesses (between unit-linked and other business including protection and life annuity products, as shown in Table 3 below) contributes to reducing the impacts of the risks associated with the Life business listed above.

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 to ensure sustainability of the business.

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 the policyholder, 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 to ensure responsible and sustainable business practices.

Risk review (continued)

ZIC 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 have switched into less risky investment divisions. See heading 'other contracts' in note 7 of the ZIC Group consolidated financial statements for additional information.

Lower interest rates have led to an increase in both Life business risks and Life liability risks (especially Longevity risk).

Furthermore, 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 geographical 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 9.4 billion in 2019 (2018: USD 7.4 billion) and in the UK for an amount of USD 0.5 billion in 2019 (2018: USD 0.5 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 ZIC Group 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, which, under certain conditions, may require regulatory approval.

Reserves, net of reinsurance, by region

Table 3

in USD millions, as of December 31	Unit-linked insurance contracts		Other life insurance liabilities		Total reserves	
	2019	2018	**2019**	2018	**2019**	2018
Life						
Europe, Middle East & Africa	46,919	41,229	81,372	77,756	128,291	118,985
of which:						
United Kingdom	16,371	15,323	3,786	3,271	20,157	18,594
Germany	19,001	15,976	38,511	36,980	57,512	52,956
Switzerland	776	634	17,456	17,294	18,232	17,928
Italy	2,709	1,568	5,348	4,521	8,057	6,089
Ireland	1,885	2,347	2,235	2,021	4,121	4,368
Spain	655	699	11,773	11,415	12,428	12,114
Zurich International	5,129	4,339	220	309	5,349	4,648
Rest of Europe, Middle East & Africa	392	342	2,043	1,946	2,435	2,288
North America	10,253	9,241	1,035	893	11,288	10,135
Asia Pacific	598	539	4,311	2,791	4,908	3,330
Latin America	15,093	13,159	5,826	5,385	20,919	18,544
Group Reinsurance	–	–	5	2	5	2
Eliminations	–	–	(12)	(13)	(12)	(13)
Subtotal	72,863	64,168	92,537	86,814	165,399	150,982
Other businesses	**4,821**	**4,598**	**9,940**	**9,474**	**14,761**	**14,072**
Total	**77,684**	**68,766**	**102,477**	**96,288**	**180,160**	**165,054**

Risk review (continued)

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 2019' (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 applies 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 reinsurance 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 23.0 percent as of December 31, 2019 and 21.0 percent as of December 31, 2018. The cession rate for Life was 8.0 percent as of December 31, 2019 and 7.0 percent as of December 31, 2018.

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, per event Zurich Insurance Group arranges an annual aggregate global cover 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 natural catastrophe reinsurance covers are on a loss-occurrence basis except the global aggregate catastrophe cover, which operates on an annual aggregate basis. The in-force natural catastrophe covers renew annually, with the exception of the global catastrophe cover, which renewed on January 1, 2019, for a three-year term.

In addition to these covers, Zurich Insurance Group purchases several regional catastrophe covers, entertains a bilateral risk swap, and various line of business-specific risk treaties. These covers are reviewed continuously and are subject to change going forward.

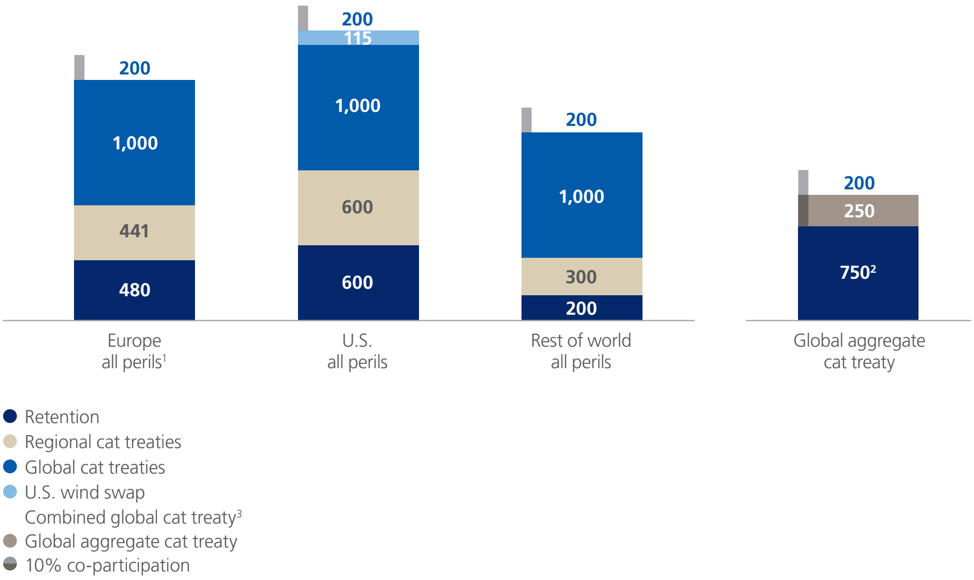
Changes in 2019 include the expansion of Zurich Insurance Group's global catastrophe treaty limit to USD 1 billion (up from USD 750 million) and the transition from several regional surety treaties to one single global surety treaty to enhance coverage and generate efficiency.

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)

2019 Group catastrophe reinsurance protection

in USD millions, as of December 31, 2019



[1] Europe cat treaty calculated with EUR/USD exchange rate as of July 31, 2019.
[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] This USD 200 million cover can be used only once, either for aggregated losses or for an individual occurrence or event. The attachment point for a U.S. Hurricane event is USD 2,315 million; for any other event USD 2,200 million.

Risk review (continued)

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

Risk review (continued)

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 related to 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 key equity markets through the use of derivatives or purchase or sale of securities within a short time frame.

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

Risk from interest rates and credit spreads

Interest-rate risk is the risk of an adverse economic impact resulting from changes in interest rates, including changes in the shape of yield curves when valuing interest rate sensitive investments and derivatives relative to fair value of insurance liabilities. It includes also other interest-rate sensitive balance sheet items such as liabilities investment contracts, debt issued by the 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 several factors including changes in expected default probability, default losses, risk premium, liquidity and other effects.

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 of the fair value for ZIC Group investments before tax as of 2019 was a negative USD 10.9 billion (negative USD 9.9 billion as of 2018) for a 100-basis-point increase in interest rate. For a 100-basis-point decrease in interest rate, the sensitivity was USD 12.7 billion in 2019 (USD 11.1 billion as of 2018). For a 10 percent decline in equity market, ZIC Group investments dropped in value by USD 1.3 billion in 2019 compared with USD 1.1 billion as of 2018. A 100-basis-point increase in credit spreads resulted in a decrease of USD 5.7 billion in 2019 compared with USD 5.2 billion as of 2018.

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.

Risk review (continued)

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 keeping the size of potential losses to an acceptable level.

Debt securities by rating of issuer

Table 4

as of December 31	2019		2018	
	USD millions	% of total	USD millions	% of total
Rating				
AAA	36,066	24.5%	35,283	25.2%
AA	37,062	25.1%	37,362	26.7%
A	22,812	15.5%	20,998	15.0%
BBB	44,918	30.5%	39,529	28.3%
BB and below	5,342	3.6%	5,341	3.8%
Unrated	1,308	0.9%	1,357	1.0%
Total	**147,507**	**100.0%**	**139,870**	**100.0%**

Table 4 shows the credit-risk exposure of debt securities, by credit rating. As of December 31, 2019, 95.5 percent of the ZIC Group's debt securities was investment grade and 24.5 percent was rated 'AAA.' As of December 31, 2018, 95.2 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 2019, compared with 'A–' in 2018

As of December 31, 2019, 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 30.2 billion (41 percent) was secured. As of December 31, 2018, 49 percent of the ZIC Group's debt portfolio was invested in government-related securities. In all other categories, a total of USD 31.4 billion (44 percent) was secured.

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

In addition to debt exposure, the ZIC Group had loan exposure of USD 4.1 billion and USD 4.4 billion to the German central government or the German federal states as of December 31, 2019 and 2018, respectively. For more information, 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 8.0 billion and USD 8.7 billion as of December 31, 2019 and December 31, 2018, respectively. The risk-weighted average rating of the overall cash portfolio was 'A' as of December 31, 2019 and 'A–' as of December 31, 2018. The ten largest bank exposures represented 74 percent of the total, whose risk-weighted average rating was 'A' as of December 31, 2019 and 'A+' as of December 31, 2018.

Risk review (continued)

Mortgage loans and other loans

Mortgage loans amounted to USD 5.9 billion as of December 31, 2019 and USD 6.6 billion as of December 31, 2018. The ZIC Group's largest mortgage loan portfolios are held in Switzerland (USD 3.2 billion) and in Germany (USD 1.9 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 8.3 billion reported loans as of December 31, 2019, 54 percent are government-related, of which 92 percent are to the German central government or the German federal states. As of December 31, 2019, USD 4.5 billion were rated as 'AAA' (55 percent) compared with 4.7 billion as of December 31, 2018; USD 1.6 billion as 'AA' (20 percent) compared with 0.7 billion as of December 31, 2018; USD 0.3 billion as 'A' (3 percent) compared with 0.3 billion as of December 31, 2018; USD 1.3 billion as 'BBB' and below (16 percent) compared with 1.2 billion as of December 31, 2018; and USD 0.5 billion as unrated (6 percent) compared with 0.7 billion as of December 31, 2018.

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 the Zurich Insurance 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 ZIC Group 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.

Risk review (continued)

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 ZIC Group consolidated financial statements for additional information on foreign currency translation and transactions.

Table 5

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

in USD millions, as of December 31	**2019**	2018
10% increase in		
EUR/USD rate	382	335
GBP/USD rate	257	203
CHF/USD rate[1]	519	476
BRL/USD rate	178	163
AUD/USD rate[2]	308	130
Other currencies/USD rates	510	439

[1] The 2018 figures have been updated.
[2] AUD/USD rate sensitivity has been included in 2019 due to the impact of the OnePath acquisition on the ZIC Group.

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 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.

Risk review (continued)

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 certain insurance products. There was no unapproved material exposure in excess of Zurich Insurance Group's limits for counterparty aggregation as of December 31, 2019 nor December 31, 2018.

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 1.5 million and USD 2.0 million as of December 31, 2019 and 2018, respectively. See note 22 of the ZIC Group 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, 2019 and 2018 respectively, 57 percent and 52 percent of the exposure ceded to reinsurers that are rated below 'A–' or are not rated, was collateralized. Of the exposure ceded to reinsurers that are rated below 'A–' or are not rated, 65 percent was ceded to captive insurance companies in 2019, and 50 percent in 2018.

Reinsurance assets included reinsurance recoverables (the reinsurers' share of reserves for insurance contracts) of USD 22.8 billion and USD 21.3 billion, and receivables arising from ceded reinsurance of USD 1.5 billion and USD 1.1 billion as of December 31, 2019 and 2018, respectively, gross of allowance for impairment. Reserves for potentially uncollectible reinsurance assets amounted to USD 119 million as of December 31, 2019 and USD 113 million as of December 31, 2018. 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 0.7 billion to USD 10.3 billion per December 31, 2019, compared with 2018.

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

Risk review (continued)

Table 6

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

as of December 31	2019				2018			
	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	6	0.0%	6	0.0%	9	0.0%	9	0.1%
AA	7,084	29.3%	6,309	45.7%	5,633	25.3%	5,173	40.8%
A	10,957	45.4%	4,871	35.3%	10,882	48.9%	4,740	37.4%
BBB	2,356	9.8%	1,095	7.9%	1,572	7.1%	983	7.8%
BB	335	1.4%	195	1.4%	447	2.0%	232	1.8%
B and below	256	1.1%	29	0.2%	645	2.9%	37	0.3%
Unrated	3,163	13.1%	1,308	9.5%	3,085	13.9%	1,510	11.9%
Total[1]	**24,157**	**100.0%**	**13,812**	**100.0%**	**22,273**	**100.0%**	**12,685**	**100.0%**

[1] The value of the collateral received amounts to USD 10.3 billion and USD 9.6 billion as of December 31, 2019 and 2018, 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. ZIC Group requires intermediaries to maintain segregated cash accounts for policyholder money. ZIC 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 ZIC Group consolidated financial statements for additional information on receivables.

Risk review (continued)

Operational risk

Operational risk is the risk of financial loss or gain, adverse reputational, legal or regulatory impact, resulting from inadequate or failed processes, people, systems or from external events, including external fraud, catastrophes, or failure in outsourcing arrangements. Zurich Insurance Group has a framework to identify, assess, manage, monitor, and report operational risk within Zurich Insurance 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 operational events exceeding a threshold determined per Zurich Insurance Group's risk policy manuals. Remedial action is taken to avoid the recurrence of such operational events.
- Conducts risk assessments where operational risks are identified for key business areas. Risks identified and assessed above a certain threshold must have a risk response. Risk mitigation plans are documented and tracked on an ongoing basis. In the assessments, Zurich Insurance Group uses sources of information such as the Total Risk Profiling™ process, internal control assessments, and audit findings, as well as scenario modeling and operational 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 operational resilience (see sub-section digital and resilience risk, information security and operational resilience), as well as combating fraud.

Preventing, detecting and responding to fraud are embedded in Zurich Insurance Group's business processes. 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.

Risk review (continued)

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 legal entities and branches 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 sources 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 ensures that the liquidity of assets stays in line with liquidity requirements. During 2019, Zurich Insurance Group was within its capacity to hold illiquid assets.

For more information on debt obligation maturities, see note 18 of the ZIC Group consolidated financial statements, and for information on commitments and guarantees, see note 22 of the ZIC Group 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 ZIC Group's other financial liabilities, see note 16 of the ZIC Group consolidated financial statements. See note 6 of the ZIC Group 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 ZIC Group consolidated financial statements.

Risk review (continued)

Strategic risk and risks to the 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 execution of strategic plans
- Unexpected changes to underlying assumptions

Zurich Insurance Group 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 2020 and beyond. These include: macro-economic risks such as financial stress due to geopolitical uncertainties and monetary policy with impacts primarily on insurance and market risk; adoption to post-Brexit legal and regulatory regime; adequately transform propositions and approaches for new customer segments and other changes affecting competitiveness in markets where Zurich Insurance Group is active; and information security including cyber and business resilience risks. The ExCo has defined actions to respond as appropriate and reviews changes to the key risks and their status of actions at least quarterly.

Zurich Insurance Group evaluates the risks of merger and acquisition (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 Insurance Group's reputation. Effectively managing each risk type supports preventing adverse reputation outcomes.

Zurich Insurance Group aims to preserve its reputation by adhering to applicable laws and regulations, by following the core values and principles of Zurich Insurance Group's code of conduct that promote integrity and good business practice, and by living up to its sustainability commitments. Zurich Insurance Group centrally manages certain aspects of reputation risk, for example, communications, through functions with the appropriate expertise. Potential risks to Zurich Insurance Group's reputation are included in its risk assessment processes and tools, including the TRP process.

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, 2019, compared with 2018.

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, 2019 and 2018. 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 2019 of the ZIC Group and in particular with its consolidated financial statements and embedded value report for the year ended December 31, 2019.

In addition to the figures stated in accordance with International Financial Reporting Standards (IFRS), the ZIC Group uses business operating profit (BOP), new business metrics 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 for the years ended December 31, 2019.

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

Financial review (continued)

Financial highlights

in USD millions, for the years ended December 31	2019	2018	Change[1]
Business operating profit	**5,116**	4,423	16%
Net income attributable to shareholders	**3,885**	3,597	8%
P&C business operating profit	**2,878**	2,085	38%
P&C gross written premiums and policy fees	**34,184**	33,505	2%
P&C combined ratio	**96.4%**	97.8%	1.4 pts
Life business operating profit	**1,486**	1,554	(4%)
Life gross written premiums, policy fees and insurance deposit	**33,479**	33,448	0%
Life new business annual premium equivalent (APE)[2]	**4,331**	4,639	(7%)
Life new business margin, after tax (as % of APE)[2]	**25.8%**	24.1%	1.8 pts
Life new business value, after tax[2]	**976**	981	(1%)
Farmers business operating profit	**1,629**	1,569	4%
Farmers Management Services management fees and other related revenues	**3,780**	3,204	18%
Farmers Management Services managed gross earned premium margin	**7.0%**	7.0%	(0.0 pts)
Farmers Life new business annual premium equivalent (APE)[2]	**82**	84	(3%)
Average Group investments[3]	**190,902**	190,758	0%
Net investment result on Group investments[3]	**7,286**	6,287	16%
Net investment return on Group investments[3,4]	**3.8%**	3.3%	0.5 pts
Total return on Group investments[3,4]	**8.2%**	0.6%	7.6 pts
Shareholders' equity	**34,305**	29,844	15%

[1] Parentheses around numbers represent an adverse variance.
[2] Details of the principles for calculating new business are included in the embedded value report in 2019. New business value and new business margin are calculated after the effect of non-controlling interests, whereas APE is presented before non-controlling interests.
[3] Including investment cash.
[4] Calculated on average Group investments.

Business operating profit (BOP) for the year ended December 31, 2019 was USD 5.1 billion, up 16 percent compared with the prior period. This was driven by underlying growth across the business and a strong underwriting performance in Property & Casualty.

Net income attributable to shareholders (NIAS) increased 8 percent in the year 2019, with growth driven by the increase in business operating profit, higher realized gains, together with a reduction in the effective tax rate.

Financial review (continued)

Property & Casualty (P&C)

in USD millions, for the years ended December 31			Total
	2019	2018	Change
Gross written premiums and policy fees	34,184	33,505	2%
Net earned premiums and policy fees	25,608	26,431	(3%)
Insurance benefits and losses, net of reinsurance	16,475	17,291	5%
Net underwriting result	922	574	61%
Net investment result	2,171	1,884	15%
Business operating profit	**2,878**	**2,085**	**38%**
Loss ratio	64.3%	65.4%	1.1 pts
Expense ratio	32.1%	32.4%	0.3 pts
Combined ratio	**96.4%**	**97.8%**	**1.4 pts**

BOP by segment

in USD millions, for the years ended December 31		Business operating profit (BOP)	
	2019	2018	Change
Europe, Middle East & Africa (EMEA)	1,117	851	31%
North America	1,578	1,099	44%
Asia Pacific	236	86	175%
Latin America	240	141	70%
Group Reinsurance	(292)	(92)	(220%)
Total	**2,878**	**2,085**	**38%**

Property & Casualty gross written premiums returned to growth in 2019, increasing 2 percent on a reported basis in U.S. dollars terms and 6 percent on a like-for-like basis, after adjusting for closed acquisitions and disposals and currency movements. Underlying growth was achieved in all regions.

Net earned premiums for the year decreased 3 percent in U.S. dollars and increased 1 percent on a like-for-like basis, with growth impacted by the earn-through of reductions in gross written premiums in the prior year and changes in reinsurance programs.

Business operating profit for the year ended December 31, 2019 was USD 2.9 billion, 38 percent higher than in the previous year, showing a strong performance across all regions. The strong regional performance was partly offset by higher losses in the Group Reinsurance unit.

The combined ratio improved by 1.4 percentage points to 96.4 percent in 2019, leading to a USD 348 million increase in the net underwriting result to USD 922 million.

Investment income increased by 1 percent, with growth in investment income in North America and Latin America more than offsetting a decline in Europe, Middle East & Africa (EMEA). The strong performance of financial markets in 2019 led to an increase in fair value gains on the ZIC Group's hedge fund portfolio amounting to USD 211 million compared to a loss of USD 48 million in 2018.

The contribution of other items, which include the net non-technical result and non-controlling interests, was USD 158 million higher than in the previous year, mainly driven by the absence of major restructuring charges included within business operating profit and a foreign exchange gain of USD 29 million.

Financial review (continued)

Combined ratio

in %, for the years ended December 31

	Combined ratio		
	2019	2018	Change
Europe, Middle East & Africa (EMEA)	94.3%	95.8%	1.5 pts
North America	96.5%	98.2%	1.7 pts
Asia Pacific	94.2%	99.6%	5.3 pts
Latin America	94.7%	100.5%	5.8 pts
Group Reinsurance	nm	nm	nm
Total	**96.4%**	**97.8%**	**1.4 pts**

The EMEA combined ratio of 94.3 percent for 2019 was 1.5 percentage points lower than in 2018, with improvement in the expense ratio and higher prior year reserve releases the main drivers.

In North America, the combined ratio was 96.5 percent, 1.7 percentage points below 2018, with a lower level of natural catastrophes and weather-related events in 2019 more than offsetting weaker results from the crop insurance portfolio.

The Asia Pacific combined ratio reduced by 5.3 percentage points to 94.2 percent, mainly due to improvements in other underwriting expenses and a lower level of natural catastrophes and weather-related events.

In Latin America, the combined ratio of 94.7 percent was 5.8 percentage points lower than in 2018, driven mainly by an improved accident year loss ratio in Mexico and Argentina and higher prior year reserve releases.

Financial review (continued)

Life

in USD millions, for the years ended December 31	2019	2018	Change
Insurance deposits	18,328	18,694	(2%)
Gross written premiums and policy fees	15,151	14,754	3%
Net investment income on Group investments	2,915	3,035	(4%)
Insurance benefits and losses, net of reinsurance	(10,190)	(9,702)	(5%)
Business operating profit	**1,486**	**1,554**	**(4%)**
Net policyholder flows[1]	6,320	7,425	(15%)
Assets under management[2]	275,433	254,255	8%
Total reserves for life insurance contracts, net of reinsurance, and liabilities for investment contracts (net reserves)	226,765	202,024	12%

[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	2019	2018	Change
Europe, Middle East & Africa (EMEA)	1,037	1,010	3%
North America	(30)	31	nm
Asia Pacific	204	186	10%
Latin America	269	319	(16%)
Group Reinsurance	6	8	(26%)
Total	**1,486**	**1,554**	**(4%)**

Life delivered in 2019 a strong underlying performance against an already strong 2018 result. Business operating profit decreased 4 percent to USD 1.5 billion due to a strengthening of the U.S. dollar against a number of key currencies compared to 2018 and increased 2 percent on a like-for-like basis, after adjusting for closed acquisitions and disposals and currency movements. Net positive one-off items included within the 2019 results were also lower than in the prior year.

In EMEA, business operating profit increased 3 percent in U.S. dollars and 9 percent on a like-for-like basis. Underlying growth was driven by a combination of business mix, expense savings, together with a number of favorable one-off items amounting to USD 54 million.

In Latin America, business operating profit decreased 16 percent in U.S. dollars compared to an increase of 6 percent on a like-for-like basis as a result of the devaluation of several Latin American currencies. Growth in the largest market Brazil was partially offset by higher claims in corporate protection business in Chile.

Asia Pacific business operating profit increased 10 percent in U.S. dollars, with a decrease of 4 percent on a like-for-like basis. The underlying reduction was driven primarily by weaker results in Australia which more than offset a gain related to the sale and lease-back of an own-use property.

In North America, earnings decreased by USD 61 million due to a combination of higher mortality claims and unfavorable assumption updates which offset a positive change in reserving methodology.

Net inflows decreased 15 percent compared to the prior year. The decline was primarily driven by lower volumes of savings business in EMEA which were only partially offset by higher volumes of unit-linked business in Latin America.

Assets under management increased 8 percent, mainly due to favorable market movements compared to 2018.

Financial review (continued)

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]	
	2019	2018	**2019**	2018	**2019**	2018
Europe, Middle East & Africa (EMEA)	576	619	2,760	2,890	21.9%	22.8%
North America	49	15	139	82	35.2%	18.3%
Asia Pacific	211	186	268	231	79.9%	82.2%
Latin America	140	161	1,164	1,437	18.9%	15.3%
Total	**976**	**981**	**4,331**	**4,639**	**25.8%**	**24.1%**

[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.

2019 Life new business annual premium equivalent (APE) decreased 7 percent in U.S. dollars and 3 percent on a like-for-like basis.

In EMEA, like-for-like APE was flat as strong growth in the corporate pension business in Switzerland, higher unit linked sales in Italy, and higher retail protection sales in the UK were offset by the absence of a large corporate protection scheme concluded in 2018.

In Latin America APE sales decreased 15 percent on a like-for-like basis. Strong growth in Brazil was more than offset by the absence of a large corporate protection scheme in Chile written in 2018 and which is offered for tender every two years.

APE sales in Asia Pacific remained flat on a like-for-like basis. Growth in protection business in most countries was offset by lower sales in Japan.

North America APE grew 30 percent on a like-for-like basis with growth in all product lines.

New business value (NBV) increased 4 percent on a like-for-like basis and decreased 1 percent in U.S. dollars. Underlying improvements in business and country mix as well as positive operating assumptions were partially offset by adverse economic assumption updates.

EMEA and Latin America saw a decrease of NBV mainly due to adverse changes in economic assumptions and unfavorable foreign exchange movements.

In APAC, the increase in NBV was largely driven by positive operating assumption changes. The North America NBV increased due to higher volumes and a favorable business mix.

The new business margin improved by 1.8 percentage points to 25.8 percent driven by the improvement in NBV.

Financial review (continued)

Farmers

in USD millions, for the years ended December 31	**2019**	2018	Change
Farmers Management Services (FMS)	1,389	1,358	2%
Farmers Re	14	43	(67%)
Farmers Life	226	168	34%
Total business operating profit	**1,629**	**1,569**	**4%**

Farmers Management Services (FMS) business operating profit grew 2 percent in 2019. This was driven by 1 percent growth in the gross management result, in line with the development of the Farmers Exchanges' gross earned premiums, and a USD 19 million favorable mark-to-market impact on a deferred compensation plan, compared with a USD 10 million unfavorable impact in 2018. The managed gross earned premium margin remained stable at 7.0 percent.

Farmers Re business operating profit of USD 14 million was USD 28 million lower than in 2018. This reflects the ongoing impact of the reduction in the all-lines quota share participation, further reduced to 0.25 percent effective December 31, 2019, as well as higher natural catastrophe losses and adverse prior year development from periods with a higher quota share participation.

Farmers Life business operating profit of USD 226 million was USD 57 million higher than in the prior year. Results benefited from a combination of continued growth in the in-force portfolio, favorable experience and a positive year-over-year impact from annual assumption updates. Within this, favorable mortality experience and lower amortization of deferred acquisition costs accounted for around half of the improvement.

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 services 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	**2019**	2018	Change
Gross written premiums	20,656	20,325	2%
Gross earned premiums	20,441	20,171	1%

The Farmers Exchanges showed continued growth in top-line through 2019. Gross written premiums increased by 2 percent with growth across all lines of business. Growth was also supported by the expansion of the Farmers Exchanges in the Eastern U.S., with gross written premiums up 6 percent in the expansion states, and a broadening of the agreement with Uber to provide commercial rideshare insurance in twelve additional states and the District of Columbia, building on the experience in the two states of Pennsylvania and Georgia.

Financial review (continued)

Group Functions and Operations

in USD millions, for the years ended December 31	2019	2018	Change
Holding and Financing	(435)	(425)	(2%)
Headquarters	(387)	(397)	3%
Total business operating profit	**(822)**	**(822)**	**–**

The business operating loss reported under Group Functions and Operations was stable at USD 822 million.

Non-Core Businesses

in USD millions, for the years ended December 31	2019	2018	Change
Zurich Legacy Solutions	(52)	44	nm
Other run-off	(3)	(7)	59%
Total business operating profit	**(54)**	**37**	**nm**

Non-Core Businesses, which comprise run-off portfolios that are managed with the intention of proactively reducing risk and releasing capital, reported an operating loss of USD 54 million. The loss primarily reflected the net impact of previously announced transactions to exit legacy portfolios related to UK employers' liability, U.S. asbestos and environmental business, and German professional architects' and engineers' professional indemnity, as well as reserve strengthening in selected portfolios.

Consolidated financial statements

Contents

Consolidated financial statements (continued)

Consolidated income statements

in USD millions, for the years ended December 31	Notes	2019	2018
Revenues			
Gross written premiums		48,056	47,038
Policy fees		2,469	2,447
Gross written premiums and policy fees		50,525	49,485
Less premiums ceded to reinsurers		(9,274)	(8,255)
Net written premiums and policy fees		41,251	41,230
Net change in reserves for unearned premiums	10	(949)	(224)
Net earned premiums and policy fees		40,302	41,007
Farmers management fees and other related revenues	26	3,780	3,204
Net investment income on Group investments		5,296	5,385
Net capital gains/(losses) and impairments on Group investments		1,990	902
Net investment result on Group investments	6	7,286	6,287
Net investment result on unit-linked investments		19,485	(4,374)
Net gains/(losses) on divestment of businesses	5	(295)	(24)
Other income		1,127	1,080
Total revenues		71,684	47,180
Benefits, losses and expenses			
Insurance benefits and losses, gross of reinsurance	10	33,620	33,483
Less ceded insurance benefits and losses	10	(6,051)	(5,837)
Insurance benefits and losses, net of reinsurance	10	27,570	27,646
Policyholder dividends and participation in profits, net of reinsurance	10	20,582	(2,736)
Underwriting and policy acquisition costs, net of reinsurance	10	8,529	8,565
Administrative and other operating expense	12	8,122	7,825
Interest expense on debt		402	403
Interest credited to policyholders and other interest		590	433
Total benefits, losses and expenses		65,795	42,136
Net income before income taxes		5,889	5,044
of which: Attributable to non-controlling interests		434	474
Income tax (expense)/benefit	17	(1,706)	(1,126)
attributable to policyholders	17	(365)	183
attributable to shareholders	17	(1,341)	(1,310)
of which: Attributable to non-controlling interests		(137)	(154)
Net income after taxes		**4,183**	**3,917**
attributable to non-controlling interests		297	320
attributable to shareholders		3,885	3,597

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
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)
2019			
Comprehensive income for the period	3,885	3,486	91
Details of movements during the period			
Change (before reclassification, tax and foreign currency translation effects and after allocation to policyholders)		5,070	126
Reclassification to income statement (before tax, foreign currency translation effects and allocation to policyholders)		(1,041)	(39)
Reclassification to retained earnings		–	–
Deferred income tax (before foreign currency translation effects)		(579)	(3)
Foreign currency translation effects		36	7

Consolidated financial statements (continued)

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
(1,094)	(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			
(58)	3,519	13	(42)	(29)	3,490	7,375	544	7,920
199	5,395	9	48	57	5,452			
(258)	(1,338)	–	–	–	(1,338)			
–	–	–	–	–	–			
–	(582)	4	(27)	(24)	(606)			
–	43	–	(62)	(62)	(19)			

Consolidated financial statements (continued)

Consolidated balance sheets

Assets

in USD millions, as of December 31	Notes	2019	2018
Assets:			
Cash and cash equivalents		**7,986**	**8,695**
Total Group investments	6	193,948	183,341
Equity securities		18,932	16,915
Debt securities		147,507	139,870
Investment property		13,261	12,351
Mortgage loans		5,935	6,556
Other loans		8,274	7,614
Investments in associates and joint ventures		39	36
Investments for unit-linked contracts		126,211	109,294
Total investments		**320,158**	**292,635**
Reinsurers' share of liabilities for insurance contracts	8	22,752	21,197
Deposits made under reinsurance contracts		726	883
Deferred policy acquisition costs	11	19,207	19,541
Deferred origination costs	11	400	419
Receivables and other assets	15	19,322	18,184
Deferred tax assets	17	1,151	1,125
Assets held for sale[1]	5	2,087	24,124
Property and equipment[2]	13	2,635	1,037
Attorney-in-fact contracts	14	1,025	1,025
Goodwill	14	3,610	2,634
Other intangible assets	14	4,333	4,542
Total assets		**405,393**	**396,042**

[1] In 2019, the ZIC Group reclassified USD 2 billion of assets to held for sale based on agreements signed to sell business in the UK and Germany (see note 5). Net decrease in total assets held for sale by USD 22 billion relates to completion of the sale in the UK. As of December 31, 2018, the ZIC Group had USD 24 billion of assets held for sale based on agreements signed to sell business in the UK, Venezuela and Germany (see note 5).
[2] The increase in property and equipment is mainly due to the establishment of a right-of-use asset upon the adoption of IFRS 16 (see note 2).

Consolidated financial statements (continued)

Liabilities and equity

in USD millions, as of December 31	Notes	2019	2018
Liabilities			
Liabilities for investment contracts	9	61,761	51,439
Deposits received under ceded reinsurance contracts		994	612
Deferred front-end fees		5,173	5,177
Liabilities for insurance contracts	8	264,140	249,208
Obligations to repurchase securities		977	1,316
Other liabilities[1]	16	17,214	14,674
Deferred tax liabilities	17	4,533	3,915
Liabilities held for sale[2]	5	1,996	25,539
Senior debt	18	5,247	5,336
Subordinated debt	18	6,852	6,775
Total liabilities		**368,886**	**363,992**
Equity			
Share capital	19	660	660
Additional paid-in capital	19	11,761	11,761
Net unrealized gains/(losses) on available-for-sale investments		4,082	596
Cash flow hedges		454	363
Cumulative foreign currency translation adjustment		(8,076)	(8,244)
Revaluation reserve		223	211
Retained earnings		25,202	24,499
Shareholders' equity		34,305	29,844
Non-controlling interests		2,203	2,206
Total equity		**36,507**	**32,050**
Total liabilities and equity		**405,393**	**396,042**

[1] The increase in other liabilities is mainly due to the adoption of IFRS 16 'Leases' (see note 2).
[2] In 2019, the ZIC Group reclassified USD 2 billion of liabilities to held for sale based on agreements to sell certain businesses in the UK and Germany (see note 5). Net decrease in total liabilities held for sale by USD 24 billion relates to completion of the sale in the UK. As of December 31, 2018, the ZIC Group had USD 26 billion of liabilities held for sale based on agreements to sell certain businesses in the UK, Venezuela and Germany (see note 5).

Consolidated financial statements (continued)

Consolidated statements of cash flows

in USD millions, for the years ended December 31	**2019**	2018
Cash flows from operating activities		
Net income attributable to shareholders	3,885	3,597
Adjustments for:		
Net (gains)/losses on divestment of businesses	295	24
(Income)/expense from equity method accounted investments	(3)	(1)
Depreciation, amortization and impairments of fixed and intangible assets	967	898
Other non-cash items	34	33
Underwriting activities:	19,597	(8,726)
Liabilities for insurance contracts, gross	11,073	(1,547)
Reinsurers' share of liabilities for insurance contracts	(2,423)	(744)
Liabilities for investment contracts	11,159	(5,424)
Deferred policy acquisition costs	(761)	(1,506)
Deferred origination costs	18	19
Deposits made under assumed reinsurance contracts	154	365
Deposits received under ceded reinsurance contracts	377	110
Investments:	(20,119)	9,363
Net capital (gains)/losses on total investments and impairments	(19,903)	5,273
Net change in derivatives	(347)	(7)
Net change in money market investments	(584)	563
Sales and maturities		
Debt securities	54,294	62,295
Equity securities	60,733	66,047
Other	7,369	7,093
Purchases		
Debt securities	(56,272)	(61,496)
Equity securities	(58,985)	(64,605)
Other	(6,423)	(5,801)
Net changes in sale and repurchase agreements	(361)	(19)
Movements in receivables and payables	717	(1,066)
Net changes in other operational assets and liabilities	(406)	(1,008)
Deferred income tax, net	302	14
Net cash provided by/(used in) operating activities	4,908	3,108

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

Consolidated financial statements (continued)

in USD millions, for the years ended December 31	**2019**	2018
Cash flows from investing activities		
Additions to tangible and intangible assets	(751)	(1,152)
Disposals of tangible and intangible assets	114	292
(Acquisitions)/disposals of equity method accounted investments, net	(5)	(17)
Acquisitions of companies, net of cash acquired	(1,672)	(465)
Divestments of companies, net of cash divested	108	(13)
Dividends from equity method accounted investments	1	1
Net cash provided by/(used in) investing activities	(2,206)	(1,352)
Cash flows from financing activities		
Dividends paid	(3,101)	(210)
Redemption of preferred securities and transactions with non-controlling interests	–	(2,666)
Issuance of debt	1,398	3,077
Repayment of debt	(1,370)	(1,566)
Lease principal repayments	(196)	–
Net cash provided by/(used in) financing activities	(3,269)	(1,366)
Foreign currency translation effects on cash and cash equivalents	43	(319)
Change in cash and cash equivalents	(524)	70
Cash and cash equivalents as of January 1	9,156	9,086
Total cash and cash equivalents as of December 31	**8,633**	**9,156**
of which: Cash and cash equivalents	7,986	8,695
of which: Unit-linked	647	461
Other supplementary cash flow disclosures		
Other interest income received	4,830	4,851
Dividend income received	1,764	1,993
Other interest expense paid	(908)	(884)
Income taxes paid	(1,528)	(1,551)

Cash and cash equivalents

in USD millions, as of December 31	**2019**	2018
Cash and cash equivalents comprise the following:		
Cash at bank and in hand	7,964	8,515
Cash equivalents	668	641
Total	**8,633**	**9,156**

For the periods ended December 31, 2019 and 2018, cash and cash equivalents held to meet local regulatory requirements were USD 313 million and USD 825 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, 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 shares	–	(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
Balance as of December 31, 2018 as previously reported	660	11,761
Effect of adoption IFRS 16[2]	–	–
Effect of adoption IAS 29[3]	–	–
Balance as of January 1, 2019 after the adoption of IFRS 16 and IAS 29	660	11,761
Issuance of share capital	–	–
Dividends to shareholders	–	–
Redemption of preferred securities	–	–
Share-based payment transactions	–	–
Treasury share transactions	–	–
Cumulative foreign currency translation adjustment due to hyperinflation[4]	–	–
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, 2019	**660**	**11,761**

[1] Effect of adoption of IFRS 15 'Revenue from Contracts with Customers.'
[2] Effect of adoption of IFRS 16 'Leases' (see note 2).
[3] Effect of adoption of IAS 29 'Financial Reporting in Hyperinflationary Economies' (see note 3).
[4] Current year effect of IAS 29 'Financial Reporting in Hyperinflationary Economies' (see note 3).

Consolidated financial statements (continued)

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
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
596	363	(8,244)	211	24,499	29,844	2,206	32,050
–	–	–	–	(129)	(129)	(1)	(130)
–	–	116	–	(66)	50	13	63
596	363	(8,129)	211	24,304	29,765	2,218	31,983
–	–	–	–	–	–	–	–
–	–	–	–	(2,883)	(2,883)	(218)	(3,101)
–	–	–	–	–	–	–	–
–	–	–	–	(63)	(63)	–	(63)
–	–	–	–	–	–	–	–
–	–	111	–	–	111	8	119
–	–	–	–	–	–	–	–
3,486	91	(58)	13	3,844	7,375	544	7,920
–	–	–	–	3,885	3,885		
3,486	–	–	–	–	3,486		
–	91	–	–	–	91		
–	–	(58)	–	–	(58)		
–	–	–	13	–	13		
–	–	–	–	(42)	(42)		
–	–	–	–	–	–	(350)	(350)
4,082	**454**	**(8,076)**	**223**	**25,202**	**34,305**	**2,203**	**36,507**

Consolidated financial statements (continued)

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 4, 2020, 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 1, 2020.

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. Accounting policies are established for the Zurich Insurance Group (the Group) and are equally applicable to the ZIC Group. The Group's accounting policies for insurance and reinsurance contracts are therefore based on those developed by the Group before the adoption of IFRS 4 in areas where IFRS 4 did not include specific requirements. Before the adoption of IFRS 4, the 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 Group's accounting policies. In case of business combinations, the Group may decide to maintain the local statutory treatment if this does not distort the fair presentation of the financial position of the 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 23, 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 8.9a and 8.9b), liabilities for investment contracts (tables 9.3a and 9.3b), finance lease receivables (table 13.6), other financial liabilities (table 16.2), lease liabilities (table 16.3) and outstanding debt (table 18.2).

Consolidated financial statements (continued)

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 (69) million and USD 63 million for the years ended December 31, 2019 and 2018, respectively. Foreign currency exchange forward and swap gains/(losses) included in these amounts were USD 40 million and USD 168 million for the years ended December 31, 2019 and 2018, respectively. In 2019, a cumulative foreign currency translation adjustment loss of USD 258 million was recognized upon closure of the sale of the ZIC Group's Venezuelan operations (see note 5).

Table 1

Principal exchange rates

USD per foreign currency unit	Consolidated balance sheets at end-of-period exchange rates		Consolidated income statements and cash flows at average exchange rates	
	12/31/19	12/31/18	**12/31/19**	12/31/18
Euro	1.1223	1.1451	1.1196	1.1811
Swiss franc	1.0326	1.0163	1.0063	1.0224
British pound	1.3243	1.2746	1.2762	1.3354
Brazilian real	0.2481	0.2581	0.2540	0.2755
Australian dollar	0.7026	0.7049	0.6953	0.7479

Consolidated financial statements (continued)

2. New accounting standards and amendments to published accounting standards

Standards, amendments and interpretations effective or early-adopted as of January 1, 2019 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, 2019. The impact of applying IFRS 16 'Leases' is disclosed below. The other standards/interpretation have no material impact on the ZIC Group's financial position or performance and have been applied prospectively to transactions occurring in the current financial year.

Table 2.1

Standard/ Interpretation

		Effective date
New standards/interpretations		
IFRS 16	Leases	January 1, 2019
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 16 'Leases'

IFRS 16 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 recognized a right-of-use asset and a lease liability for real estate rental contracts which were mainly classified as operating leases under IAS 17 'Leases.'

The ZIC Group adopted IFRS 16 on January 1, 2019. As permitted by the transitional provisions of IFRS 16, the ZIC Group elected to apply the modified retrospective approach and has not restated comparative figures. The adoption of IFRS 16 resulted in an increase in total assets of USD 1.4 billion and total liabilities of USD 1.5 billion. The cumulative effect of USD 130 million net of tax resulting from the measurement of the right-of-use assets on a retrospective basis was recognized as a decrease in opening retained earnings. For leases previously classified as a finance lease, the carrying amounts were not adjusted on transition to IFRS 16.

The ZIC Group applied the following practical expedients permitted on transition to IFRS 16 where the ZIC Group acts as a lessee in a lease previously classified as an operating lease:

- No reassessment whether a contract is, or contains, a lease;
- Reliance on previous assessments on whether a lease contract is onerous;
- Scope exemption for operating leases with a remaining lease term of less than 12 months as at January 1, 2019;
- Exclusion of initial direct costs for the measurement of the right-of-use asset;
- Use of hindsight in assessing whether the ZIC Group is reasonably certain to exercise an option to extend or terminate a lease.

The Table 2.2 reconciles the operating lease obligations as of December 31, 2018 to the opening lease liabilities recognized as of January 1, 2019:

Consolidated financial statements (continued)

IFRS 16: Lessee – Transition disclosures

Table 2.2

in USD millions, as of December 31	2018
Operating lease commitments applying IAS 17	2,149

in USD millions, as of January 1	2019
Discounted operating lease commitments applying IAS 17[1]	1,807
Transition differences resulting from:	(188)
Lease extension options	54
Software licenses	(65)
Non-lease components	(124)
Short-term/Low-value	(40)
Other	(13)
Lease liabilities	**1,619**

[1] Applied weighted average incremental borrowing rate as of January 1, 2019 amounted to 2.8%.

Right-of-use assets are presented in 'Property and equipment' and lease liabilities in 'Other liabilities.' Finance lease receivables are included in 'Other loans.' Depreciation expense for right-of-use assets amounted to USD 204 million and is disclosed in note 12 within 'Building and infrastructure costs.' Interest expense on lease liabilities included in 'Interest credited to policyholders and other interest' amounted to USD 44 million. The impact resulting from the change in accounting policy on the ZIC Group's consolidated balance sheet as of January 1, 2019 is summarized in Table 2.3.

IFRS 16: The impact of change in accounting policy

Table 2.3

in USD millions, as of January 1	2019
Property and Equipment	1,381
Deferred Tax Assets	26
Other Liabilities[1]	(1,543)
Deferred Tax Liabilities	5
Retained earnings	129

[1] Includes derecognition of onerous lease provisions amounted to USD 76 million.

Accounting policies applied for IFRS 16 are disclosed in note 3 paragraph k).

Consolidated financial statements (continued)

Standards, amendments and interpretations issued that are not yet effective or adopted by the ZIC Group
Table 2.4 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.

Standard/ Interpretation

Table 2.4

		Effective date
New standards/interpretations		
IFRS 9	Financial Instruments	January 1, 2021
IFRS 17	Insurance Contracts	January 1, 2021
Amended standards		
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, 2021

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 2019 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 Group Implementation Program (Program) sponsored by the 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.

Consolidated financial statements (continued)

A dedicated methodology work stream covers group accounting policies, actuarial methodologies and disclosure requirements to be consistently implemented throughout the Group, including 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 implementation challenges. In 2019, considerable progress was made in finalizing the core development of the target solution landscape at ZIC Group and local levels which concluded with the successful completion of dry-run simulations. In 2020, 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.

In June 2019, the IASB issued an Exposure Draft with limited amendments to IFRS 17, including a proposal to defer by one year, to January 1, 2022, the effective date of IFRS 17 and the fixed expiry date for the temporary exemption in IFRS 4 from applying IFRS 9, so that both standards can be applied simultaneously. The Group completed the analysis of the proposed amendments and will closely monitor the IASB re-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, 2019, it was not practicable to quantify what the potential impact would be on the ZIC Group's financial position or performance once these standards are adopted.

Other standards, amendments and interpretations shown in table 2.4 are expected to have no or 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.

Hyperinflation

The ZIC Group considers various factors to determine whether an economy in a country where a foreign operation is situated is hyperinflationary, including the cumulative three-year inflation rate. If an economy becomes hyperinflationary, the financial statements of foreign operations with the functional currency of the hyperinflationary economy are restated to reflect the current purchasing power at the end of the reporting period using the official consumer price indices commonly used in the respective country. The restatement includes all balance sheet amounts that are not expressed in terms of the measuring unit current at the balance sheet date and items of comprehensive income for the current year by applying the change in the price index from the dates when the items of income and expense were originally recorded. The restated financial statements of a foreign operation are translated into the ZIC Group's presentation currency at closing rates. Any translation adjustment resulting from initial application of the hyperinflationary accounting is recognized directly in equity.

c) 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.

Consolidated financial statements (continued)

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, and claims in economies determined to be hyperinflationary where inflation constitutes a significant input in the reserving process.

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 ZIC 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.

Consolidated financial statements (continued)

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.

d) 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 assets (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.

e) 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).

f) 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

Consolidated financial statements (continued)

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.

g) 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 not owned by FGI, a wholly owned subsidiary of the Zurich Insurance 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 services, and the historical AIF relationship between FGI and the Farmers Exchanges. The value of the AIF contracts are tested for impairment at least annually.

The services provided by FGI under such contracts are non-claims services including risk selection, preparation and mailing of policy documents and invoices, premium collection, management of the investment portfolios and certain other administrative 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. The revenue for the services provided includes Farmers management fee, membership fees and revenues for ancillary services. Farmers management fees are determined as a percentage of gross premiums earned by the Farmers Exchanges and recognized ratably over the period the services are provided. Membership fees are one-time fees charged at the time of the policy issuance that do not cover a distinct performance obligation. Such fees 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. The revenue for ancillary services includes remuneration for services provided that are not covered by Farmers management fees where FGI acts as a principal. Typically, these services are provided over time, so that the revenue is also recognized over time. Refer to note 26 for further information.

h) 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.

i) 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.

j) 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.

k) Leases

The ZIC Group is typically acting as a lessee in property and car or equipment leases. Further, the ZIC Group is acting as a lessor in leases of investment property.

When acting as a lessee, under IFRS 16, the ZIC Group recognizes a right-of-use asset and a corresponding lease liability at the lease commencement date when the leased asset is available for use by the ZIC Group. The lease liability is measured at the present value of the lease payments due over the lease term, discounted using the ZIC Group's incremental borrowing rate. Any options to extend or terminate a lease that the ZIC Group is reasonably certain to exercise are included in the lease term. The right-of-use asset is initially recognized at an amount equal to the lease liability adjusted for lease prepayments made or lease incentives received, initial direct costs and any estimated costs to dismantle or restore the leased asset.

The right-of-use asset is depreciated over the shorter of the leased asset's useful life or the lease term on a straight-line basis. The right-of-use asset is included in 'Property and equipment' and disclosed separately in note 13. The carrying amount of the lease liability is increased to reflect the unwinding of the discount so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period and is reduced by the lease payments made during the period. Lease payments include fixed payments and variable payments that depend on a non-leveraged index or a rate. Lease liabilities are included within 'Other Liabilities.'

The ZIC Group records short-term leases and leases of low-value assets as an expense on a straight-line basis over the lease term. Short-term leases are leases with a lease term of 12 months or less. Low-value assets are comprised of hardware and smaller office equipment. The lease expense is included in 'Administrative and other operating expense.'

Under IAS 17 all operating leases were accounted for off balance sheet with lease expense recognized on a straight-line basis over the lease term. Future payments under the non-cancellable operating leases were disclosed in note 22.

When acting as a lessor of investment property in an operating lease, the ZIC Group follows the accounting policy in paragraph e).

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. 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.

Consolidated financial statements (continued)

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.

Consolidated financial statements (continued)

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, 2019. No impairment was identified.

Consolidated financial statements (continued)

Table 4

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

	Business	in USD millions	Discount rates in % 2019	Discount rates in % 2018	Perpetual nominal growth rate in % 2019	Perpetual nominal growth rate in % 2018
Farmers	Farmers	1,845	8.5	9.7	–	–
North America	P&C	355	7.8	8.9	2.0	1.6
Europe, Middle East & Africa	P&C	260	6.6	7.4	2.0	1.9
Asia Pacific	P&C	657	7.6	8.2	2.2	2.0
Asia Pacific	Life	1,108	7.6	8.8	2.0	2.0
Latin America	P&C	260	13.6	16.1	3.8	4.7
Latin America	Life	84	11.9	11.2	3.6	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 and Mexico.

In 2018, the ZIC Group 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.

Consolidated financial statements (continued)

5. Acquisitions and divestments

Transactions in 2019

Acquisitions

OnePath

On December 11, 2017, the Group announced that it had entered into an agreement to acquire 100 percent of the Australian life and consumer credit insurance business (OnePath Life and OnePath General Insurance, hereafter OnePath) of Australia and New Zealand Banking Group Limited (ANZ). In order to gain early exposure to a portion of OnePath's earnings, the Group entered into a quota share agreement to reinsure the existing death, disability and critical illness business of OnePath as of May 1, 2018 for an upfront commission payment of USD 754 million. On May 31, 2019, the Group completed its acquisition of OnePath for USD 1.4 billion, subject to purchase price adjustments. As part of the transaction, Zurich will enter into a 20-year strategic alliance agreement with ANZ in Australia to distribute life insurance products through its bank channels.

Table 5.1 shows the preliminary balance sheet line items as of the OnePath acquisition date, representing the fair value of tangible and intangible assets and draft goodwill.

Table 5.1

OnePath preliminary balance sheet as of the acquisition date

in USD millions, as of May 31, 2019	Total[1]
Cash and cash equivalents	252
Total Group investments	2,233
Total unit-linked investments	770
Total investments	3,003
Reinsurers' share of reserves for insurance contracts	168
Receivables and other assets	223
Deferred tax assets	328
Property and equipment	1
Goodwill	936
Other intangible assets	47
Assets acquired	**4,957**
Liabilities for insurance contracts	2,175
Liabilities for investment contracts	1,206
Accrued liabilities	18
Other liabilities	150
Deferred tax liabilities	12
Liabilities acquired	**3,562**
Net assets acquired	1,395
Non-controlling interests	
Total acquisition costs	**1,395**

[1] As of December 31, 2019, the assets and liabilities of OnePath are recognized at acquisition date, May 31, 2019. The Group is currently in the process of assessing preliminary purchase price adjustments.

OnePath's pro-forma gross written premiums and net income after taxes for the twelve months ended December 31, 2019, were approximately USD 1.1 billion and USD 42 million, respectively. In addition, the Group generated net income after taxes of USD 14 million for the respective period on its existing reinsurance agreement with OnePath. The Group incurred transaction-related costs of approximately USD 26 million in non-technical expenses in BOP, the majority of which were incurred in 2019.

Adira Insurance

On September 27, 2018, the ZIC Group entered into agreements to acquire 80 percent of PT Asuransi Adira Dinamika (Adira Insurance), a General Insurance provider, from PT Bank Danamon Indonesia (Bank Danamon) and a minority investor for approximately USD 465 million, including potential future incremental payments based on business performance. The agreement includes a 20-year distribution agreement. On November 27, 2019, the ZIC Group completed the acquisition. Based on the purchase price, the preliminary value of intangible assets, mainly comprising goodwill and distribution agreements, are estimated at USD 340 million, including the 20 percent portion relating to non-controlling interest.

Divestments

Held for sale

On November 19, 2019, Zurich Financial Services (UKISA) Limited and Allied Zurich Holdings Limited (AZH) entered into an agreement with Embark Group Limited (Embark) to sell the UK Retail Wealth business, which includes an Investment and Retail Wealth Platform business, Sterling ISA Managers Limited (SIML), and an Investment Management business, Zurich Investment Services (UK) Limited (ZISUK). The sale is expected to be completed in Q2 2020, subject to regulatory approval. The ZIC Group has recorded a pre-tax loss of USD 123 million in the statement of income, including an impairment of assets of USD 209 million. As of December 31, 2019, assets and liabilities reclassified to held for sale were USD 57 million and USD 7 million, respectively.

On September 15, 2019, Zurich Insurance plc entered into an agreement to transfer the German Architects & Engineers portfolio to Darag Group. As of December 31, 2019, assets reclassified to held for sale were USD 177 million and liabilities reclassified to held for sale were USD 177 million.

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 transfer is expected to be completed in 2020. As of December 31, 2019, assets reclassified to held for sale were USD 1.8 billion and liabilities reclassified to held for sale were USD 1.8 billion.

As of December 31, 2019, due to the completion of the sale of the UK workplace pensions and savings business by Zurich Assurance Ltd in the UK (see note below), the total assets and liabilities reclassified to held for sale decreased by USD 22 billion and USD 23.5 billion, to USD 2.1 billion and USD 2 billion, respectively.

UK workplace pensions and savings business

On October 12, 2017, the ZIC Group announced a strategic deal under which Lloyds Banking (LBG) would acquire the UK workplace pension 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. On July 1, 2019, the remaining insurance business was 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. In 2019, the ZIC Group has recorded a pre-tax gain of USD 24 million in the statement of income upon completion of the sale.

Venezuelan Operations

On May 24, 2019, the ZIC Group completed the sale of its 69 percent participation in Zurich Seguros, S.A. The ZIC Group has recorded a pre-tax loss of USD 260 million, of which USD 258 million results from negative currency translation adjustments, in the statement of income upon completion of the sale.

ADAC Autoversicherung AG and Bonnfinanz AG

On January 1, 2019, the ZIC Group completed the sale of its 51 percent participation in ADAC Autoversicherung AG and on April 2, 2019, the ZIC Group completed the sale of Bonnfinanz AG, with pre-tax gains of USD 19 million and USD 39 million, respectively, recorded within net gains/(losses) on divestment of businesses.

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 purchase price accounting, goodwill amounted to USD 37 million, including a USD 2 million increase in goodwill from post-acquisition adjustments in 2019.

EuroAmerica portfolio in Chile

On April 20, 2018, the 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 Group finalized the acquisition on November 5, 2018, for an estimated aggregate price of USD 144 million, subject to purchase price adjustments. Based on purchase price accounting, goodwill amounted to USD 90 million, including a USD 12 million reduction of goodwill in 2019 from post-acquisition adjustments.

Consolidated financial statements (continued)

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 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. On July 2, 2018, the acquisitions of Argentina and Brazil were closed for an amount, including purchase price adjustments, of USD 190 million and USD 27 million, respectively. The acquisitions of Mexico and Ecuador were closed on August 31, 2018 and October 1, 2018, each for an amount of USD 46 million including purchase price adjustments. The acquisition of Colombia was completed on February 1, 2019, for an amount of USD 18 million, subject to purchase price adjustments.

Table 5.2 shows the main balance sheet line items, including post-acquisition adjustments, representing the fair value of acquired QBE Latin America's net tangible assets, intangible assets and goodwill, based on purchase price accounting.

Table 5.2

QBE Latin America balance sheet as of the acquisition dates

in USD millions	**Total**
Cash and cash equivalents	89
Total investments	397
Receivables and other assets	411
Deferred tax assets	21
Property and equipment	21
Goodwill	222
Other intangible assets	51
Assets acquired	**1,212**
Liabilities for insurance contracts	736
Other liabilities	142
Deferred tax liabilities	8
Liabilities acquired	**886**
Net assets acquired	326
Total acquisition costs	**326**

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

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.

Consolidated financial statements (continued)

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	
	2019	2018	**2019**	2018	**2019**	2018	**2019**	2018
Investment cash	20	8	–	–	20	8	–	–
Equity securities	470	438	1,047	357	1,516	795	(80)	(218)
Debt securities	4,051	4,103	685	84	4,736	4,187	(129)	(32)
Investment property[1]	473	487	581	401	1,054	888	–	–
Mortgage loans	161	186	7	1	168	187	–	1
Other loans	365	382	27	14	393	397	(7)	12
Investments in associates and joint ventures	3	1	(1)	–	1	2	–	–
Derivative financial instruments	–	–	(356)	45	(356)	45	–	–
Investment result, gross, on Group investments	5,542	5,606	1,990	902	7,532	6,508	(216)	(238)
Investment expenses on Group investments	(246)	(221)	–	–	(246)	(221)	–	–
Investment result, net, on Group investments	**5,296**	**5,385**	**1,990**	**902**	**7,286**	**6,287**	**(216)**	**(238)**

[1] Rental operating expenses for investment property amounted to USD 141 million and USD 98 million for the years ended December 31, 2019 and 2018, respectively.

Table 6.2

Details of Group investments by category

as of December 31	**2019**		2018	
	USD millions	**% of total**	USD millions	% of total
Equity securities:				
Fair value through profit or loss	4,391	2.3	3,633	2.0
Available-for-sale	14,540	7.5	13,282	7.2
Total equity securities	18,932	9.8	16,915	9.2
Debt securities:				
Fair value through profit or loss	6,713	3.5	5,229	2.9
Available-for-sale	138,676	71.5	132,522	72.3
Held-to-maturity	2,117	1.1	2,118	1.2
Total debt securities	147,507	76.1	139,870	76.3
Investment property	13,261	6.8	12,351	6.7
Mortgage loans	5,935	3.1	6,556	3.6
Other loans	8,274	4.3	7,614	4.2
Investments in associates and joint ventures	39	0.0	36	0.0
Total Group investments[1]	**193,948**	**100.0**	**183,341**	**100.0**

[1] 2019 ZIC Group investments include equity securities, debt securities and other loans related to the OnePath acquisition (see note 5).

Investments with a carrying value of USD 6.2 billion are held to meet local regulatory requirements in each of the years ended December 31, 2019 and 2018.

Consolidated financial statements (continued)

Details of debt securities by category

Table 6.3

in USD millions, as of December 31	Fair value through profit or loss 2019	Fair value through profit or loss 2018	Available-for-sale 2019	Available-for-sale 2018	Held-to-maturity 2019	Held-to-maturity 2018	Total 2019	Total 2018
Debt securities:								
Government and supra-national bonds	3,542	2,759	66,196	59,395	1,942	1,917	71,681	64,071
Corporate securities	2,682	2,061	54,846	55,229	175	201	57,703	57,490
Mortgage and asset-backed securities	489	409	17,634	17,899	–	–	18,123	18,308
Total debt securities	**6,713**	**5,229**	**138,676**	**132,522**	**2,117**	**2,118**	**147,507**	**139,870**

Debt securities maturity schedule

Table 6.4

in USD millions, as of December 31	Fair value through profit or loss 2019	Fair value through profit or loss 2018	Available-for-sale 2019	Available-for-sale 2018	Held-to-maturity 2019	Held-to-maturity 2018	Total 2019	Total 2018
Debt securities:								
< 1 year	743	564	7,412	6,438	20	7	8,175	7,009
1 to 5 years	1,513	1,226	35,878	35,933	816	816	38,206	37,975
5 to 10 years	1,295	981	32,681	32,632	729	462	34,706	34,076
> 10 years	2,674	2,049	45,071	39,620	552	833	48,296	42,502
Subtotal	6,225	4,820	121,042	114,624	2,117	2,118	129,384	121,562
Mortgage and asset-backed securities:								
< 1 year	–	–	19	36	–	–	19	36
1 to 5 years	115	112	2,017	1,869	–	–	2,133	1,981
5 to 10 years	67	63	1,801	2,265	–	–	1,867	2,328
> 10 years	307	235	13,797	13,728	–	–	14,104	13,963
Subtotal	489	409	17,634	17,899	–	–	18,123	18,308
Total	**6,713**	**5,229**	**138,676**	**132,522**	**2,117**	**2,118**	**147,507**	**139,870**

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 2019	Total 2018
As of January 1	12,351	12,238
Additions and improvements	1,284	757
Acquisitions/(divestments)	–	1
Disposals	(777)	(563)
Market value revaluation	428	247
Transfer from/to assets held for own use	25	–
Transfer to assets held for sale	(36)	(15)
Foreign currency translation effects	(15)	(315)
As of December 31	**13,261**	**12,351**

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 2019	2018
Equity securities: available-for-sale	1,673	84
Debt securities: available-for-sale	12,997	6,567
Other	537	165
Gross unrealized gains/(losses) on Group investments	15,206	6,816
Less amount of unrealized gains/(losses) on investments attributable to:		
Life policyholder dividends and other policyholder liabilities	(8,574)	(4,857)
Life deferred acquisition costs and present value of future profits	(914)	(490)
Deferred income taxes	(1,085)	(476)
Non-controlling interests	(96)	(34)
Total[1]	**4,536**	**959**

[1] Net unrealized gains/(losses) on Group investments include net gains arising on cash flow hedges of USD 454 million and USD 363 million as of December 31, 2019 and 2018, respectively.

Securities lending, repurchase and reverse repurchase agreements

Table 6.7

in USD millions, as of December 31	2019	2018
Securities lending agreements		
Securities lent under securities lending agreements[1]	156	599
Collateral received for securities lending	190	676
of which: Cash collateral	56	47
of which: Non-cash collateral[2]	134	629
Liabilities for cash collateral received for securities lending	56	47
Repurchase agreements		
Securities sold under repurchase agreements[3]	978	1,318
Obligations to repurchase securities	977	1,316
Reverse repurchase agreements		
Securities purchased under reverse repurchase agreements[4]	57	48
Receivables under reverse repurchase agreements	56	47

[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 150 million and USD 599 million as of December 31, 2019 and 2018, 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 126 million and USD 629 million as of December 31, 2019 and 2018, 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 350 million and USD 609 million as of December 31, 2019 and 2018, 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, 2019 and 2018, respectively.

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.

Consolidated financial statements (continued)

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, 2019 and 2018. 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	2019						2018		
	Maturity by notional amount								
	< 1 year	1 to 5 years	> 5 years	Notional amounts	Positive fair values	Negative fair values	Notional amounts	Positive fair values	Negative fair values
Interest rate contracts:									
OTC									
Swaps	330	256	1,980	2,566	156	(50)	2,686	66	(15)
Swaptions	337	3,753	1,462	5,551	105	(69)	2,127	54	–
Exchange traded									
Futures	472	–	–	472	2	(2)	209	3	(2)
Total interest rate contracts	**1,139**	**4,009**	**3,442**	**8,589**	**263**	**(121)**	**5,022**	**123**	**(17)**
Equity contracts:									
OTC									
Swaps	–	–	36	36	–	(7)	–	–	–
Options	10,301	475	319	11,095	83	(42)	3,361	67	(35)
Exchange traded									
Futures	211	–	–	211	–	(2)	225	7	–
Total equity contracts	**10,511**	**475**	**355**	**11,341**	**83**	**(51)**	**3,586**	**75**	**(35)**
Foreign exchange contracts:									
OTC									
Swaps and forwards	17,091	–	–	17,091	159	(68)	19,840	129	(155)
Total foreign exchange contracts	**17,091**	**–**	**–**	**17,091**	**159**	**(68)**	**19,840**	**129**	**(155)**
Credit default swaps	–	–	–	–	–	–	4,000	–	(31)
Total credit contracts	**–**	**–**	**–**	**–**	**–**	**–**	**4,000**	**–**	**(31)**
Other contracts:									
OTC									
Options	–	–	–	–	–	–	54	–	(4)
Swaps	–	–	–	–	–	–	42	–	(4)
Total other contracts	**–**	**–**	**–**	**–**	**–**	**–**	**95**	**–**	**(8)**
Total Group derivative financial instruments	**28,741**	**4,484**	**3,797**	**37,022**	**505**	**(240)**	**32,543**	**327**	**(245)**

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.

Consolidated financial statements (continued)

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 11.1 billion as of December 31, 2019 and USD 10.8 billion as of December 31, 2018, and with a market value of the underlying investments of USD 11.1 billion and USD 10.4 billion as of December 31, 2019 and 2018, 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, 2019 and 2018.

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						2019			2018
	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	–	(54)	62	–	(49)
Interest rate swaps	–	–	421	421	15	–	2,240	63	(1)
Forex swaps and forwards	313	–	–	313	3	–	478	4	(1)
Forwards bonds	108	–	–	108	–	(8)	–	–	–
Total fair value hedges	**421**	**–**	**482**	**904**	**19**	**(61)**	**2,779**	**67**	**(52)**
Cash flow hedges:									
Interest rate swaptions	–	873	1,286	2,158	562	–	2,124	424	–
Cross currency swaps	–	261	109	370	18	(5)	343	21	(4)
Interest rate swaps[1]	2	10	771	783	8	(50)	799	7	(4)
Forex swaps and forwards	–	–	–	–	–	–	31	–	(1)
Forwards bonds	84	539	–	623	80	(9)	286	20	(20)
Total cash flow hedges	**86**	**1,683**	**2,165**	**3,934**	**669**	**(64)**	**3,583**	**472**	**(29)**
Net investment hedges:									
Forex swaps and forwards	1,606	–	–	1,606	34	–	1,666	32	–
Total net investment hedges	**1,606**	**–**	**–**	**1,606**	**34**	**–**	**1,666**	**32**	**–**

[1] Includes USD 623 million and USD 636 million notional related to derivatives centrally cleared as of December 31, 2019 and 2018, 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.

Forward Bonds are used to hedge bond's fair values against rates movements.

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.

Consolidated financial statements (continued)

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

Gains/(losses) arising from fair value hedges

Table 7.3

in USD millions, for the years ended December 31	2019	2018
Gains/(losses)		
on hedging instruments[1]	23	(7)
on hedged items attributable to the hedged risk	(24)	(2)

[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, 2019, 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 196 million and USD (3) million before tax for the years ended December 31, 2019 and 2018, respectively.

The ZIC Group recognized gains of USD 33 million and USD 34 million in the consolidated income statement within net investment income on Group investments for the years ended December 31, 2019 and 2018, respectively. The ZIC Group also recognized net gains/(losses) of USD 4 million and USD 5 million within administrative and other operating expense for the years ended December 31, 2019 and 2018, respectively, as an offset to the foreign currency revaluation on the underlying hedged items.

A nil amount for the years ended December 31, 2019 and 2018, respectively, was recognized in net capital gains/(losses) and impairments due to hedge ineffectiveness.

Consolidated financial statements (continued)

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 (40) million and USD (114) million before tax for the years ended December 31, 2019 and 2018, respectively as a result of a hedge relationship by 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 8.1 billion and USD 7.5 billion for the years ended December 31, 2019 and 2018, respectively. The net gains/(losses) deferred in OCI were USD 242 million and USD 148 million before tax for the years ended December 31, 2019 and 2018, 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, 2019 and 2018.

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	
	2019	2018	**2019**	2018
Fair value	1,226	899	(365)	(325)
Related amounts not offset	(99)	(169)	100	168
Cash collateral (received)/pledged	(1,089)	(666)	116	90
Non-cash collateral (received)/pledged	(29)	(26)	54	60
Net amount	**9**	**38**	**(94)**	**(7)**

Consolidated financial statements (continued)

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

Liabilities for insurance contracts

Table 8.1

in USD millions, as of December 31	Gross		Ceded		Net	
	2019	2018	**2019**	2018	**2019**	2018
Reserves for losses and loss adjustment expenses	59,165	60,913	(12,137)	(11,535)	47,028	49,378
Reserves for unearned premiums	17,551	16,714	(3,412)	(3,211)	14,139	13,503
Future life policyholder benefits	77,756	74,950	(3,978)	(3,110)	73,778	71,839
Policyholder contract deposits and other funds	27,480	24,266	(3,285)	(3,416)	24,195	20,850
Reserves for unit-linked insurance contracts	77,684	68,766	–	–	77,684	68,766
Other insurance liabilities	4,505	3,599	(1)	–	4,503	3,599
Total liabilities for insurance contracts[1,2]	**264,140**	**249,208**	**(22,813)**	**(21,273)**	**241,327**	**227,936**

[1] Includes USD 2.2 billion Gross liabilities for insurance contracts from the OnePath acquisition (see note 5).
[2] Total liabilities for insurance contracts ceded are gross of allowances for uncollectible amounts of USD 61 million and USD 76 million as of December 31, 2019 and 2018, respectively.

Discounted reserves for losses and loss adjustment expenses

Table 8.2

in USD millions, as of December 31	Gross		Ceded		Net	
	2019	2018	**2019**	2018	**2019**	2018
Reserves for losses and loss adjustment expenses	59,165	60,913	(12,137)	(11,535)	47,028	49,378
of which: Discounted reserves	3,078	2,843	(40)	(33)	3,038	2,810
Discount effect	1,219	1,274	(24)	(26)	1,195	1,248
Undiscounted reserves for losses and loss adjustment expenses	60,384	62,187	(12,161)	(11,561)	48,223	50,627
of which: Undiscounted amount of discounted reserves	4,297	4,117	(64)	(59)	4,233	4,058
Average discount rate[1]	3.9%	2.3%	2.0%	2.5%	4.0%	2.3%

[1] Average discount rate increase due to hyperinflationary economy in Argentina.

Development of reserves for losses and loss adjustment expenses

Table 8.3

in USD millions	Gross		Ceded		Net	
	2019	2018	**2019**	2018	**2019**	2018
As of January 1	60,913	65,368	(11,535)	(11,070)	49,378	54,298
Losses and loss adjustment expenses incurred:						
Current year	22,400	22,973	(5,151)	(4,903)	17,249	18,071
Prior years	(769)	(726)	186	52	(583)	(674)
Total incurred	21,631	22,248	(4,965)	(4,851)	16,666	17,397
Losses and loss adjustment expenses paid:						
Current year	(8,782)	(8,533)	1,095	1,209	(7,687)	(7,324)
Prior years	(14,551)	(14,393)	3,720	2,807	(10,831)	(11,586)
Total paid	(23,333)	(22,926)	4,815	4,016	(18,518)	(18,910)
Interest effects of discounted reserves	145	64	(3)	(6)	142	59
Acquisitions/(divestments) and transfers[1]	17	(2,354)	(519)	156	(502)	(2,198)
Foreign currency translation effects	(209)	(1,486)	70	219	(139)	(1,267)
As of December 31	**59,165**	**60,913**	**(12,137)**	**(11,535)**	**47,028**	**49,378**

[1] In 2019, the ZIC Group reclassified USD 177 million to liabilities held for sale in Germany (see note 5). In addition, a retroactive reinsurance agreement of a Non-Core Business portfolio resulted in a decrease of net reserves by USD 402 million. 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 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, 2019, the decrease of USD 2.3 billion in net reserves for losses and loss adjustment expenses is mainly driven by a decrease in North America Commercial due to higher reinsurance cessions in Property, as well as the disposal of U.S. asbestos and environmental liability insurance portfolios.

Net favorable reserve development emerged from reserves established in prior years amounting to USD 583 million mainly related to the following:

- In EMEA, favorable prior year development of USD 423 million driven by motor and liability in retail segment;
- In North America, favorable prior year development of USD 174 million driven by workers' injury in retail and commercial segments.

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.

Consolidated financial statements (continued)

Development of insurance losses, net

Table 8.4

in USD millions, as of December 31	2010	2011	2012	2013	2014	2015	2016	2017	2018	**2019**
Gross reserves for losses and loss adjustment expenses (undiscounted)	68,274	67,762	69,986	68,312	64,472	62,971	62,569	66,715	62,187	60,384
Reinsurance recoverable (undiscounted)	(12,093)	(12,421)	(12,601)	(10,993)	(9,770)	(9,231)	(9,796)	(11,092)	(11,561)	(12,161)
Initial net reserves for losses and loss adjustment expenses	56,180	55,341	57,385	57,319	54,703	53,739	52,773	55,623	50,627	48,223
Cumulative paid as of:										
One year later	*(13,092)*	*(13,525)*	*(13,799)*	*(13,301)*	*(12,576)*	*(11,690)*	*(10,994)*	*(11,586)*	*(10,831)*	
Two years later	*(21,073)*	*(21,245)*	*(21,465)*	*(21,002)*	*(19,460)*	*(18,562)*	*(17,808)*	*(18,277)*		
Three years later	*(27,137)*	*(26,871)*	*(27,064)*	*(26,021)*	*(24,475)*	*(23,590)*	*(22,540)*			
Four years later	*(31,375)*	*(31,129)*	*(30,691)*	*(29,851)*	*(28,105)*	*(27,106)*				
Five years later	*(34,478)*	*(33,836)*	*(33,515)*	*(32,509)*	*(30,667)*					
Six years later	*(36,556)*	*(35,935)*	*(35,579)*	*(34,426)*						
Seven years later	*(38,192)*	*(37,625)*	*(37,108)*							
Eight years later	*(39,568)*	*(38,838)*								
Nine years later	*(40,562)*									
Cumulative incurred:										
One year later	*(1,302)*	*(571)*	*(757)*	*(59)*	*149*	*(164)*	*(641)*	*(674)*	*(583)*	
Two years later	*(1,819)*	*(891)*	*(652)*	*(139)*	*(25)*	*(1,106)*	*(1,358)*	*(1,516)*		
Three years later	*(2,028)*	*(677)*	*(777)*	*(72)*	*(438)*	*(1,666)*	*(2,311)*			
Four years later	*(1,891)*	*(804)*	*(709)*	*(214)*	*(823)*	*(2,402)*				
Five years later	*(2,020)*	*(826)*	*(912)*	*(576)*	*(1,382)*					
Six years later	*(2,051)*	*(1,018)*	*(1,136)*	*(1,041)*						
Seven years later	*(2,107)*	*(1,112)*	*(1,552)*							
Eight years later	*(2,188)*	*(1,576)*								
Nine years later	*(2,504)*									
Net undiscounted reserves re-estimated[1]:										
One year later	*54,878*	*54,770*	*56,628*	*57,259*	*54,852*	*53,575*	*52,131*	*54,949*	*50,044*	
Two years later	*54,361*	*54,450*	*56,734*	*57,180*	*54,677*	*52,633*	*51,415*	*54,108*		
Three years later	*54,152*	*54,664*	*56,609*	*57,246*	*54,265*	*52,073*	*50,462*			
Four years later	*54,289*	*54,537*	*56,676*	*57,105*	*53,880*	*51,337*				
Five years later	*54,160*	*54,515*	*56,474*	*56,743*	*53,321*					
Six years later	*54,129*	*54,323*	*56,250*	*56,278*						
Seven years later	*54,073*	*54,229*	*55,834*							
Eight years later	*53,992*	*53,765*								
Nine years later	*53,676*									
Cumulative (deficiency)/ redundancy of net reserves	2,504	1,576	1,552	1,041	1,382	2,402	2,311	1,516	583	
Cumulative (deficiency)/ redundancy as a percentage of initial net reserves	4.5%	2.8%	2.7%	1.8%	2.5%	4.5%	4.4%	2.7%	1.2%	
Gross reserves re-estimated	64,176	64,717	66,435	65,781	62,136	59,757	59,125	64,664	61,418	
Cumulative (deficiency)/ redundancy of gross reserves	4,097	3,045	3,552	2,531	2,337	3,213	3,444	2,051	769	
Cumulative (deficiency)/ redundancy as a percentage of initial gross reserves	6.0%	4.5%	5.1%	3.7%	3.6%	5.1%	5.5%	3.1%	1.2%	

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

Consolidated financial statements (continued)

Table 8.4 presents changes in the historical reserves for losses and loss adjustment expenses, net of reinsurance, that the ZIC Group established in 2010 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, 2019. 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 123 million and USD 384 million for the years ended December 31, 2019 and 2018, respectively.

Development of future life policyholder benefits

Table 8.5

in USD millions	Gross		Ceded		Net	
	2019	2018	**2019**	2018	**2019**	2018
As of January 1	74,950	77,529	(3,110)	(3,201)	71,839	74,328
Premiums	13,634	13,270	(1,368)	(1,222)	12,266	12,048
Claims	(10,631)	(10,360)	1,098	952	(9,534)	(9,408)
Fee income and other expenses	(3,911)	(4,281)	258	335	(3,652)	(3,945)
Interest and bonuses credited to policyholders	2,107	1,951	(101)	(89)	2,007	1,862
Changes in assumptions	49	(24)	–	2	49	(21)
Acquisitions/(divestments) and transfers[1]	1,305	23	(753)	12	552	35
Increase/(decrease) recorded in other comprehensive income	876	(228)	–	–	876	(228)
Foreign currency translation effects	(623)	(2,931)	(2)	101	(626)	(2,830)
As of December 31	**77,756**	**74,950**	**(3,978)**	**(3,110)**	**73,778**	**71,839**

[1] The 2019 net movement is mainly related to the acquisition of OnePath (see note 5), the 2018 net movement is mainly related 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 2.3 percent and 2.4 percent as of December 31, 2019 and 2018, 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.

Consolidated financial statements (continued)

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

Effect of changes in assumptions for future life policyholder benefits

Table 8.6

in USD millions, for the years ended December 31	**2019**	2018
Interest rates	15	(1)
Investment return	30	(3)
Expense	4	(9)
Morbidity	(5)	(3)
Longevity	5	(6)
Lapses	3	5
Other	(2)	(6)
Net impact of changes in assumptions	**48**	**(23)**

Policyholder contract deposits and other funds gross

Table 8.7

in USD millions, as of December 31	**2019**	2018
Universal life and other contracts	13,679	13,250
Policyholder dividends	13,801	11,016
Total	**27,480**	**24,266**

Development of policyholder contract deposits and other funds

Table 8.8

in USD millions	**Gross**		**Ceded**		**Net**	
	2019	2018	**2019**	2018	**2019**	2018
As of January 1	24,266	24,944	(3,416)	(3,533)	20,850	21,411
Premiums	1,175	1,073	(76)	(73)	1,099	999
Claims	(1,327)	(1,319)	306	318	(1,021)	(1,001)
Fee income and other expenses	(291)	(402)	–	(6)	(290)	(407)
Interest and bonuses credited to policyholders	1,393	1,406	(119)	(123)	1,274	1,284
Acquisitions/(divestments) and transfers[1]	244	422	–	–	244	422
Increase/(decrease) recorded in other comprehensive income	2,328	(1,125)	–	–	2,328	(1,125)
Foreign currency translation effects	(308)	(734)	20	–	(287)	(734)
As of December 31	**27,480**	**24,266**	**(3,285)**	**(3,416)**	**24,195**	**20,850**

[1] The 2019 movement relates to the acquisition of OnePath (see note 5), the 2018 net movement is mainly related to the acquisition of EuroAmerica in Chile (see note 5).

Consolidated financial statements (continued)

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, 2019 and 2018. Reserves for unit-linked insurance contracts amounting to USD 78 billion and USD 69 billion as of December 31, 2019 and 2018, 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, 2019	Reserves for losses and loss adjustment expenses	Future life policyholder benefits	Policyholder contract deposits and other funds	Total
< 1 year	14,214	9,043	1,680	24,937
1 to 5 years	19,221	15,908	1,988	37,116
5 to 10 years	6,403	15,019	2,348	23,770
10 to 20 years	4,762	12,654	2,818	20,234
> 20 years	2,428	21,154	15,362	38,944
Total	**47,028**	**73,778**	**24,195**	**145,001**

Table 8.9b

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

Consolidated financial statements (continued)

9. Liabilities for investment contracts

Liabilities for investment contracts

Table 9.1

in USD millions, as of December 31	2019	2018
Unit-linked investment contracts	48,967	41,188
Investment contracts (amortized cost)	931	504
Investment contracts with DPF	11,863	9,746
Total	**61,761**	**51,439**

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	2019	2018
As of January 1	51,439	55,627
Premiums	10,913	13,133
Claims	(9,587)	(15,353)
Fee income and other expenses	(425)	(464)
Interest and bonuses credited to policyholders	10,257	(2,739)
Acquisitions/(divestments) and transfers[1]	(1,916)	4,139
Increase/(decrease) recorded in other comprehensive income	660	(302)
Foreign currency translation effects	419	(2,603)
As of December 31	**61,761**	**51,439**

[1] As of December 31, 2019, the net carrying amount of liabilities for investment contracts decreased by USD 3.1 billion due to the completion of the sale in the UK (see note 5) and increased by USD 1.2 billion from the acquisition of OnePath (see note 5).

Consolidated financial statements (continued)

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, 2019 and 2018. The undiscounted contractual cash flows for investment contract liabilities are USD 62 billion and USD 51 billion as of December 31, 2019 and 2018, respectively. Liabilities for unit-linked investment contracts amounted to USD 49 billion and USD 41 billion as of December 31, 2019 and 2018, 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 417 million and USD 463 million as of December 31, 2019 and 2018, respectively. The ZIC Group actively manages the Life in-force business to improve persistency and retention.

Table 9.3a

Expected maturity profile for liabilities for investment contracts – current period

in USD millions, as of December 31, 2019

	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	3,888	647	494	5,029
1 to 5 years	7,449	130	1,720	9,299
5 to 10 years	8,525	69	2,278	10,873
10 to 20 years	7,601	63	1,184	8,848
> 20 years	21,503	22	6,188	27,712
Total	**48,967**	**931**	**11,863**	**61,761**

Table 9.3b

Expected maturity profile for liabilities for investment contracts – prior period

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**

Consolidated financial statements (continued)

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	
	2019	2018	**2019**	2018	**2019**	2018
Losses and loss adjustment expenses	21,631	22,248	(4,965)	(4,851)	16,666	17,397
Life insurance death and other benefits	11,989	11,236	(1,085)	(986)	10,903	10,250
Total insurance benefits and losses	**33,620**	**33,483**	**(6,051)**	**(5,837)**	**27,570**	**27,646**

Policyholder dividends and participation in profits

Table 10.2

in USD millions, for the years ended December 31	**2019**	2018
Change in policyholder contract deposits and other funds	1,080	1,245
Change in reserves for unit-linked insurance contracts	9,515	(1,350)
Change in liabilities for investment contracts – unit-linked	10,050	(2,930)
Change in liabilities for investment contracts – other	219	190
Change in unit-linked liabilities related to UK capital gains tax	(283)	109
Total policyholder dividends and participation in profits	**20,582**	**(2,736)**

Underwriting and policy acquisition costs

Table 10.3

in USD millions, for the years ended December 31	Gross		Ceded		Net	
	2019	2018	**2019**	2018	**2019**	2018
Amortization of deferred acquisition costs	6,525	6,466	(866)	(810)	5,660	5,655
Amortization of deferred origination costs	71	74	–	–	71	74
Commissions and other underwriting and acquisition expenses[1]	3,141	2,882	(342)	(47)	2,798	2,835
Total underwriting and policy acquisition costs	**9,737**	**9,422**	**(1,208)**	**(857)**	**8,529**	**8,565**

[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	
	2019	2018	**2019**	2018	**2019**	2018
Change in reserves for unearned premiums	**1,187**	**339**	**(239)**	**(115)**	**949**	**224**

Consolidated financial statements (continued)

11. Deferred policy acquisition costs and deferred origination costs

Development of deferred policy acquisition costs

Table 11.1

in USD millions	Property & Casualty		Life		Other businesses[1]		Total	
	2019	2018	2019	2018	2019	2018	2019	2018
As of January 1	5,367	5,289	12,350	11,624	1,824	1,751	19,541	18,663
Acquisition costs deferred[2]	4,569	4,449	1,849	2,533	169	179	6,586	7,161
Amortization	(4,236)	(4,252)	(1,296)	(1,280)	(117)	(123)	(5,648)	(5,655)
Impairments[3]	–	–	(177)	–	–	–	(177)	–
Amortization (charged)/ credited to other comprehensive income	–	–	(367)	136	(46)	29	(413)	166
Acquisitions/(divestments) and transfers[4]	4	37	(736)	–	(12)	(11)	(745)	26
Foreign currency translation effects	(9)	(156)	74	(663)	–	–	64	(820)
As of December 31	**5,694**	**5,367**	**11,695**	**12,350**	**1,818**	**1,824**	**19,207**	**19,541**

[1] Net of eliminations from inter-segment transactions.
[2] In May 2018, the ZIC Group entered into a quota share reinsurance agreement with OnePath and made an upfront commission payment of USD 754 million.
[3] Impairment related to UK held for sale transaction (see note 5).
[4] 2019 movement in Life is related to the elimination of the internal reinsurance agreement on consolidation of OnePath (see note 5), Property & Casualty movement of USD 4 million is related to the acquisition of OnePath and the other businesses movement of USD 12 million is mainly related to the portfolio transfer in Farmers. The 2018 Property & 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.

Development of deferred origination costs

Table 11.2

in USD millions	2019	2018
As of January 1	419	460
Origination costs deferred	53	55
Amortization	(71)	(74)
Foreign currency translation effects	(1)	(22)
As of December 31	**400**	**419**

Consolidated financial statements (continued)

12. Expenses

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

Expenses

Table 12[1]

in USD millions, for the years ended December 31	2019	2018
Administrative and other operating expenses	8,122	7,825
Underwriting and policy acquisition costs, net of reinsurance	8,529	8,565
Claims handling expenses[2]	2,535	2,574
Investment expenses	340	317
Total	**19,526**	**19,282**
of which:		
Personnel and other related costs	6,343	6,166
Building and infrastructure costs	441	836
Brand and marketing expenses	653	332
Commissions (net of DAC)	6,588	6,422
Premium taxes (net of DAC)	514	477
Asset and other non-income taxes	82	50
IT expenses	1,908	2,053
Outsourcing and professional services	2,271	2,489
Foreign currency translation	69	(63)
Other	656	520
Total	**19,526**	**19,282**

[1] In 2019, the ZIC Group changed the presentation of table 12 and added the underwriting commission expenses as well as the allocated loss adjustment expenses (ALAE). These modifications provide a more holistic view of expenses and allow for more clear reference to other parts of the consolidated financial statements. As a result of this presentation change, the expenses disclosed in this table increased by USD 7.7 billion in 2019 (underwriting commissions USD 6.4 billion – ALAE USD 1.3 billion) and by USD 8.0 billion in 2018 (underwriting commissions USD 6.4 billion – ALAE USD 1.5 billion).
[2] Included within losses and loss adjustment expenses (see table 10.1).

Consolidated financial statements (continued)

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.

The right-of-use asset is measured at cost less any accumulated depreciation and impairment losses, and adjusted for any remeasurement of the lease liability. The right-of-use asset is depreciated over the shorter of the leased asset's useful life or the lease term on a straight-line basis.

Table 13.1

Property and equipment overview

in USD millions, as of December 31	Real Estate 2019	Equipment 2019	Total 2019
Right-of-use	1,610	57	1,667
Owned and subject to operating lease	451	517	968
Total	**2,061**	**574**	**2,635**

Table 13.2[1]

Property and equipment – current period

in USD millions	Real Estate				Equipment			Total		
	Owned	Owned – subject to operating lease	Right-of-use	Total	Owned	Right-of-use	Total	Owned incl. operating lease	Right-of-use	Total
Gross carrying value as of January 1, 2019	**606**	**3**	**2,146**	**2,755**	**1,374**	**117**	**1,491**	**1,983**	**2,263**	**4,246**
Less: accumulated depreciation/ impairments	(147)	(1)	(793)	(941)	(840)	(43)	(883)	(988)	(836)	(1,824)
Net carrying value as of January 1, 2019	**459**	**2**	**1,353**	**1,814**	**535**	**74**	**608**	**995**	**1,427**	**2,422**
Additions and improvements	76	–	469	545	121	17	138	197	486	683
Lease modifications	–	–	(3)	(3)	–	(3)	(3)	–	(6)	(6)
Depreciation and impairments	(6)	–	(181)	(187)	(123)	(22)	(145)	(129)	(203)	(332)
Acquisitions/(divestments) and transfers[2]	(82)	–	(27)	(109)	(18)	(9)	(27)	(100)	(35)	(135)
Foreign currency translation effects	2	–	(1)	2	2	–	2	4	–	4
Net carrying value as of December 31, 2019	**449**	**2**	**1,610**	**2,061**	**517**	**57**	**574**	**968**	**1,667**	**2,635**
Plus: accumulated depreciation/ impairments	140	1	862	1,003	903	58	961	1,043	920	1,963
Gross carrying value as of December 31, 2019	**589**	**3**	**2,472**	**3,064**	**1,419**	**115**	**1,535**	**2,011**	**2,587**	**4,598**

[1] Current Year table reflects adoption of IFRS 16 'Leases.'
[2] Includes the sale of owned real estate in Australia of USD 87 million.

Consolidated financial statements (continued)

Property and equipment – prior period

Table 13.3[1]

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, 2018	**155**	**415**	**378**	**323**	**740**	**2,012**
Less: accumulated depreciation/impairments	–	(165)	(231)	(241)	(413)	(1,051)
Net carrying value 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[2]	–	(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] Prior year table does not reflect adoption of IFRS 16 'Leases.'
[2] Includes USD 25 million related to the sale of business in the UK (Endsleigh) (see note 5).

Lessee – lease expenses and income

Table 13.4

in USD millions, for the years ended December 31	2019
Lease expenses[1]	
Interest expense on lease liabilities[2]	44
Short-term lease expenses	16
Low-value asset lease expenses	24
Lease income	
Income from subleasing ROUA	32
Gains arising from sale and leaseback transactions[3]	53

[1] Total cash outflow for leases as of December 31, 2019 was USD 280 million, excluding USD 1.6 billion future cash outflows due to extension & termination options.
[2] Included within 'Interest credited to policyholders and other interest.'
[3] On October 23, 2019 a contract was signed between Zurich Australian Property Holdings Pty Ltd (ZAPH) and an Australian entity – Mount St Pty Ltd, for the sale of the Mount Street land and building for a total consideration of USD 245 million. Settlement took place on November 15, 2019 upon completion of all conditional precedents. Total consideration is formed of the following components: land USD 35 million, building constructed to date USD 52 million, estimated construction costs USD 70 million, final development fee (FDF) USD 88 million. 10 year lease term is expected to start from October 2020 to September 2029 with total lease payments of USD 104 million.

Lessor – finance lease and operating lease income

Table 13.5

in USD millions, for the years ended December 31	2019
Finance lease	
Selling profit or loss	7
Interest income on finance lease receivables	72
Total	**79**
Operating lease	
Operating lease income – property and equipment	23
Operating lease income – investment property	615
Total	**638**

Maturity schedule – finance lease receivable

Table 13.6

in USD millions, as of December 31	2019		
	Carrying value	**Unearned interest**	**Undiscounted cash flows**
< 1 year	127	24	151
1 to 2 years	54	25	79
2 to 3 years	37	15	52
3 to 4 years	113	12	126
4 to 5 years	83	10	93
> 5 years	163	65	227
Total	**577**	**151**	**728**

Consolidated financial statements (continued)

Maturity schedule – operating lease payments to be received

Table 13.7

in USD millions, as of December 31	Undiscounted cash flows 2019
< 1 year	397
1 to 2 years	275
2 to 3 years	232
3 to 4 years	194
4 to 5 years	155
> 5 years	978
Total	**2,230**

Consolidated financial statements (continued)

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, 2019	1,025	2,938	2,539	4,304	4,839	309	15,954
Less: accumulated amortization/impairments	–	(276)	(2,041)	(1,578)	(3,677)	(109)	(7,682)
Net carrying value as of January 1, 2019	1,025	2,662	498	2,726	1,162	199	8,272
Additions and acquisitions	–	977	7	97	351	34	1,467
Divestments and transfers	–	–	–	–	(11)	–	(11)
Amortization[1]	–	–	(36)	(225)	(331)	(12)	(604)
Amortization charged to other comprehensive income	–	–	(24)	–	–	–	(24)
Impairments	–	–	–	–	(29)	(1)	(31)
Foreign currency translation effects	–	(30)	(5)	(64)	–	(3)	(102)
Net carrying value as of December 31, 2019	**1,025**	**3,610**	**440**	**2,534**	**1,141**	**218**	**8,968**
Plus: accumulated amortization/impairments	–	274	2,116	1,752	3,912	113	8,165
Gross carrying value as of December 31, 2019	1,025	3,883	2,556	4,286	5,053	331	17,134

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

As of December 31, 2019, intangible assets related to non-controlling interests were USD 56 million for present value of future profits (PVFP) of acquired insurance contracts, USD 967 million for distribution agreements, USD 25 million for software, USD 46 million for goodwill, USD 47 million for attorney-in-fact contracts and USD 4 million for other intangible assets.

As a result of the acquisition of OnePath, intangible assets increased by USD 991 million, of which USD 936 million is goodwill, USD 55 million is distribution agreements and other intangible assets. The acquisition of QBE Colombia increased goodwill by USD 23 million (see note 5). As a result of an acquisition in Slovenia, intangible assets increased by USD 21 million, of which USD 11 million is goodwill and USD 9 million is software. A small acquisition in Germany increased intangible assets by USD 7 million.

Intangible assets by business – current period

Table 14.2

in USD millions, as of December 31, 2019	Attorney-in-fact contracts	Goodwill	PVFP	Distribution agreements	Software	Other	Total
Property & Casualty	–	1,531	–	877	659	193	3,260
Life	–	1,197	388	1,657	63	25	3,330
Farmers	1,025	819	52	–	336	–	2,233
Group Functions and Operations	–	63	–	–	83	–	145
Net carrying value	**1,025**	**3,610**	**440**	**2,534**	**1,141**	**218**	**8,968**

Consolidated financial statements (continued)

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, 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 – prior period

Table 14.4

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**

Consolidated financial statements (continued)

15. Receivables and other assets

Receivables and other assets

Table 15

in USD millions, as of December 31	2019	2018
Financial assets		
Group derivative assets	1,226	899
Unit-linked derivative assets	3	3
Receivables from policyholders	3,434	3,281
Receivables from insurance companies, agents and intermediaries	4,999	5,514
Receivables arising from ceded reinsurance	1,465	1,114
Reverse repurchase agreements	56	47
Amounts due from investment brokers	857	972
Other receivables	2,411	2,422
Allowance for impairments[1]	(263)	(243)
Accrued premiums	895	849
Accrued investment income[2]	1,550	1,601
Assets for defined benefit plans[3]	316	232
Other financial assets	231	144
Non-financial assets		
Current income tax receivables	826	599
Prepaid expenses	437	391
Other non-financial assets	878	360
Total receivables and other assets	**19,322**	**18,184**

[1] Includes receivables arising from ceded reinsurance of USD 58 million and USD 38 million as of December 31, 2019 and 2018, respectively.
[2] Accrued investment income on the unit-linked investments amounts to USD 79 million and USD 102 million as of December 31, 2019 and 2018, 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.

Consolidated financial statements (continued)

16. Other liabilities

Other liabilities

Table 16.1

in USD millions, as of December 31	2019	2018
Other financial liabilities		
Group derivative liabilities	365	325
Unit-linked derivative liabilities	2	12
Amounts due to agents & intermediaries	844	870
Liabilities for cash collateral received for securities lending	56	47
Amounts due to investment brokers	1,444	987
Bank deposits	–	–
Collateralized bank financing for structured lease vehicles	287	436
Liabilities for defined benefit plans[1]	2,519	2,491
Other liabilities for employee benefit plans	705	538
Lease liabilities[2]	1,917	38
Accrued liabilities	2,192	2,065
Other financial liabilities[2]	5,131	5,179
Other non-financial liabilities		
Current income tax payables	661	601
Restructuring provisions	106	258
Other non-financial liabilities	985	826
Total other liabilities	**17,214**	**14,674**

[1] See note 20.
[2] Lease liabilities separated from other financial liabilities as the effect of adoption IFRS 16.

Table 16.2 shows the maturity schedule of other financial liabilities excluding liabilities for defined benefit plans and lease liabilities as of December 31, 2019 and 2018. 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	**2019**		2018	
	Carrying value	**Undiscounted cash flows**	Carrying value	Undiscounted cash flows
< 1 year	10,460	10,487	9,791	9,909
1 to 2 years	108	121	188	237
2 to 3 years	194	203	49	56
3 to 4 years	43	47	131	142
4 to 5 years	7	10	42	51
> 5 years	215	384	259	491
Total	**11,027**	**11,252**	**10,461**	**10,886**

Maturity schedule – lease liabilities

Table 16.3

in USD millions, as of December 31	**2019**	
	Carrying value	**Undiscounted cash flows**
< 1 year	205	249
1 to 2 years	197	234
2 to 3 years	182	216
3 to 4 years	155	183
4 to 5 years	124	150
> 5 years	1,054	1,201
Total	**1,917**	**2,232**

Consolidated financial statements (continued)

Restructuring provisions

Table 16.4

in USD millions	2019	2018
As of January 1	258	269
Provisions made during the period	53	191
Increase of provisions set up in prior years	65	45
Provisions used during the period	(192)	(226)
Provisions reversed during the period	(8)	(13)
Foreign currency translation effects	–	(8)
Other changes[1]	(69)	–
As of December 31	**106**	**258**

[1] Other changes relate to the adjustment of right-of-use assets following the implementation of IFRS 16 'Leases.'

During the year ended December 31, 2019 the ZIC Group incurred total restructuring costs of USD 160 million, of which USD 110 million is due to net increases in restructuring provisions, affecting mainly Property & Casualty in Europe, Middle East & Africa (EMEA) and North America.

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.

Consolidated financial statements (continued)

17. Income taxes

Income tax expense – current/deferred split

Table 17.1

in USD millions, for the years ended December 31	2019	2018
Current	1,404	1,113
Deferred	302	14
Total income tax expense/(benefit)	**1,706**	**1,126**

Expected and actual income tax expense

Table 17.2

in USD millions, for the years ended December 31	Rate	2019	Rate	2018
Net income before income taxes		5,889		5,044
less: income tax (expense)/benefit attributable to policyholders		(365)		183
Net income before income taxes attributable to shareholders		5,524		5,227
Expected income tax expense attributable to shareholders computed at the Swiss statutory tax rate	21.0%	1,160	22.0%	1,150
Increase/(reduction) in taxes resulting from:				
Tax rate differential in foreign jurisdictions		(113)		(30)
Tax exempt and lower taxed income		(123)		(106)
Non-deductible expenses		138		152
Tax losses not recognized		188		99
Prior year adjustments and other		91		43
Actual income tax expense attributable to shareholders	**24.3%**	**1,341**	**25.1%**	**1,310**
plus: income tax expense/(benefit) attributable to policyholders		365		(183)
Actual income tax expense	29.0%	1,706	22.3%	1,126

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, which is the rate applicable in the jurisdiction where the ultimate parent company is resident. Following recent changes in the Swiss tax legislation, the applicable Swiss statutory tax rate has been revised to 21.0 percent for 2019 from 22.0 percent in 2018.

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.

Consolidated financial statements (continued)

Deferred tax assets/(liabilities) analysis by source

Table 17.3

in USD millions, as of December 31	2019		2018	
	Assets	**Liabilities**	Assets	Liabilities
Gross deferred tax				
Deferred acquisition and origination costs	71	(514)	52	(658)
Depreciable and amortizable assets	208	(141)	27	(86)
Life policyholders' benefits and deposits[1]	5	(8)	4	(1)
Unrealized (gains)/losses on available-for-sale investments and cash flow hedges	8	(2)	108	(49)
Accruals and deferred income	25	(25)	92	(16)
Reserves for losses and loss adjustment expenses	297	(14)	295	(116)
Reserves for unearned premiums	554	–	722	(66)
Deferred front-end fees	5	–	–	–
Pensions and other employee benefits	481	(56)	537	(72)
Other assets/liabilities	236	(52)	170	(44)
Tax loss carryforwards	337	–	583	–
Gross deferred tax assets/(liabilities) before valuation allowance	2,226	(812)	2,590	(1,109)
Valuation allowance	(264)		(356)	–
Gross deferred tax assets/(liabilities) after valuation allowance	1,963	(812)	2,234	(1,109)
Deferred tax assets	**1,151**		**1,125**	
Gross deferred tax				
Deferred acquisition and origination costs	22	(2,377)	25	(2,125)
Depreciable and amortizable assets	326	(1,818)	133	(1,699)
Life policyholders' benefits and deposits[1]	1,947	(1,087)	1,924	(1,017)
Unrealized (gains)/losses on available-for-sale investments and cash flow hedges	248	(1,348)	288	(860)
Accruals and deferred income	170	(99)	76	(122)
Reserves for losses and loss adjustment expenses	228	(484)	57	(90)
Reserves for unearned premiums	217	(70)	18	(6)
Deferred front-end fees	494	–	511	–
Pensions and other employee benefits	386	(348)	340	(325)
Other assets/liabilities	682	(1,697)	646	(1,732)
Tax loss carryforwards	432	–	131	–
Gross deferred tax assets/(liabilities) before valuation allowance	5,152	(9,329)	4,149	(7,976)
Valuation allowance	(357)	–	(89)	–
Gross deferred tax assets/(liabilities) after valuation allowance	4,796	(9,329)	4,061	(7,976)
Deferred tax liabilities		**(4,533)**		**(3,915)**
				–
Net deferred tax liabilities		**(3,382)**		**(2,790)**

[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, 2019 and 2018, 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 2 billion and USD 1 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	2019	2018
As of January 1	(2,790)	(3,281)
Net change recognized in the income statement	(302)	(15)
Net change recognized in equity	(606)	344
Net changes due to acquisitions/(divestments)	314	75
Foreign currency translation effects	2	87
As of December 31	**(3,382)**	**(2,790)**
attributable to policyholders	(675)	(457)
attributable to shareholders	(2,707)	(2,333)

The net deferred tax liabilities related to non-controlling interests amounted to USD 206 million and USD 215 million as of December 31, 2019 and 2018, respectively.

Development of deferred income taxes included in equity

Table 17.5

in USD millions	2019	2018
As of January 1	395	62
Net unrealized (gains)/losses on available-for-sale investments	(579)	418
Cash flow hedges	(3)	11
Revaluation reserve	4	9
Net actuarial (gains)/losses on pension plans	(27)	(95)
Foreign currency translation effects	8	(10)
As of December 31	**(203)**	**395**

Tax loss carryforwards and tax credits

Table 17.6

in USD millions, as of December 31	2019	2018
For which deferred tax assets have been recognized, expiring		
< 5 years	8	50
5 to 20 years	117	198
> 20 years or with no time limitation	456	747
Subtotal	581	994
For which deferred tax assets have not been recognized, expiring		
< 5 years	122	89
5 to 20 years	270	12
> 20 years or with no time limitation	1,893	1,607
Subtotal	2,285	1,708
Total	**2,866**	**2,702**

The tax rates applicable to tax losses for which a deferred tax asset has not been recognized are 26.6 percent and 25.4 percent as of December 31, 2019 and 2018, 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, 2019, to be recoverable.

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18. Senior and subordinated debt

Senior and subordinated debt

Table 18.1

in USD millions, as of December 31		2019	2018
Senior debt			
Zurich Insurance Company Ltd	1.500% CHF 400 million notes, due June 2019[1,2]	–	409
	1.125% CHF 400 million notes, due September 2019[1,2]	–	411
	0.625% CHF 250 million notes, due July 2020[1]	260	258
	2.875% CHF 250 million notes, due July 2021[1]	257	253
	3.375% EUR 500 million notes, due June 2022[1,3]	579	598
	1.875% CHF 100 million notes, due September 2023[1]	113	110
	1.750% EUR 500 million notes, due September 2024[1,3]	579	583
	0.500% CHF 350 million notes, due December 2024[1]	362	356
	0.510% CHF 120 million loan, due December 2024	124	122
	1.500% CHF 150 million notes, due July 2026[1]	175	165
	0.750% CHF 200 million notes, due October 2027[1]	206	–
	1.000% CHF 200 million notes, due October 2028[1]	207	204
	1.500% EUR 500 million notes, due December 2028[1,3]	557	568
	Various debt instruments payable within 1 year to related parties[4]	99	99
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 2020	169	170
	3.271% AUD 200 million loan due May 2023	141	141
	3.477% AUD 350 million notes, due May 2023[1]	245	246
	4.500% AUD 250 million notes, due July 2038[1]	175	176
Zurich Finance (Ireland) DAC	1.625% EUR 500 million notes, due June 2039[1,3]	559	–
Other	Various debt instruments	41	69
Senior debt		5,247	5,336
Subordinated debt			
Zurich Insurance Company Ltd	7.500% EUR 425 million notes, due July 2039, first callable July 2019[1,3]	–	486
	2.750% CHF 225 million perpetual capital notes, first callable June 2021[1]	232	228
	2.750% CHF 200 million perpetual capital notes, first callable September 2021[1]	212	209
	4.750% USD 1 billion perpetual capital notes, first callable January 2022[1,3]	997	996
	4.250% EUR 1 billion notes, due October 2043, first callable October 2023[1,3]	1,117	1,138
	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	997
	3.500% EUR 750 million notes, due October 2046, first callable October 2026[1,2,3]	853	855
	5.125% USD 500 million notes, due June 2048, first callable June 2028[1,3]	498	498
	4.875% USD 500 million notes, due October 2048, first callable October 2028[1,3]	498	498
	2.750% EUR 500 million notes, due February 2049, first callable February 2029[1,3]	555	–
Zurich Finance (UK) plc	6.625% GBP 450 million perpetual notes, first callable October 2022[1]	593	570
Subordinated debt		6,852	6,775
Total senior and subordinated debt		**12,099**	**12,111**

1 Issued under the Group's Euro Medium Term Note Programme (EMTN Programme).
2 The ZIC 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 the Group which are not part of Zurich Insurance Company Group Ltd.

None of the debt instruments listed in table 18.1 were in default as of December 31, 2019 and 2018.

Consolidated financial statements (continued)

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	2019		2018	
	Carrying value	**Undiscounted cash flows**	Carrying value	Undiscounted cash flows
< 1 year	969	1,371	1,993	2,418
1 to 2 years	701	1,093	308	676
2 to 3 years	2,169	2,510	690	1,056
3 to 4 years	1,615	1,882	2,164	2,473
4 to 5 years	1,065	1,254	1,636	1,880
5 to 10 years	4,845	5,402	5,144	5,756
> 10 years	734	899	176	256
Total	**12,099**	**14,410**	**12,111**	**14,515**

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, 2019 and 2018. Floating interest rates are assumed to remain constant as of December 31, 2019 and 2018. 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	
	2019	2018
As of January 1	12,111	10,888
Issuance of debt recognized in cash flows	1,398	3,077
Repayment of debt recognized in cash flows	(1,370)	(1,566)
Acquisitions/(divestments) and transfers[1]	–	(1)
Changes in fair value	60	(7)
Other changes	(13)	(9)
Foreign currency translation effects	(86)	(272)
As of December 31	**12,099**	**12,111**

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

Consolidated financial statements (continued)

19. Shareholders' equity

Share capital

Table 19

number of shares, as of December 31	2019	2018
Issued share capital, CHF 10 par value	82,500,000	82,500,000

a) Issued share capital

As of December 31, 2019 the issued share capital of Zurich Insurance Company Ltd amounted to CHF 825,000,000, consisting of 82,500,000 fully paid registered shares with a par value of CHF 10.00 each.

b) Profit sharing certificates

As of December 31, 2019 and 2018, respectively, the Zurich Insurance Company Ltd has no profit sharing certificates.

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) in each of the years ended December 31, 2019 and 2018.

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 instruments under IFRS as it meets the classification criteria as such under IAS 32.

20. Employee benefits

Personnel and other related costs incurred were USD 6.2 billion and USD 6.1 billion for the years ended December 31, 2019 and 2018, respectively, including wages, salaries and social security contributions of USD 5.5 billion and USD 5.3 billion respectively.

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.

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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 282 million for 2019 compared with USD 642 million for 2018. The estimated total for 2020 is USD 278 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.

The trustees review the Pension Plan's funding status regularly as well as the technical interest rate and the conversion rates. The conversion rate at age 65 is currently being phased down to 5 percent until 2023 to align it more closely with the low interest rate environment and increased life expectancy. In 2018, both the employer and employee savings contributions were increased. The insured salary was increased by reducing the coordination deduction. The flexibility of both plans was improved by introducing three levels of savings. Top-up payments from the company were introduced to those members' pension accounts which had been part of the plan in 2017 and were affected by the changes. For them, this ensures that expected benefits at normal retirement age will be at least equal to 98.5 percent of their pensions expectations under the previous conversion rates. The top up payments will be made until 2023.

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 statutory valuation as at June 30, 2019 is underway and expected to be finalized by September 2020.

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 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. Both plans are funded entirely by the participating employers. The ZNA plan is a cash balance and the FGI pension plan utilizes a cash balance pension formula for benefits accruing after January 1, 2009, except with respect to certain grandfathered participants who retained a final average pay formula. Under a cash balance pension formula, 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 credited 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 ZNA and FGI plans have been frozen with effect from December 31, 2018. ZNA and FGI employees with a cash balance account will continue to earn interest credits on their existing cash balance account balance after the freeze date and will continue to earn eligibility service used to determine vesting and early retirement eligibility. 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. ZNA and FGI employees earn only defined contribution retirement benefits with effect from January 1, 2019. In conjunction with the change in the pension plan, ZNA and FGI employees 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.

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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, 2019	(20,593)	18,447	(113)	(2,260)
Net post-employment benefit (expense)/income:				
Current service cost	(138)	–	–	(138)
Interest (expense)/income	(432)	373	–	(59)
Settlements gains/(losses)	29	(24)	–	5
Past service (cost)/credit	(7)	–	–	(7)
Net post-employment benefit (expense)/income	(547)	349	–	(199)
Remeasurement effects included in other comprehensive income:				
Return on plan assets excluding interest income	–	2,350	–	2,350
Experience gains/(losses)	(89)	–	–	(89)
Actuarial gains/(losses) arising from changes in demographic assumptions	404	–	–	404
Actuarial gains/(losses) arising from changes in financial assumptions	(2,308)	–	–	(2,308)
Change in asset ceiling	–	–	(323)	(323)
Remeasurement effects included in other comprehensive income	(1,992)	2,350	(323)	35
Employer contributions	–	252	–	252
Employer contributions paid to meet benefits directly	35	–	–	35
Plan participants' contributions	(65)	65	–	–
Payments from the plan (incl. settlements)	828	(828)	–	–
Foreign currency translation effects	(503)	437	–	(67)
As of December 31, 2019	**(22,838)**	**21,071**	**(436)**	**(2,203)**
of which: Assets for defined pension plans				316
of which: Liabilities for defined pension plans				(2,519)

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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, 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)

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.

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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	2019				2018			
	Quoted in active markets	Other	Total	% of Total	Quoted in active markets	Other	Total	% of Total
Cash and cash equivalents	(735)	–	(735)	(3%)	(282)	–	(282)	(2%)
Equity securities	4,629	159	4,788	23%	3,658	132	3,790	21%
Debt securities	91	15,098	15,190	72%	84	13,112	13,196	72%
Investment property	–	1,495	1,495	7%	–	1,443	1,443	8%
Mortgage loans	–	325	325	2%	–	291	291	2%
Other assets[1]	–	8	8	–	–	7	7	–
Total	**3,986**	**17,085**	**21,071**	**100%**	**3,461**	**14,986**	**18,447**	**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.

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, 2019 and 2018, respectively.

Table 20.3a

Key information by main country – current period

in USD millions, as of December 31, 2019	Switzerland	United Kingdom	United States	Germany	Other	Total
Defined benefit obligation	(4,843)	(11,608)	(3,707)	(1,430)	(1,250)	(22,838)
Fair value of plan assets	5,442	9,787	3,386	1,370	1,086	21,071
Impact of asset ceiling	(407)	(30)	–	–	–	(436)
Net defined benefit asset/(liability)	**192**	**(1,851)**	**(321)**	**(60)**	**(164)**	**(2,203)**
Net post-employment benefit (expense)/income[1]	(67)	(61)	(34)	(21)	(21)	(204)

[1] Canada includes a past service credit of USD 5 million.

Table 20.3b

Key information by main country – prior 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)

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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	2019				2018			
	Switzerland	**United Kingdom**	**United States**	**Germany**	Switzerland	United Kingdom	United States	Germany
Discount rate	0.2%	1.9%	3.2%	0.9%	0.8%	2.7%	4.2%	1.7%
Inflation rate (CPI)[1]	1.2%	1.9%	2.0%	1.4%	1.2%	2.2%	2.0%	1.6%
Salary increase rate	1.2%	2.8%	4.5%	2.7%	1.2%	2.0%	4.5%	2.9%
Expected future pension increases	0.1%	3.5%	n/a	1.4%	0.1%	3.6%	n/a	1.6%
Interest crediting rate	0.3%	n/a	5.0%	n/a	0.8%	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, 2019 and 2018.

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, 2019		**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 with generational projections according to CMI model adapted to Swiss mortality with a long-term trend rate of 1.25%	21.60	23.20	23.60	25.10
United Kingdom	113% of S3PMA Light (males) or 100% of S3PFA (females) with CMI_2018 projection using a long-term rate of 1.0%	21.83	22.83	23.73	24.93
	Pri-2012 with MP-2019 Generational projection and white collar adjustment	21.99	23.51	23.40	24.94
United States	RP 2014 with plan specific adjustments	21.30	22.26	23.31	24.21
Germany	Heubeck 2018G	20.18	22.96	23.69	25.93

Mortality tables and life expectancies for major plans – prior period

Table 20.5b

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

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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	2019				2018			
	Switzerland	United Kingdom	United States	Germany	Switzerland	United Kingdom	United States	Germany
Duration of the defined benefit obligation (in years)	15.3	19.8	12.5	14.2	14.1	21.0	12.2	14.0
Maturity analysis of benefits expected to be paid (in USD millions):								
< 1 year	221	343	227	49	215	479	220	58
1 to 5 years	917	1,449	892	231	893	1,819	879	254
5 to 10 years	1,117	2,340	1,065	297	1,129	2,070	1,069	348

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	2019	2018
Discount rate +50 bps	1,824	1,647
Discount rate –50 bps	(2,093)	(1,886)
Salary increase rate +50 bps	(73)	(71)
Salary decrease rate –50 bps	70	65
Price inflation increase rate +50 bps	(1,038)	(865)
Price inflation decrease rate –50 bps	903	763
Cash balance interest credit rate +50 bps	(76)	(116)
Cash balance interest credit rate –50 bps	72	73
Mortality 10% increase in life expectancy	(2,162)	(1,841)
Mortality 10% decrease in life expectancy	2,086	1,789

[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 283 million and USD 184 million for the years ended December 31, 2019 and 2018, 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 510 million and USD 523 million for the years ended December 31, 2019 and 2018, 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 depends on various factors, including achievement of targets, and are subject to the discretion of the Remuneration Committee and the Board. Costs may therefore vary significantly from year to year. The net amounts of USD 348 million and USD 302 million for the years ended December 31, 2019 and 2018, 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 34 and 47 participants in the plan as of December 31, 2019 and 2018, 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 658 and 688 active participants in the plan as of December 31, 2019 and 2018, 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, 2019 and 2018 was 2,612 and 3,192, 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, 2019 and 2018, there were 439 and 385 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 2019, 4,096 employees were eligible to participate in the share incentive plan, compared with 4,097 in 2018. For the years ended December 31, 2019 and 2018, 1,761 and 1,648 employees, respectively, purchased shares under the 2018 and 2019 share plans.

The 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.

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Target shares allocated in 2019 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 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 for members of the Executive Committee. 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 Ltd shareholders. As of December 31, 2019 and 2018 there were 1,133 and 1,031 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)	
	2019	2018	**2019**	2018
Shares allocated during the period	517,101	544,780	333	310

The shares allocated each year are based on target under the 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.

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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	**2019**	2018
Remaining commitments under investment agreements	1,398	2,283
Guarantees and letters of credit[1]	1,003	2,083
Future operating lease commitments[2]	–	2,149
Undrawn loan commitments	1	2
Other commitments and contingent liabilities[3,4]	732	2,346

[1] Guarantee features embedded in life insurance products are not included.
[2] Movement driven by the implementation of IFRS 16 'Leases.'
[3] Movement is related to the acquisition of OnePath in May 2019 (see note 5).
[4] Includes USD 131 million future cash outflows, that the Group as lessee is potentially exposed to which are not reflected in the measurement of lease liabilities in the balance sheet, of which USD 104 million is a lease agreement in Australia commencing in 2020 (see note 13.4).

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 2019 and 2018, USD 629 million and USD 605 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.

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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 2019.

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 1.4 billion and USD 2 billion as of December 31, 2019 and 2018, 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.

On April 25, 2019, the DOJ announced that Zurich Life Insurance Company Ltd (ZLIC) and Zurich International Life Limited (ZILL) entered into a non-prosecution agreement (NPA) with the DOJ, which memorializes the DOJ's decision not to prosecute these entities for any U.S. tax-related offenses in connection with legacy cross-border sales to U.S. persons. Under the terms of the NPA, ZLIC and ZILL agreed to pay USD 5 million to the U.S. Treasury and to comply with certain specified conditions during the four-year term of the NPA.

This resolution has not had and will not have an adverse effect on the ZIC Group's operating results or consolidated financial condition.

Consolidated financial statements (continued)

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.

Consolidated financial statements (continued)

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.

Consolidated financial statements (continued)

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.

Fair value and carrying value of financial assets and financial liabilities

Table 23.1

in USD millions, as of December 31	Total fair value		Total carrying value	
	2019	2018	**2019**	2018
Available-for-sale securities				
Equity securities	14,540	13,282	14,540	13,282
Debt securities	138,676	132,522	138,676	132,522
Total available-for-sale securities	153,216	145,805	153,216	145,805
Fair value through profit or loss securities				
Equity securities	4,391	3,633	4,391	3,633
Debt securities	6,713	5,229	6,713	5,229
Total fair value through profit or loss securities	11,105	8,862	11,105	8,862
Derivative assets	1,226	899	1,226	899
Held-to-maturity debt securities	2,757	2,655	2,117	2,118
Mortgage loans	6,351	6,935	5,935	6,556
Other loans	9,879	9,123	8,274	7,614
Total financial assets[1]	**184,534**	**174,278**	**181,874**	**171,853**
Derivative liabilities	(365)	(325)	(365)	(325)
Financial liabilities held at amortized cost				
Liabilities related to investment contracts	(1,106)	(606)	(931)	(504)
Senior debt	(5,487)	(5,428)	(5,247)	(5,336)
Subordinated debt	(7,558)	(6,722)	(6,852)	(6,775)
Total financial liabilities held at amortized cost	(14,152)	(12,756)	(13,030)	(12,615)
Total financial liabilities[1]	**(14,517)**	**(13,082)**	**(13,395)**	**(12,941)**

[1] 2019 includes equity securities, debt securities, other loans and liabilities due to investment contracts related to the OnePath acquisition (see note 5).

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.

Consolidated financial statements (continued)

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, 2019	Level 1	Level 2	Level 3	Total
Available-for-sale securities				
Equity securities	10,269	2,855	1,417	14,540
Debt securities	–	130,963	7,713	138,676
Total available-for-sale securities	10,269	133,818	9,129	153,216
Fair value through profit or loss securities				
Equity securities	1,611	602	2,179	4,391
Debt securities	–	6,632	81	6,713
Total fair value through profit or loss securities	1,611	7,234	2,260	11,105
Derivative assets	2	1,092	132	1,226
Investment property	–	2,760	10,501	13,261
Reinsurers' share of liabilities for insurance contracts fair value option[1]	–	–	206	206
Total	**11,881**	**144,905**	**22,228**	**179,014**
Derivative liabilities	(4)	(320)	(42)	(365)
Liabilities for insurance contracts fair value option[2]	–	–	(2,215)	(2,215)
Total	**(4)**	**(320)**	**(2,257)**	**(2,581)**

[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, 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.

Consolidated financial statements (continued)

Fair value hierarchy – unit-linked – current period

Table 23.3a

in USD millions, as of December 31, 2019	Level 1	Level 2	Level 3	Total
Fair value through profit or loss securities				
Equity securities	92,528	18,203	919	111,650
Debt securities	–	8,042	21	8,062
Other loans	–	2,818	–	2,818
Total fair value through profit or loss securities	92,528	29,062	940	122,530
Derivative assets	1	2	–	3
Investment property	–	–	3,034	3,034
Total investments for unit-linked contracts[1]	**92,529**	**29,064**	**3,974**	**125,567**
Financial liabilities at FV through profit or loss				
Liabilities related to unit-linked investment contracts	–	(48,967)	–	(48,967)
Derivative liabilities	(2)	–	–	(2)
Total	**(2)**	**(48,967)**	**–**	**(48,969)**

[1] Excluding cash and cash equivalents.

Fair value hierarchy – unit-linked – prior period

Table 23.3b

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.

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.

No material transfers between level 1 and level 2 occurred for the year ended December 31, 2019.

Consolidated financial statements (continued)

Table 23.4a

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

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, 2019	1,219	7,559	2,198	78	79	(35)	10,082
Realized gains/(losses) recognized in income[1]	107	7	26	–	(12)	–	183
Unrealized gains/(losses) recognized in income[1,2]	(8)	(16)	198	2	(6)	(17)	213
Unrealized gains/(losses) recognized in other comprehensive income	34	286	–	–	61	18	–
Purchases	286	1,271	237	9	14	(8)	854
Settlements/sales/redemptions	(228)	(809)	(491)	(1)	(2)	–	(882)
Transfer from/to assets held for own use	–	–	–	–	–	–	18
Transfers into level 3	–	34	–	–	–	–	–
Transfers out of level 3	(11)	(619)	–	(7)	–	–	–
Foreign currency translation effects	17	–	11	1	(1)	1	33
As of December 31, 2019	**1,417**	**7,713**	**2,179**	**81**	**132**	**(42)**	**10,501**

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

For the year ended December 31, 2019, the ZIC Group transferred USD 619 million of available-for-sale debt securities out of level 3 into level 2 and USD 34 million out of level 2 into level 3. The transfers were mainly driven by a pricing provider change for a significant portfolio of syndicated loans receiving market quotes on a regular basis as a result of orderly market transactions and a rating upgrading of none-agency asset backed securities to 'AAA.'

Table 23.4b

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

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 audited 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.

Consolidated financial statements (continued)

Table 23.5a

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

in USD millions	Gross	Ceded	Net
As of January 1, 2019	2,203	(204)	1,999
Premiums	54	(5)	50
Claims	(233)	15	(218)
Fee income and other expenses	1	5	6
Interest and bonuses credited to policyholders	194	(18)	176
Changes in assumptions	(3)	–	(3)
As of December 31, 2019	**2,215**	**(206)**	**2,010**

Table 23.5b

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

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)
(Decreases)/increases recorded in other comprehensive income	–	–	–
As of December 31, 2018	**2,203**	**(204)**	**1,999**

Table 23.6a

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

in USD millions	Fair value through profit or loss securities		
	Equity securities	Debt securities	Investment property
As of January 1, 2019	619	21	3,222
Realized gains/(losses) recognized in income[1]	4	–	(55)
Unrealized gains/(losses) recognized in income[1]	61	–	20
Purchases	292	–	144
Sales/redemptions	(57)	(2)	(418)
Transfers into level 3	1	–	–
Transfers out of level 3	–	–	–
Acquisitions and divestments	–	–	7
Foreign currency translation effects	(1)	–	112
As of December 31, 2019	**919**	**21**	**3,034**

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

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, 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.

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.

Analysis of financial assets – current period

Table 24.1a

in USD millions, as of December 31, 2019	Debt securities	Mortgage loans	Other loans	Receivables and other financial assets	Total
Neither past due nor impaired financial assets	147,382	5,882	8,268	11,773	173,305
Past due but not impaired financial assets					
Past due by:					
1 to 90 days	–	32	5	1,504	1,541
91 to 180 days	–	9	1	193	203
181 to 365 days	–	3	–	171	174
> 365 days	–	4	–	289	293
Past due but not impaired financial assets	–	48	6	2,157	2,211
Financial assets impaired	125	11	21	173	330
Gross carrying value	**147,507**	**5,941**	**8,295**	**14,104**	**175,847**
Less: impairment allowance					
Impairment allowances on individually assessed financial assets	–	2	21	69	93
Impairment allowances on collectively assessed financial assets	–	4	–	194	198
Net carrying value	**147,507**	**5,935**	**8,274**	**13,840**	**175,556**

Analysis of financial assets – prior period

Table 24.1b

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**

Consolidated financial statements (continued)

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, 2019 and 2018, respectively.

Development of allowance for impairments – current period

Table 24.2a

in USD millions	Mortgage loans	Other loans	Receivables
As of January 1, 2019	6	–	243
Increase/(decrease) in allowance for impairments	–	7	22
Amounts written-off	–	15	(1)
Acquisitions and divestments	–	–	4
Foreign currency translation effects	–	–	(5)
As of December 31, 2019	**6**	**21**	**263**

Development of allowance for impairments – prior period

Table 24.2b

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**

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 277 million and USD (143) million for the years ended December 31, 2019 and 2018, respectively. The carrying value on held-to-maturity debt securities, mortgage loans, other loans, and receivables include impairment allowances of USD 270 million and USD 249 million of the years ended December 31, 2019 and 2018, respectively.

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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, 2019	SPPI		Other financial assets		Total	
	Fair value	Carrying value	Fair value	Carrying value	Fair value	Carrying value
Available-for-sale securities						
Equity securities	–	–	14,540	14,540	14,540	14,540
Debt securities	131,040	131,040	7,637	7,637	138,676	138,676
Total available-for-sale securities	131,040	131,040	22,177	22,177	153,216	153,216
Fair value through profit or loss securities						
Equity securities	–	–	4,391	4,391	4,391	4,391
Debt securities	–	–	6,713	6,713	6,713	6,713
Total fair value through profit or loss securities	–	–	11,105	11,105	11,105	11,105
Held-to-maturity debt securities	2,702	2,074	55	43	2,757	2,117
Mortgage loans	6,351	5,935	–	–	6,351	5,935
Other loans[1]	8,987	7,534	66	66	9,053	7,600
Receivables	12,677	12,677	–	–	12,677	12,677
Derivative assets	–	–	1,226	1,226	1,226	1,226
Total financial assets	**161,757**	**159,260**	**34,629**	**34,618**	**196,386**	**193,878**

[1] Do not include policyholder loans, which will come under IFRS 17 and are therefore not applicable for IFRS 9, of USD 826 million and USD 674 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, 2018	SPPI		Other financial assets		Total	
	Fair value	Carrying value	Fair value	Carrying value	Fair value	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[2]	12,662	12,662	–	–	12,662	12,662
Derivative assets	–	–	899	899	899	899
Total financial assets	**155,376**	**153,030**	**30,822**	**30,849**	**186,198**	**183,879**

[1] 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.
[2] Include a reduction of USD 293 million compared to 2018, due to a reassessment resulting in those assets not being classified as SPPI.

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 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.

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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 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, 2019	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	130,333	130,333	505	505	202	202	131,040	131,040
Held-to-maturity debt securities	2,702	2,074	–	–	–	–	2,702	2,074
Mortgage loans	6,304	5,895	22	21	25	25	6,351	5,941
Other loans[1]	8,957	7,506	29	29	–	–	8,987	7,534
Receivables	1,873	1,908	10,761	10,924	43	109	12,677	12,941
Total financial assets	**150,170**	**147,716**	**11,317**	**11,478**	**269**	**336**	**161,757**	**159,530**

[1] Do not include policyholder loans, which will come under IFRS 17 and are therefore not applicable for IFRS 9, of USD 826 million and USD 674 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, 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[2]	1,632	1,642	10,937	11,127	92	136	12,662	12,905
Total financial assets	**143,540**	**141,212**	**11,517**	**11,706**	**318**	**362**	**155,376**	**153,280**

[1] 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.
[2] Include a reduction of USD 293 million in stage 2 compared to 2018, due to a reassessment resulting in those assets not being classified as SPPI.

25. Related-party transactions

In the normal course of business, the ZIC Group enters into various transactions with related parties. 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, or one other party controls both. Related parties of the ZIC Group include, among others, subsidiaries, associates, joint ventures, key management personnel, and the post-employment benefit plans (see note 20). Transactions between the ZIC Group and its subsidiaries are eliminated on consolidation, and they are not disclosed in the consolidated financial statements. A list of the ZIC Group's significant subsidiaries is shown in note 28. The transactions of the ZIC Group concluded with its associates and with its joint ventures are not considered material to the ZIC Group, either individually or in aggregate.

Table 25 summarizes related-party transactions with key management personnel reflected in the consolidated financial statements. Key management 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

in USD millions, for the years ended December 31	**2019**	2018
Remuneration of key personnel of the Group		
Cash compensation, current benefits and fees	32	30
Post-employment benefits	4	4
Share-based compensation	35	23
Other remuneration	5	3
Total remuneration of key personnel	**76**	**60**

As of December 31, 2019 and 2018, 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, 2019 and 2018. 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 5 million and USD 4 million for the years ended December 31, 2019 and 2018 respectively.

Information required by art. 14–16 of the Swiss Ordinance against Excessive Compensation and art. 663c paragraph 3 of the Swiss Code of Obligations is disclosed in the Remuneration report.

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 services to the Farmers Exchanges as their attorneys-in-fact, and also provide certain ancillary services to the Farmers Exchanges. Farmers Group Inc. is a wholly owned subsidiary of the Group. Attorney-in-fact 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, brand advertising and certain distribution related services that are not covered under the attorney-in-fact contracts for which FGI acts as a principal in arranging for those services to the Exchanges. 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, 2019 and 2018, FGI and its subsidiary held the following surplus note and certificates of contribution issued by the Farmers Exchanges. Originally these were purchased by FGI subsidiaries in order to supplement the policyholders' surplus of the Farmers Exchanges.

Certificates of contribution/surplus note

Table 26.1

in USD millions, as of December 31	2019	2018
3.758% surplus note, due December 2027	100	100
Various other certificates of contribution	23	23
Total	**123**	**123**

In March 2019, the Farmers Exchanges repaid a USD 0.5 million certificate of contribution at an 8.50 percent rate to the Fire Underwriters Association. 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 surplus note and certificates of contribution. 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 treaty with the Farmers Exchanges

The Farmers Exchanges cede risk through a quota share reinsurance treaty, the All Lines Quota Share reinsurance agreement (All Lines agreement) with Farmers Reinsurance Company (Farmers Re Co), a wholly owned subsidiary of FGI. The All Lines agreement can be terminated after 90 days' notice by any of the parties.

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.

Consolidated financial statements (continued)

Quota share reinsurance treaty

Table 26.2

in USD millions, for the years ended December 31	All Lines agreement 2019[1]	2018[2]
Net earned premiums and policy fees	197	193
Insurance benefits and losses, net[3]	(143)	(129)
Total net technical expenses[4]	(63)	(62)
Net underwriting result	**(9)**	**2**

[1] From January 1, 2019, Farmers Re Co assumed a 1.0 percent quota share. Another 28.0 percent was assumed by third parties. Effective December 31, 2019, Farmers Re participation in the All Lines agreement was reduced by 0.75 percent to 0.25 percent. Another 25.75 percent was assumed by third parties.
[2] From January 1, 2018, Farmers Re Co assumed a 1.0 percent quota share. Another 28.0 percent was assumed by third parties.
[3] Under the All Lines agreement, the Farmers Exchanges catastrophe losses are subject to a provisional maximum of 6.75 percent of net earned premiums dependent on loss experience and recoveries at a specified rate for each year. Based on the results for 2019, 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

Farmers Group, Inc. and its subsidiaries (FGI), wholly-owned subsidiaries of the Group, are the appointed attorneys-in-fact of the Farmers Exchanges, which are not owned by FGI. As the attorney-in-fact, FGI 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. This management fee, the primary source of revenue for FGI, has an agreed upon margin cap of 7% which is derived from FGI gross management result divided by the gross premium earned by the Farmers Exchanges. The expected revenues and expenses are assessed monthly to determine if expected revenues will be in excess of the cap, in which case the revenue is reduced on a pro-rata basis to ensure that no revenue is recognized for the amounts exceeding the cap. In addition, FGI revenue includes 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 20.4 billion and USD 20.2 billion for the years ended December 31, 2019 and 2018, respectively.

Farmers Management Services

Table 26.3

in USD millions, for the years ended December 31	2019	2018	Change
Management fees and other related revenues	3,780	3,204	18%
Management fees	2,804	2,796	
Revenues for ancillary services[1]	858	287	
Membership fees	60	60	
Other revenues	58	62	
Management and other related expenses	2,356	1,792	31%
Expenses for ancillary services[1]	858	287	
Management and other expenses	1,498	1,505	
Gross management result	**1,424**	**1,412**	**1%**
Managed gross earned premium margin	7.0%	7.0%	0.0 pts

[1] 2019 balance includes additional effect of adoption of IFRS 15 'Revenue from Contracts with Customers.'

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 services 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.

In 2019 the Group amended its BOP policy to exclude the monetary gains and losses resulting from the application of IAS 29 'Financial Reporting in Hyperinflationary Economies.' 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 years ended December 31	Europe, Middle East & Africa		North America	
	2019	2018	**2019**	2018
Revenues				
Direct written premiums	12,722	12,955	14,389	13,912
Assumed written premiums	1,836	1,645	833	804
Gross written premiums and policy fees	14,558	14,600	15,223	14,716
Less premiums ceded to reinsurers	(2,739)	(2,389)	(5,551)	(4,988)
Net written premiums and policy fees	11,818	12,211	9,672	9,728
Net change in reserves for unearned premiums	(327)	(125)	(116)	277
Net earned premiums and policy fees	11,491	12,086	9,556	10,005
Net investment income on Group investments	578	621	1,081	1,026
Net capital gains/(losses) and impairments on Group investments	37	(8)	174	(40)
Net investment result on Group investments	615	613	1,255	986
Other income	355	320	79	50
Total BOP revenues	12,461	13,019	10,890	11,041
Benefits, losses and expenses				
Insurance benefits and losses, net	7,438	7,884	6,555	7,109
Policyholder dividends and participation in profits, net	7	8	8	10
Underwriting and policy acquisition costs, net	2,168	2,315	2,295	2,318
Administrative and other operating expense (excl. depreciation/amortization)	1,458	1,741	309	515
Interest credited to policyholders and other interest	172	181	66	(23)
Restructuring costs and other items not included in BOP	(100)	(108)	(23)	(110)
Total BOP benefits, losses and expenses (before interest, depreciation and amortization)	11,142	12,022	9,210	9,819
Business operating profit (before interest, depreciation and amortization)	**1,318**	**998**	**1,681**	**1,222**
Depreciation and impairments of property and equipment	92	36	66	37
Amortization and impairments of intangible assets	83	76	37	84
Interest expense on debt	18	16	–	1
Business operating profit before non-controlling interests	1,125	869	1,578	1,099
Non-controlling interests	8	18	–	–
Business operating profit	**1,117**	**851**	**1,578**	**1,099**

Consolidated financial statements (continued)

Asia Pacific		Latin America		Group Reinsurance		Eliminations		Total	
2019	2018	**2019**	2018	**2019**	2018	**2019**	2018	**2019**	2018
2,851	2,646	2,790	2,627	–	–	–	–	32,752	32,139
179	212	81	77	593	364	(2,091)	(1,736)	1,432	1,366
3,030	2,858	2,871	2,704	593	364	(2,091)	(1,736)	34,184	33,505
(505)	(486)	(583)	(466)	(534)	(447)	2,091	1,736	(7,822)	(7,041)
2,525	2,372	2,289	2,237	59	(83)	–	–	26,362	26,465
(75)	(122)	(132)	(93)	(104)	28	–	–	(754)	(34)
2,449	2,250	2,157	2,145	(45)	(55)	–	–	25,608	26,431
74	68	217	204	11	13	–	–	1,961	1,932
–	–	–	–	–	–	–	–	211	(48)
74	68	217	204	11	13	–	–	2,171	1,884
145	137	59	32	30	62	–	–	668	601
2,669	2,454	2,432	2,381	(4)	21	–	–	28,447	28,916
1,358	1,304	840	960	285	35	–	–	16,475	17,291
–	–	–	1	(2)	–	–	–	12	19
579	580	910	916	(13)	7	–	–	5,939	6,136
441	463	354	239	9	33	–	–	2,571	2,992
4	1	32	–	(3)	(4)	–	–	271	156
(7)	(13)	(50)	9	–	–	–	–	(180)	(221)
2,376	2,335	2,086	2,126	274	72	–	–	25,088	26,373
293	**120**	**346**	**255**	**(279)**	**(51)**	**–**	**–**	**3,359**	**2,543**
37	18	18	6	1	3	–	–	214	101
19	16	13	10	–	–	–	–	151	187
–	–	1	–	12	37	–	–	32	55
237	86	315	238	(292)	(92)	–	–	2,962	2,200
1	–	76	97	–	–	–	–	84	115
236	**86**	**240**	**141**	**(292)**	**(92)**	**–**	**–**	**2,878**	**2,085**

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	
	2019	2018	**2019**	2018
Revenues				
Life insurance deposits	13,839	16,025	778	227
Gross written premiums	8,025	8,509	122	80
Policy fees	1,564	1,594	339	326
Gross written premiums and policy fees	9,589	10,103	461	407
Net earned premiums and policy fees	8,899	9,439	447	392
Net investment income on Group investments	2,313	2,474	34	22
Net capital gains/(losses) and impairments on Group investments	798	367	16	(11)
Net investment result on Group investments	3,111	2,840	49	11
Net investment income on unit-linked investments	1,278	1,375	–	–
Net capital gains/(losses) and impairments on unit-linked investments	15,236	(6,534)	676	(29)
Net investment result on unit-linked investments	16,514	(5,159)	676	(29)
Other income	369	458	41	36
Total BOP revenues	28,893	7,579	1,214	408
Benefits, losses and expenses				
Insurance benefits and losses, net	7,571	7,774	352	267
Policyholder dividends and participation in profits, net	17,537	(3,596)	676	(29)
Income tax expense/(benefit) attributable to policyholders	333	(171)	–	–
Underwriting and policy acquisition costs, net	917	925	123	68
Administrative and other operating expense (excl. depreciation/amortization)	1,255	1,302	54	57
Interest credited to policyholders and other interest	212	218	39	8
Restructuring costs and other items not included in BOP	(99)	(47)	–	–
Total BOP benefits, losses and expenses (before interest, depreciation and amortization)	27,725	6,404	1,244	372
Business operating profit (before interest, depreciation and amortization)	**1,168**	**1,175**	**(29)**	**37**
Depreciation and impairments of property and equipment	23	12	–	–
Amortization and impairments of intangible assets	54	103	–	5
Interest expense on debt	2	4	–	–
Business operating profit before non-controlling interests	1,089	1,056	(30)	31
Non-controlling interests	52	46	–	–
Business operating profit	**1,037**	**1,010**	**(30)**	**31**

Life includes approximately USD 1.4 billion and USD 2.3 billion of gross written premiums and future life policyholder benefits for certain universal life-type contracts in the Group's Spanish operations for the years ended December 31, 2019 and 2018, respectively.

Consolidated financial statements (continued)

Asia Pacific		Latin America		Group Reinsurance		Eliminations		Total	
2019	2018	**2019**	2018	**2019**	2018	**2019**	2018	**2019**	2018
87	103	3,624	2,339	–	–	–	–	18,328	18,694
1,892	1,249	3,009	2,831	28	20	(37)	(28)	13,038	12,662
163	130	46	43	–	–	–	–	2,113	2,093
2,055	1,379	3,056	2,874	28	20	(37)	(28)	15,151	14,754
1,756	1,199	2,562	2,473	19	12	–	–	13,683	13,514
179	152	392	390	–	–	(2)	(2)	2,915	3,035
59	(35)	32	18	–	–	–	–	906	338
238	117	424	407	–	–	(2)	(2)	3,821	3,373
99	104	36	22	–	–	–	–	1,413	1,501
126	(163)	1,256	990	–	–	–	–	17,293	(5,737)
225	(60)	1,292	1,012	–	–	–	–	18,706	(4,236)
23	25	85	64	–	–	(1)	(1)	518	582
2,242	1,281	4,363	3,956	19	12	(3)	(3)	36,728	13,234
1,004	522	1,259	1,137	5	2	–	–	10,190	9,702
268	(21)	1,288	1,006	–	–	–	–	19,769	(2,640)
32	(12)	–	–	–	–	–	–	365	(183)
279	220	1,092	1,037	8	2	(1)	(1)	2,417	2,252
457	337	248	174	1	–	–	–	2,015	1,871
26	35	26	20	–	–	–	–	303	282
(63)	(12)	(66)	10	–	–	–	–	(228)	(50)
2,003	1,070	3,847	3,385	13	4	(1)	(1)	34,831	11,234
239	**212**	**515**	**571**	**6**	**8**	**(2)**	**(2)**	**1,897**	**2,000**
8	3	7	3	–	–	–	–	39	17
11	12	14	12	–	–	–	–	80	133
16	13	–	–	–	–	(2)	(2)	17	15
202	183	494	556	6	8	–	–	1,761	1,834
(2)	(2)	225	237	–	–	–	–	275	281
204	**186**	**269**	**319**	**6**	**8**	**–**	**–**	**1,486**	**1,554**

Consolidated financial statements (continued)

Business operating profit by business

Table 27.3

in USD millions, for the years ended December 31

	Property & Casualty		Life	
	2019	2018	**2019**	2018
Revenues				
Direct written premiums	32,752	32,139	12,706	12,310
Assumed written premiums	1,432	1,366	332	352
Gross Written Premiums	34,184	33,505	13,038	12,662
Policy fees	–	–	2,113	2,093
Gross written premiums and policy fees	34,184	33,505	15,151	14,754
Less premiums ceded to reinsurers	(7,822)	(7,041)	(1,193)	(1,038)
Net written premiums and policy fees	26,362	26,465	13,958	13,717
Net change in reserves for unearned premiums	(754)	(34)	(275)	(202)
Net earned premiums and policy fees	25,608	26,431	13,683	13,514
Farmers management fees and other related revenues	–	–	–	–
Net investment income on Group investments	1,961	1,932	2,915	3,035
Net capital gains/(losses) and impairments on Group investments	211	(48)	906	338
Net investment result on Group investments	2,171	1,884	3,821	3,373
Net investment result on unit-linked investments	–	–	18,706	(4,236)
Other income	668	601	518	582
Total BOP revenues	28,447	28,916	36,728	13,234
of which: inter-business revenues	(602)	(143)	(195)	(141)
Benefits, losses and expenses				
Losses and loss adjustment expenses, net	16,477	17,293	–	–
Life insurance death and other benefits, net	(1)	(2)	10,190	9,702
Insurance benefits and losses, net	16,475	17,291	10,190	9,702
Policyholder dividends and participation in profits, net	12	19	19,769	(2,640)
Income tax expense/(benefit) attributable to policyholders	–	–	365	(183)
Underwriting and policy acquisition costs, net	5,939	6,136	2,417	2,252
Administrative and other operating expense (excl. depreciation/amortization)	2,571	2,992	2,015	1,871
Interest credited to policyholders and other interest	271	156	303	282
Restructuring costs and other items not included in BOP	(180)	(221)	(228)	(50)
Total BOP benefits, losses and expenses (before interest, depreciation and amortization)	25,088	26,373	34,831	11,234
Business operating profit (before interest, depreciation and amortization)	**3,359**	**2,543**	**1,897**	**2,000**
Depreciation and impairments of property and equipment	214	101	39	17
Amortization and impairments of intangible assets	151	187	80	133
Interest expense on debt	32	55	17	15
Business operating profit before non-controlling interests	2,962	2,200	1,761	1,834
Non-controlling interests	84	115	275	281
Business operating profit	**2,878**	**2,085**	**1,486**	**1,554**

Life includes approximately USD 1.4 billion and USD 2.3 billion of gross written premiums and future life policyholder benefits for certain universal life-type contracts in the Group's Spanish operations for the years ended December 31, 2019 and 2018, respectively.

Consolidated financial statements (continued)

Farmers 2019	Farmers 2018	Group Functions and Operations 2019	Group Functions and Operations 2018	Non-Core Businesses 2019	Non-Core Businesses 2018	Eliminations 2019	Eliminations 2018	Total 2019	Total 2018
593	580	–	–	58	42	–	–	46,109	45,071
138	194	–	5	552	64	(507)	(14)	1,947	1,967
731	774	–	5	610	106	(507)	(14)	48,056	47,038
326	321	–	–	30	34	–	–	2,469	2,447
1,056	1,095	–	5	640	140	(507)	(14)	50,525	49,485
(175)	(179)	–	–	(591)	(11)	507	14	(9,274)	(8,255)
882	916	–	5	50	129	–	–	41,251	41,230
59	(1)	–	–	21	12	–	–	(949)	(224)
941	915	–	5	71	141	–	–	40,302	41,007
3,780	3,204	–	–	–	–	–	–	3,780	3,204
204	213	195	197	195	221	(174)	(212)	5,296	5,385
3	(1)	–	–	128	(109)	–	–	1,248	181
207	211	195	197	323	112	(174)	(212)	6,544	5,565
194	(52)	–	–	584	(86)	–	–	19,485	(4,374)
123	95	218	194	48	33	(448)	(425)	1,127	1,080
5,245	4,373	413	397	1,026	200	(622)	(637)	71,237	46,482
(39)	(51)	(261)	(282)	475	(20)	622	637	–	–
143	129	–	1	47	(27)	–	–	16,666	17,397
419	434	–	–	295	116	–	–	10,903	10,250
562	563	–	1	342	89	–	–	27,570	27,646
204	(43)	–	–	597	(72)	–	–	20,582	(2,736)
–	–	–	–	–	–	–	–	365	(183)
152	167	2	–	20	10	–	–	8,529	8,565
2,333	1,800	487	410	69	73	(70)	6	7,404	7,151
111	95	150	135	37	44	(282)	(279)	590	433
(17)	(49)	(47)	(43)	(4)	(1)	–	–	(476)	(364)
3,345	2,533	592	503	1,060	143	(352)	(273)	64,564	40,512
1,900	**1,840**	**(179)**	**(107)**	**(34)**	**57**	**(270)**	**(364)**	**6,673**	**5,969**
69	45	10	9	–	–	–	–	331	173
125	152	30	30	–	–	–	–	386	501
–	–	604	676	20	20	(270)	(364)	402	403
1,707	1,643	(822)	(822)	(54)	37	–	–	5,553	4,893
78	74	–	–	–	–	–	–	437	470
1,629	**1,569**	**(822)**	**(822)**	**(54)**	**37**	**–**	**–**	**5,116**	**4,423**

Consolidated financial statements (continued)

Reconciliation of BOP to net income after income taxes

Table 27.4

in USD millions, for the years ended December 31

	Property & Casualty		Life	
	2019	2018	**2019**	2018
Business operating profit	**2,878**	**2,085**	**1,486**	**1,554**
Revenues/(expenses) not included in BOP:				
Net capital gains/(losses) on investments and impairments, net of policyholder allocation	716	481	204	197
Net gains/(losses) on divestment of businesses[1]	(198)	(19)	(146)	(5)
Restructuring costs	(104)	(212)	(44)	(67)
Other adjustments[2]	(77)	(9)	(184)	18
Add back:				
Business operating profit attributable to non-controlling interests	84	115	275	281
Net income before shareholders' taxes	3,300	2,441	1,591	1,977
Income tax expense/(benefit) attributable to policyholders	–	–	365	(183)
Net income before income taxes	**3,300**	**2,441**	**1,956**	**1,794**
Income tax (expense)/benefit				
attributable to policyholders				
attributable to shareholders				
Net income after taxes				
attributable to non-controlling interests				
attributable to shareholders				

[1] In 2019, Property & Casualty included losses of USD 217 million related to the sale of the Venezuelan operations offset by gains of USD 19 million related to the sale of ADAC Autoversicherung AG, Life included losses of USD 167 million for re-measurements of assets held for sale based on agreements to sell businesses in the UK and USD 43 million related to the sale of the Venezuelan operations offset by gains of USD 24 million related to the sale of the UK Life portfolio and gains of USD 39 million related to the sale of Bonnfinanz AG, Group Functions and Operations included gains of USD 44 million for re-measurements of assets held for sale based on agreements to sell businesses in the UK (see note 5). 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.

[2] Other adjustments in 2019 include charges related to the implementation of IFRS 17, business combination integration costs and monetary losses related to hyperinflation accounting in relation to the ZIC Group's operations in Argentina.

Consolidated financial statements (continued)

	Farmers		Group Functions and Operations		Non-Core Businesses		Total	
	2019	2018	**2019**	2018	**2019**	2018	**2019**	2018
	1,629	**1,569**	**(822)**	**(822)**	**(54)**	**37**	**5,116**	**4,423**
	5	28	(254)	(8)	70	24	742	722
	–	–	49	16	–	(15)	(295)	(24)
	(9)	(45)	–	(25)	(4)	(1)	(160)	(350)
	(8)	(4)	(47)	(18)	–	–	(316)	(14)
	78	74	–	–	–	–	437	470
	1,695	1,622	(1,074)	(857)	12	45	5,524	5,227
	–	–	–	–	–	–	365	(183)
	1,695	**1,622**	**(1,074)**	**(857)**	**12**	**45**	**5,889**	**5,044**
							(1,706)	(1,126)
							(365)	183
							(1,341)	(1,310)
							4,183	**3,917**
							297	320
							3,885	3,597

Consolidated financial statements (continued)

Assets and liabilities by business

Table 27.5

in USD millions, as of December 31

	Property & Casualty		Life	
	2019	2018	**2019**	2018
Assets				
Cash and cash equivalents	6,136	7,402	4,309	4,575
Total Group Investments	70,119	70,140	111,275	101,292
Equity securities	8,517	8,351	8,751	7,047
Debt securities	51,795	51,773	82,275	74,750
Investment property	5,048	4,884	7,838	7,309
Mortgage loans	1,055	1,236	4,322	4,743
Other loans	3,701	3,894	8,073	7,428
Investments in associates and joint ventures	2	2	16	14
Investments for unit-linked contracts	–	–	121,390	104,695
Total investments	70,119	70,140	232,665	205,988
Reinsurers' share of liabilities for insurance contracts	14,859	14,454	2,714	1,803
Deposits made under assumed reinsurance contracts	191	172	65	57
Deferred policy acquisition costs	5,694	5,367	11,695	12,350
Deferred origination costs	–	–	400	419
Goodwill	1,531	1,492	1,197	271
Other intangible assets	1,729	1,587	2,133	2,466
Other assets[1]	16,226	15,619	7,002	29,389
Total assets (after cons. of investments in subsidiaries)	**116,485**	**116,233**	**262,181**	**257,319**
Liabilities				
Liabilities for investment contracts	–	–	61,366	51,042
Liabilities for insurance contracts, gross	77,643	78,041	168,114	152,787
Reserves for losses and loss adjustment expenses, gross	57,473	58,835	–	–
Reserves for unearned premiums, gross	17,523	16,620	–	1
Future life policyholder benefits, gross	30	32	72,151	69,420
Policyholder contract deposits and other funds, gross	15	30	21,498	18,284
Reserves for unit-linked insurance contracts, gross	–	–	72,863	64,168
Other insurance liabilities, gross	2,602	2,524	1,603	914
Senior debt	621	719	657	681
Subordinated debt	953	918	647	612
Other liabilities[1]	12,909	13,637	13,387	36,829
Total liabilities	**92,126**	**93,315**	**244,171**	**241,951**
Equity				
Shareholders' equity				
Non-controlling interests				
Total equity				
Total liabilities and equity				
Supplementary information				
Additions and capital improvements to property, equipment and intangible assets	695	816	172	99

[1] In 2019, the ZIC Group reclassified USD 2 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 38 million. In 2018, the ZIC Group reclassified USD 24 billion 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.

Consolidated financial statements (continued)

	Farmers		Group Functions and Operations		Non-Core Businesses		Eliminations		Total
2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
1,102	1,428	8,110	10,277	755	1,379	(12,426)	(16,366)	7,986	8,695
5,488	5,348	9,936	10,435	5,735	6,077	(8,604)	(9,950)	193,948	183,341
49	65	1,460	1,325	155	126	–	–	18,932	16,915
3,821	3,462	5,467	6,030	4,562	4,841	(412)	(987)	147,507	139,870
142	133	–	–	233	25	–	–	13,261	12,351
559	577	–	–	–	–	–	–	5,935	6,556
918	1,110	2,991	3,063	783	1,081	(8,192)	(8,963)	8,274	7,614
–	–	17	16	3	3	–	–	39	36
932	746	–	–	3,889	3,852	–	–	126,211	109,294
6,420	6,094	9,936	10,435	9,624	9,928	(8,604)	(9,950)	320,158	292,635
2,142	2,242	–	–	3,459	2,765	(422)	(67)	22,752	21,197
229	400	–	–	258	254	(17)	–	726	883
1,811	1,818	–	–	4	2	2	3	19,207	19,541
–	–	–	–	–	–	–	–	400	419
819	819	63	52	–	–	–	–	3,610	2,634
388	402	83	88	–	–	–	–	4,333	4,542
1,854	1,657	1,588	868	2,926	1,670	(3,376)	(3,708)	26,220	45,496
14,765	**14,860**	**19,779**	**21,719**	**17,027**	**15,998**	**(24,843)**	**(30,087)**	**405,393**	**396,042**
225	213	–	–	170	184	–	–	61,761	51,439
7,364	7,311	3	27	11,463	11,139	(447)	(96)	264,140	249,208
316	467	1	23	1,792	1,649	(417)	(61)	59,165	60,913
20	79	–	2	10	14	(2)	(2)	17,551	16,714
2,200	2,151	2	2	3,376	3,348	(2)	(4)	77,756	74,950
3,867	3,882	–	–	2,101	2,071	–	–	27,480	24,266
932	746	–	–	3,889	3,852	–	–	77,684	68,766
29	(16)	–	–	296	206	(25)	(29)	4,505	3,599
–	–	9,709	11,160	274	273	(6,013)	(7,497)	5,247	5,336
–	–	7,726	7,579	–	–	(2,475)	(2,334)	6,852	6,775
2,020	1,756	14,159	14,650	4,322	4,523	(15,911)	(20,159)	30,886	51,234
9,610	**9,279**	**31,597**	**33,416**	**16,228**	**16,118**	**(24,846)**	**(30,087)**	**368,886**	**363,992**
								34,305	29,844
								2,203	2,206
								36,507	32,050
								405,393	**396,042**
171	181	68	56	–	–	–	–	1,105	1,152

Consolidated financial statements (continued)

Table 27.6

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

in USD millions, for the years ended December 31	Commercial Insurance		Retail and Other Insurance	
	2019	2018	**2019**	2018
Gross written premiums and policy fees	16,279	15,450	19,419	19,443
Net earned premiums and policy fees	9,874	10,425	15,779	16,061
Insurance benefits and losses, net	7,157	8,071	9,034	9,185
Policyholder dividends and participation in profits, net	9	14	6	5
Total net technical expenses	2,584	2,776	5,725	5,872
Net underwriting result	124	(437)	1,015	1,000
Net investment income	1,231	1,180	719	739
Net capital gains/(losses) and impairments on investments	166	(37)	45	(11)
Net non-technical result (excl. items not included in BOP)	7	(92)	(51)	(51)
Business operating profit before non-controlling interests	1,528	614	1,727	1,677
Non-controlling interest	1	10	83	106
Business operating profit	**1,527**	**605**	**1,644**	**1,572**

[1] Commercial and Retail Insurance overview exclude Group Reinsurance.

Consolidated financial statements (continued)

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	
	2019	2018	**2019**	2018	**2019**	2018	**2019**	2018
Europe								
Austria	593	597					55	40
France	303	302					1	1
Germany	2,531	2,787					643	117
Italy	1,485	1,501					49	30
Ireland	363	369					85	46
Portugal	337	312					16	15
Spain	1,272	1,188					288	300
Switzerland	2,971	2,905					708	507
United Kingdom	2,938	2,986					172	115
Rest of Europe	685	700					83	79
Middle East & Africa								
Middle East	115	97					–	–
Europe, Middle East & Africa	13,592	13,744	5,044	4,798	8,548	8,946	2,099	1,249
North America								
Bermuda	7	–					–	–
Canada	590	464					17	8
United States	14,183	13,846					1,162	716
North America	14,780	14,310	7,867	7,600	6,913	6,710	1,178	724
Asia Pacific								
Australia	1,015	933					786	748
Hong Kong	307	300					44	26
Japan	874	830					29	21
Malaysia	343	292					61	46
Rest of Asia Pacific	342	323					10	4
Asia Pacific	2,881	2,678	909	887	1,973	1,791	930	844
Latin America								
Argentina	570	615					207	187
Brazil	1,182	1,117					515	549
Chile	366	342					24	19
Mexico	628	605					170	148
Venezuela	2	11					–	–
Rest of Latin America	180	74					58	40
Latin America	2,927	2,765	941	770	1,985	1,995	974	942
Group Reinsurance								
Group Reinsurance	4	9	–	–	4	9	2	7
Total	**34,184**	**33,505**	**14,761**	**14,054**	**19,423**	**19,451**	**5,184**	**3,766**

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	
	2019	2018	**2019**	2018	**2019**	2018
Europe, Middle East & Africa						
Austria	107	136	52	53	25	25
Germany	2,273	1,811	1,776	2,076	71	290
Italy	871	1,010	2,699	1,834	38	45
Ireland[1]	577	625	3,276	3,389	88	5
Spain	2,090	3,004	59	30	1,083	1,188
Switzerland	1,285	1,217	241	201	3	3
United Kingdom	1,642	1,690	3,971	6,782	136	132
Zurich International[2]	513	423	1,260	1,480	58	37
Rest of Europe, Middle East & Africa	206	167	505	179	4	5
Europe, Middle East & Africa	9,563	10,083	13,839	16,025	1,506	1,731
North America						
United States	461	407	778	227	–	1
North America	461	407	778	227	–	1
Asia Pacific						
Australia	1,179	515	11	25	1,182	194
Hong Kong	56	66	20	22	–	–
Indonesia	62	50	–	–	2	1
Japan	407	328	–	–	15	14
Malaysia	237	228	55	55	91	81
Rest of Asia Pacific[3]	114	191	–	–	–	–
Asia Pacific	2,055	1,379	87	103	1,290	291
Latin America						
Argentina	90	105	80	89	41	9
Brazil	1,437	1,398	3,246	2,130	329	354
Chile	1,075	965	168	81	344	360
Mexico	412	379	131	39	113	111
Uruguay	42	26	–	–	–	–
Latin America	3,056	2,874	3,624	2,339	827	834
Total	**15,135**	**14,742**	**18,328**	**18,694**	**3,624**	**2,857**

[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.

Consolidated financial statements (continued)

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, 2019	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	476.5
Zurich Australian Insurance Limited	Sydney	100	100	AUD	6.6
Zurich Financial Services Australia Limited	Sydney	100	100	AUD	2,674.9
OnePath Life Limited	Sydney	100	100	AUD	1,219.4
OnePath Life Australia Holdings Pty Limited	Sydney	100	100	AUD	2,470.7
Austria					
Zürich Versicherungs-Aktiengesellschaft	Vienna	99.98	99.98	EUR	12.0
Brazil					
Zurich Santander Brasil Seguros e Previdência S.A.[1]	Sao Paulo	51	51	BRL	2,509.2
Zurich Minas Brasil Seguros S.A.	Belo Horizonte	100	100	BRL	2,476.0
Zurich Resseguradora Brasil S.A.	Sao Paulo	100	100	BRL	204.0
Chile					
Chilena Consolidada Seguros de Vida S.A.	Santiago	98.98	98.98	CLP	179,682.6
Zurich Santander Seguros de Vida Chile S.A.[1]	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	1,446.8
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	51	51	MXN	190.0

Consolidated financial statements (continued)

Significant subsidiaries – non-listed (continued)

Table 28.1

as of December 31, 2019	Registered office	Voting rights %	Ownership interest %	Nominal value of share capital (in local currency millions)	
Spain					
Bansabadell Pensiones, E.G.F.P, S.A.	Madrid	50	50	EUR	7.8
Bansabadell Seguros Generales, S.A. de Seguros y Reaseguros	Madrid	50	50	EUR	10.0
Bansabadell Vida S.A. de Seguros y Reaseguros	Madrid	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.[1]	Boadilla del Monte	51	51	EUR	94.3
Zurich Santander Holding Dos (Spain), S.L.[1]	Madrid	51	51	EUR	40.0
Zurich Santander Insurance America, S.L.[1]	Madrid	51	51	EUR	177.0
Zurich Vida, Compañía de Seguros y Reaseguros, S.A. – Sociedad Unipersonal	Madrid	100	100	EUR	56.4
Switzerland					
Zurich Finance Company AG	Zurich	100	100	CHF	0.2
Zurich Insurance Company Ltd	Zurich	100	100	CHF	825.0
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, Jersey	100	100	GBP	477.6
Zurich Assurance Ltd	Cheltenham, England	100	100	GBP	236.1
Zurich Employment Services Limited	Cheltenham, England	100	100	GBP	254.1
Zurich Financial Services (UKISA) Limited	Cheltenham, England	100	100	GBP	1,340.8
Zurich Holdings (UK) Limited	Fareham, England	100	100	GBP	200.8
Zurich International Life Limited	Douglas, Isle of Man	100	100	GBP	123.4
Zurich UK General Services Limited	Fareham, England	100	100	GBP	343.2

Consolidated financial statements (continued)

Significant subsidiaries – non-listed (continued)

Table 28.1

as of December 31, 2019	Registered office	Voting rights %	Ownership interest %	Nominal value of share capital (in local currency millions)	
United States of America					
Farmers Group, Inc.[2]	Carson City, NV	87.90	95.38	USD	0.001
Farmers Reinsurance Company[2]	Woodland Hills, CA	87.90	95.38	USD	58.8
Farmers New World Life Insurance Company[2]	Bellevue, WA	87.90	95.38	USD	6.6
Zurich American Company, LLC	Wilmington, DE	100	100	USD	0.00001
Zurich American Insurance Company	New York, NY	100	100	USD	5.0
Zurich American Life Insurance Company	Schaumburg, IL	100	100	USD	2.5
Zurich Holding Company of America, Inc.[3]	Wilmington, DE	100	100	USD	0.0
ZCM Matched Funding Corp.	George Town, Cayman Islands	100	100	USD	0.00001
Centre Group Holdings (U.S.) Limited	Wilmington, DE	100	100	USD	0.00001
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] Entities 100% owned by a ZIC subsidiary which is 51% owned by ZIC.
[2] 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.
[3] 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 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	
	2019	2018	**2019**	2018
Non-controlling interests percentage	49%	49%	50%	50%
Total Investments	15,395	13,284	11,023	10,706
Other assets	3,365	3,165	1,672	1,614
Insurance and investment contract liabilities[1]	16,285	14,093	11,046	10,699
Other liabilities	955	882	375	318
Net assets	**1,520**	**1,474**	**1,275**	**1,302**
Non-controlling interests in net assets	**745**	**722**	**637**	**651**
Total revenues	3,099	2,943	2,196	3,039
Net income after taxes	391	418	90	73
Other comprehensive income	7	(204)	15	(31)
Total comprehensive income	**398**	**214**	**105**	**42**
Non-controlling interests in total comprehensive income	**195**	**105**	**52**	**21**
Dividends paid to non-controlling interests	186	201	38	–

[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 17, 2020, the ZIC Group announced the successful placement of CHF 250 million of senior unsecured notes. The notes are issued by Zurich Insurance Company Ltd and will mature in August 2032.

On February 18, 2020, the ZIC Group announced the successful placement of USD 200 million of senior unsecured notes. The notes will be issued by Zurich Holding Company of America Inc and will mature in February 2030.

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 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 income statement and consolidated statement of comprehensive income for the year ended December 31, 2019, the consolidated balance sheet as of December 31, 2019, the consolidated statement of cash flows and consolidated statement of changes in equity for the year ended December 31, 2019, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements (pages 33 to 141 and the risk review on pages 3 to 23) give a true and fair view of the consolidated financial position of the ZIC Group as at December 31, 2019 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 240 million

We concluded full scope audit work at 21 business units in 8 countries. The full scope audit work addressed 70% and 70% 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 12 business units in 8 countries representing a further 7% and 10% of the ZIC Group's GWP and total assets, respectively.

The following key audit matters have been identified:

– Valuation of actuarially determined life insurance assets and liabilities
– Valuation of property and casualty reserves
– Recoverability of goodwill and attorney-in-fact contracts

Report of the statutory auditor (continued)

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 judgement, we determined certain quantitative thresholds for materiality, including the overall ZIC Group audit 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 ZIC group audit materiality	USD 240 million
How we determined it	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 240 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 other 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.

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 21 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 12 business units. Together the full scope audits and specific audit procedures accounted for 77% and 80% of the 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.

Report of the statutory auditor (continued)

Key audit matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

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 behavior 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, which results in reduced investment returns, influences policyholders' behaviors, thereby 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 experts 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.
- 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 industry accepted practice.

Report of the statutory auditor (continued)

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 those with 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 analyze claims through claims data plausibility checks and recalculation of claims development patterns.
- Involving our actuarial experts 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 experts 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 evaluating the appropriateness of any significant adjustments made by management relating to property and casualty reserve estimates.

Based on the work performed we determined that the methodologies, assumptions and underlying data used in the valuation of property and casualty reserves are reasonable and in line with industry accepted practice.

Report of the statutory auditor (continued)

Recoverability of goodwill 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. Acquisitions which closed in 2019 have added substantial amounts of goodwill. The valuation and recoverability of significant goodwill 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 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 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, 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 consider Management's impairment testing including the assumptions used to support the carrying value of goodwill and attorney-in-fact contracts as reasonable.

Report of the statutory auditor (continued)

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 stand-alone financial statements of Zurich Insurance Company Ltd, the risk review on pages 3 to 23 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 4, 2020

Financial statements – statutory accounts

Board of Directors and auditors, as of December 31, 2019

Board of Directors and auditors

	Residence	Expiration of current term of office
Board of Directors		
Michel M. Liès, Chairman	Zollikon, Switzerland	2020
Christoph Franz, Vice Chairman	Zug, Switzerland	2020
Joan Amble	Darien, CT, USA	2020
Catherine Bessant	Charlotte, NC, USA	2020
Alison Carnwath	Devon, United Kingdom	2020
Michael Halbherr	Berlin, Germany	2020
Jeffrey Hayman	Moorestown, NJ, USA	2020
Monica Mächler	Pfäffikon, SZ, Switzerland	2020
Kishore Mahbubani	Singapore, Singapore	2020
Jasmin Staiblin	Pfäffikon, SZ, Switzerland	2020
Barry Stowe	Nashville, TN, USA	2020
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.

Financial statements – statutory accounts (continued)

Management report

Zurich Insurance Company Ltd (ZIC or the Company) is a corporation 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 and Casualty (P&C) 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 3.7 billion in 2019, a 11 percent increase compared to 2018. This increase was mainly driven by a higher net investment result of CHF 1.0 billion, partially offset by a lower net underwriting result of CHF 600 million.

Total gross written premiums and policy fees increased by CHF 186 million or 1 percent to CHF 14.3 billion for the year ended December 31, 2019. In local currency, gross written premiums and policy fees increased by 2 percent or CHF 278 million. Direct gross written premiums and policy fees increased by CHF 261 million to CHF 4.4 billion mainly due to growth in Canada, Japan and Switzerland. Assumed gross written premiums and policy fees decreased by CHF 75 million to CHF 9.9 billion mainly due to the non-renewal of a Group internal reinsurance contract with Zurich American Life Insurance Company, partially offset by additional reinsurance treaties.

The net insurance reserves decreased by CHF 2.3 billion compared with the year ended December 31, 2018, mainly reflecting the termination of the Whole Account Quota Share (WAQS) reinsurance treaty with Zurich American Insurance Company in 2018, which is now in run-off, as well as the commutation of a reinsured legacy portfolio with Zurich Insurance plc.

The net investment result increased by CHF 1.0 billion to CHF 4.8 billion, mainly due to the overall improvement in the equity securities markets during 2019. This was partially offset by lower income from investments in subsidiaries and associates.

Shareholder's equity increased by CHF 964 million to CHF 25.9 billion for the year ended December 31, 2019, from CHF 25.0 billion for the year ended December 31, 2018. This increase reflects the net income after taxes of CHF 3.7 billion, partially offset by the dividend payment to Zurich Insurance Group Ltd of CHF 2.8 billion in 2019, which was approved at the Annual General Meeting on April 3, 2019.

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 23 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 services and ancillary services to the Farmers Exchanges as attorney-in-fact and receives fees for its services.

Financial statements – statutory accounts (continued)

Throughout 2019, the Company has further simplified its business and operations, increased innovation and strengthened its customer focus. The business has been further strengthened through targeted acquisitions.

On September 27, 2018, the Company entered into agreements to acquire 80 percent of PT Asuransi Adira Dinamika (Adira Insurance), a General Insurance provider, from PT Bank Danamon Indonesia (Bank Danamon) and a minority investor. The book value for this investment in subsidiaries amounts to CHF 467 million as of December 31, 2019, including potential future incremental payments based on business performance. The agreement includes a 20-year distribution agreement. The acquisition was completed on November 27, 2019.

On February 1, 2019, ZIC acquired ZLS Aseguradora de Colombia S.A. as the final part of the QBE Insurance Group Limited acquisition for an amount of CHF 19 million.

On December 11, 2017, the Group announced that it had entered into an agreement to acquire 100 percent of the Australian life and consumer credit insurance business (OnePath Life and OnePath General Insurance, hereafter OnePath) of Australia and New Zealand Banking Group Limited (ANZ). In order to get early exposure to a portion of OnePath's earnings, ZIC entered into a quota share agreement to reinsure the existing death, disability and critical illness of OnePath as of May 1, 2018, for an upfront commission payment of CHF 703 million. On May 31, 2019, the Group completed its acquisition of OnePath for USD 1.4 billion, subject to purchase price adjustments. OnePath is held as an indirect subsidiary of the Company.

In 2020, the Company is expected to further improve its performance supported by growth in the business and increased pricing in key P&C markets.

Financial statements – statutory accounts (continued)

Income statements

Income statements

in CHF millions, for the years ended December 31	Notes	2019	2018
Gross written premiums and policy fees		14,286	14,101
Premiums ceded to reinsurers		(3,839)	(3,484)
Net written premiums and policy fees		10,448	10,616
Change in reserves for unearned premiums, gross		(246)	29
Change in reserves for unearned premiums, ceded		82	108
Net earned premiums and policy fees		10,283	10,754
Other income		1,117	1,069
Total technical income		**11,400**	**11,823**
Claims paid, annuities and loss adjustment expenses, gross		(11,302)	(12,233)
Claims paid, annuities and loss adjustment expenses, ceded		2,210	1,983
Change in insurance reserves, gross	14	2,044	2,676
Change in insurance reserves, ceded	14	243	473
Insurance benefits and losses, net of reinsurance		(6,804)	(7,101)
Underwriting & policy acquisition costs, gross		(3,111)	(3,147)
Underwriting & policy acquisition costs, ceded		331	572
Underwriting & policy acquisition costs, net of reinsurance		(2,780)	(2,575)
Administrative and other expense	4	(2,142)	(1,873)
Total technical expense		**(11,727)**	**(11,550)**
Investment income	5	5,165	4,848
Investment expenses	6	(340)	(1,040)
Net investment result		4,825	3,808
Other financial income		447	221
Other financial expense		(460)	(278)
Operating result		**4,485**	**4,025**
Interest expense on debt and other interest expense		(610)	(565)
Net income before taxes		**3,875**	**3,459**
Direct tax expenses		(161)	(101)
Net income after taxes		**3,714**	**3,358**

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	2019	2018
Investments			
Real estate		1,466	1,489
Investments in subsidiaries and associates	7	34,352	32,333
Debt securities		18,840	19,777
Other loans		5,113	5,158
Mortgage loans		970	1,158
Equity securities		4,609	4,582
Mixed investments funds		54	–
Other investments	8	7,466	8,511
Total investments		**72,870**	**73,007**
Other assets			
Derivative assets		552	350
Deposits made under assumed reinsurance contracts		2,302	2,478
Cash and cash equivalents		4,272	5,460
Insurance reserves, ceded	13	6,634	6,405
Fixed assets	9	94	105
Deferred acquisition costs, net of reinsurance	10	2,008	1,951
Intangible assets	11	129	155
Receivables from insurance and reinsurance business	12	1,433	1,604
Other receivables		767	636
Other assets		25	20
Accrued assets		729	632
Total other assets		**18,945**	**19,797**
Total assets		**91,815**	**92,803**

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

Financial statements – statutory accounts (continued)

Liabilities and shareholder's equity

in CHF millions, as of December 31	Notes	2019	2018
Liabilities			
Insurance reserves, gross	13	37,279	39,394
Provisions	16	1,449	1,051
Senior and other debt	17	14,236	14,938
Derivative liabilities		201	266
Deposits received under ceded reinsurance contracts		167	131
Liabilities from insurance and reinsurance business	18	1,434	1,102
Other liabilities		1,311	1,257
Accrued liabilities		1,602	1,435
Subordinated debt	17	8,199	8,255
Total liabilities		**65,877**	**67,830**
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		*13,822*	*10,464*
Dividend paid		*(2,750)*	*–*
Net income after taxes		*3,714*	*3,358*
Retained earnings, end of year		14,786	13,822
Total shareholder's equity (before appropriation of available earnings)		**25,938**	**24,974**
Total liabilities and shareholder's equity		**91,815**	**92,803**

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

Financial statements – statutory accounts (continued)

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 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 & 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 sub-groups, the book value of the sub-group is compared to its fair 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.

Mixed investments funds invests into different asset types. Mixed investment funds are carried at market price as of December 31.

Other investments consists of asset-backed and mortgage-backed securities as well as collaterized debt/loan obligations, which are carried 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 of reinsurance

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.

Financial statements – statutory accounts (continued)

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 estimates 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, persistency, expenses and investment return, plus 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 carrying value at the beginning of the year or at the later purchase date and the higher carrying 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 mainly 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.

Financial statements – statutory accounts (continued)

3. Exchange rates

The presentation currency for ZIC and its branches is 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 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	
	12/31/2019	12/31/2018	**2019**	2018
Canadian dollar	0.75	0.72	0.75	0.76
Euro	1.09	1.13	1.11	1.16
British pound	1.28	1.25	1.27	1.31
U.S. dollar	0.97	0.98	0.99	0.98

4. Administrative and other expense

Administrative and other expense

in CHF millions, for the years ended December 31	**2019**	2018
Administration and other general expenses	(1,096)	(859)
Personnel expenses	(1,081)	(1,026)
Amortization and impairments of software and equipment	(70)	(83)
Foreign currency transaction gains and losses	192	345
Gains and losses on foreign currency derivatives	(87)	(251)
Total administrative and other expense	**(2,142)**	**(1,873)**

In 2019, unallocated loss adjustment expenses in the amount of CHF 118 million were included in administration and other general expenses. These expenses in the amount of CHF 161 million were disclosed under claims paid, annuities and loss adjustment expenses in 2018.

Financial statements – statutory accounts (continued)

5. Investment income

Investment income

in CHF millions, for the years ended December 31	Current income		Write-ups		Realized capital gains		Totals	
	2019	2018	**2019**	2018	**2019**	2018	**2019**	2018
Real estate	92	98	–	4	24	20	116	122
Investments in subsidiaries and associates	3,025	3,326	–	–	4	–	3,029	3,326
Debt securities	331	357	43	44	104	38	478	440
Other loans	200	159	–	–	8	47	208	205
Mortgage loans	19	21	–	–	7	–	27	21
Equity securities	98	87	576	26	358	334	1,032	446
Mixed investments funds	3	–	–	–	–	–	3	–
Other investments	241	245	–	–	31	42	272	287
Total investment income	**4,010**	**4,294**	**619**	**74**	**536**	**481**	**5,165**	**4,848**

Total investment income increased by CHF 316 million or 7 percent to CHF 5.2 billion in 2019. The increase in write-ups on equity securities was mainly driven by an overall improvement in equity securities markets during 2019 as well as a rise in the value of the single investor funds compared to 2018. Dividend income from subsidiaries and associates decreased by CHF 301 million to CHF 3.0 billion in 2019, mainly due lower dividend payments from Zurich Life Insurance Company Ltd and from Zürich Beteiligungs-Aktiengesellschaft (Deutschland), partially offset by higher dividend income from Farmers Group, Inc.

6. Investment expenses

Investment expenses

in CHF millions, for the years ended December 31	Write-downs		Realized capital losses		Totals	
	2019	2018	**2019**	2018	**2019**	2018
Real estate	–	(33)	(1)	(4)	(2)	(37)
Investments in subsidiaries and associates	(10)	(160)	–	–	(10)	(160)
Debt securities	(2)	(15)	(32)	(118)	(33)	(133)
Other loans	(1)	–	(19)	(56)	(19)	(56)
Mortgage loans	–	–	–	–	–	–
Equity securities	(37)	(431)	(111)	(84)	(148)	(515)
Mixed investments funds	(1)	–	–	–	(1)	–
Other investments	–	–	(48)	(66)	(48)	(66)
Sub-total investment expenses	**(51)**	**(639)**	**(210)**	**(328)**	**(261)**	**(967)**
Investment general expenses	n.a.	n.a.	n.a.	n.a.	(79)	(73)
Total investment expenses					**(340)**	**(1,040)**

Total investment expenses decreased by CHF 700 million or 67 percent to CHF 340 million in 2019, mainly due to lower write-downs on equity securities following an overall improvement in equity securities markets during 2019.

The write-downs on investments in subsidiaries and associates of CHF 10 million in 2019 included an impairment of Bright Box HK Limited. The impairments in 2018 were mainly related to Zurich Minas Brasil Seguros S.A. as well as to the entity holding the Company's business in Venezuela.

Financial statements – statutory accounts (continued)

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 88 percent of the total investments in subsidiaries and associates of CHF 34.4 billion.

Significant subsidiaries

as of December 31, 2019

	Registered office	Voting rights %	Ownership interest %		Nominal value of common stock (in local currency millions)
Australia					
Zurich Financial Services Australia Limited[1]	Sydney	100.0	100.0	AUD	2,674.9
Brazil					
Zurich Minas Brasil Seguros S.A.[1]	Belo Horizonte	100.0	100.0	BRL	2,476.0
Germany					
Zürich Beteiligungs-Aktiengesellschaft (Deutschland)[1]	Frankfurt	100.0	100.0	EUR	152.9
Ireland					
Zurich Holding Ireland Limited	Dublin	100.0	100.0	EUR	0.1
Zurich Insurance plc[1,2]	Dublin	4.5	4.5	EUR	8.2
Italy					
Zurich Investments Life S.p.A.[1]	Milan	100.0	100.0	EUR	199.0
Spain					
Zurich Latin America Holding S.L. – Sociedad Unipersonal	Barcelona	100.0	100.0	EUR	43.0
Zurich Vida, Compañía de Seguros y Reaseguros, S.A. – Sociedad Unipersonal[1]	Madrid	100.0	100.0	EUR	56.4
Switzerland					
Zurich Life Insurance Company Ltd[1]	Zurich	100.0	100.0	CHF	60.0
Zurich Finance Company AG	Zurich	100.0	100.0	CHF	0.2
Zurich Reinsurance Company Ltd[1]	Zurich	100.0	100.0	CHF	11.7
United Kingdom					
Allied Zurich Holdings Limited	St. Hélier, Jersey	100.0	100.0	GBP	477.6
Zurich International Life Limited[1]	Douglas, Isle of Man	100.0	100.0	GBP	123.4
United States of America					
Farmers Group, Inc.[1,3,4]	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] The indirectly voting rights percentage and ownership interest percentage are 100 percent for Zurich Insurance plc.
[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 services and ancillary services to the Farmers Exchanges as attorney-in-fact and receives fees for its services.

Financial statements – statutory accounts (continued)

The table below shows the most significant indirectly held subsidiaries of ZIC with a net asset value exceeding USD 1.0 billion (based on IFRS values) and ownership interest of more than 10 percent.

Significant indirect subsidiaries

as of December 31, 2019	Registered office	Parent company	Voting rights %[3]	Ownership interest %[3]
Australia				
OnePath Life Australia Holdings Pty Limited[2]	Sydney	Zurich Financial Services Australia Limited[1]	100.0	100.0
OnePath Life Limited[2]	Sydney	OnePath Life Australia Holdings Pty Limited	100.0	100.0
Bermuda				
Zurich Global, Ltd.	Pembroke, Bermuda	Zurich Holding Company of America, Inc.[1]	100.0	100.0
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.	51.0	51.0
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]	87.9	95.4
Zurich American Company, LLC	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

[1] Direct subsidiary of the Company.
[2] OnePath Life Australia Holdings Pty Limited and OnePath Life Limited, have been added to the list of significant indirect subsidiaries.
[3] The voting and ownership percentage are disclosed based on a Zurich Insurance Company Group view.

Financial statements – statutory accounts (continued)

8. Other investments

Other investments

in CHF millions, as of December 31	2019	2018
Asset-backed securities	1,347	8,511
Mortgage-backed securities	5,661	–
Collateralized debt/loan obligations	458	–
Total other investments	**7,466**	**8,511**

In 2019, the presentation of Other investments has changed. The reclassification has no impact on the financial statements. In 2018, Asset-backed securities, Mortgage-backed securities and Collateralized debt/loan obligations would have amounted to CHF 1.7 billion, CHF 6.5 billion and CHF 0.3 billion respectively.

9. Fixed assets

Fixed assets

in CHF millions, as of December 31	2019	2018
Furniture and equipment	376	370
Accumulated amortization	(282)	(265)
Total fixed assets	**94**	**105**

10. Deferred acquisition costs

Deferred acquisition costs, net of reinsurance

in CHF millions, as of December 31	2019	2018
Deferred acquisition costs, assumed reinsurance	2,081	2,023
Deferred acquisition costs, retroceded reinsurance	(72)	(72)
Total deferred acquisition costs, net of reinsurance	**2,008**	**1,951**

11. Intangible assets

Intangible assets

in CHF millions, as of December 31	2019	2018
Software	129	155
Total intangible assets	**129**	**155**

12. Receivables from insurance and reinsurance business

Receivables from insurance and reinsurance business

in CHF millions, as of December 31	2019	2018
Receivables from policyholders	94	104
Receivables from agents and intermediaries	199	214
Receivables from insurance and reinsurance companies	1,140	1,286
Total receivables from insurance and reinsurance business	**1,433**	**1,604**

Financial statements – statutory accounts (continued)

13. Insurance reserves, net

Insurance reserves, net

in CHF millions, as of December 31	2019	2018
Gross		
Reserves for unearned premiums	4,342	4,111
Reserves for losses and loss adjustment expenses	26,956	29,710
Other technical reserves	746	902
Future life policyholders' benefits	5,228	4,654
Reserves for policyholders' dividends	7	18
Total insurance reserves, gross	**37,279**	**39,394**
Ceded		
Reserves for unearned premiums	(1,280)	(1,211)
Reserves for losses and loss adjustment expenses	(5,040)	(4,935)
Other technical reserves	(1)	–
Future life policyholders' benefits	(313)	(257)
Reserves for policyholders' dividends	–	(1)
Total insurance reserves, ceded	**(6,634)**	**(6,405)**
Net		
Reserves for unearned premiums	3,062	2,899
Reserves for losses and loss adjustment expenses	21,916	24,774
Other technical reserves	745	902
Future life policyholders' benefits	4,914	4,397
Reserves for policyholders' dividends	7	17
Total insurance reserves, net of reinsurance	**30,644**	**32,990**

Total net insurance reserves decreased by CHF 2.3 billion or 7 percent to CHF 30.6 billion. In local currency, the insurance reserves decreased by CHF 2.1 billion. The net reserves for losses and loss adjustment expenses decreased by CHF 2.9 billion. This decrease reflects the impacts of the WAQS reinsurance treaty with Zurich American Insurance Company which is in run-off since 2018, as well as the commutation of a reinsurance treaty with Zurich Insurance plc. The net future life policyholders' benefits increased by CHF 517 million mainly due to the growth in the Group's internal reinsurance business.

Financial statements – statutory accounts (continued)

14. Change in insurance reserves, net

Change in insurance reserves, net

in CHF millions, for the years ended December 31	2019	2018
Gross		
Change in reserves for losses and loss adjustment expenses	2,420	3,023
Change in other technical reserves	251	(99)
Change in reserves for future life policyholders' benefits	(628)	(240)
Change in reserves for policyholders' dividends	1	(7)
Total change in insurance reserves, gross	**2,044**	**2,676**
Ceded		
Change in reserves for losses and loss adjustment expenses	171	557
Change in other technical reserves	–	–
Change in reserves for future life policyholders' benefits	72	(84)
Change in reserves for policyholders' dividends	–	–
Total change in insurance reserves, ceded	**243**	**473**
Net		
Change in reserves for losses and loss adjustment expenses	2,591	3,579
Change in other technical reserves	251	(99)
Change in reserves for future life policyholders' benefits	(556)	(324)
Change in reserves for policyholders' dividends	1	(7)
Total change in insurance reserves, net of reinsurance	**2,288**	**3,149**

The positive impact in the income statements due to the change in net insurance reserves in 2019 mainly reflects the result of the termination of the WAQS reinsurance treaty with Zurich American Insurance Company, which is in run-off since 2018, as well as the commutation of a reinsured legacy portfolio with Zurich Insurance plc. Also, the non-renewal of a Group internal reinsurance contract with Zurich American Life Insurance Company impacted the change in net insurance reserves positively.

The change in net insurance reserves in 2018 was impacted by 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. On top, 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).

Financial statements – statutory accounts (continued)

15. Direct and assumed business

Direct and assumed business

in CHF millions, for the years ended December 31	2019	2018
Gross written premiums and policy fees, direct business	4,428	4,168
Gross written premiums and policy fees, assumed business	9,858	9,933
Premiums ceded to reinsurers	(3,839)	(3,484)
Net written premiums and policy fees	**10,448**	**10,616**
Change in reserves for unearned premiums, direct business	(125)	(15)
Change in reserves for unearned premiums, assumed business	(121)	45
Change in reserves for unearned premiums, ceded	82	108
Change in reserves for unearned premiums, net of reinsurance	**(164)**	**137**
Claims paid, annuities and loss adjustment expenses, direct business	(2,637)	(2,922)
Claims paid, annuities and loss adjustment expenses, assumed business	(8,665)	(9,311)
Claims paid, annuities and loss adjustment expenses, ceded	2,210	1,983
Claims paid, annuities and loss adjustment expenses, net of reinsurance	**(9,092)**	**(10,250)**
Change in insurance reserves, direct business	164	(55)
Change in insurance reserves, assumed business	1,880	2,731
Change in insurance reserves, ceded	243	473
Change in insurance reserves, net of reinsurance	**2,288**	**3,149**
Underwriting & policy acquisition costs, direct business	(833)	(808)
Underwriting & policy acquisition costs, assumed business	(2,278)	(2,339)
Underwriting & policy acquisition costs, ceded	331	572
Underwriting & policy acquisition costs, net of reinsurance	**(2,780)**	**(2,575)**

16. Provisions

The provisions were established in anticipation of expected, estimated or perceived expenditures or exposures and increased by CHF 398 million in 2019, mainly due to the provision for unrealized foreign currency gains that were not included in the Company's income statement and due to the increase of the provisions to employees. The provision for restructuring costs decreased by CHF 23 million and amounted to CHF 22 million.

Financial statements – statutory accounts (continued)

17. Debt
a) Senior and other debt

Senior and other debt

in CHF millions, as of December 31		**2019**	2018
Issuances to capital markets under Euro Medium Term Note Programme	1.5% CHF 400 million, due June 2019	–	400
	1.125% CHF 400 million, due September 2019	–	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	543	563
	1.875% CHF 100 million, due September 2023	100	100
	1.75% EUR 500 million, due September 2024	543	563
	0.5% CHF 350 million, due December 2024	350	350
	1.5% CHF 150 million, due July 2026	150	150
	0.75% CHF 200 million, due October 2027	200	–
	1% CHF 200 million, due October 2028	200	200
	1.5% EUR 500 million, due December 2028	543	563
Zurich Insurance Group	various	10,984	11,013
Other debt	various	122	135
Total senior and other debt		**14,236**	**14,938**
	thereof due in one to five years	*1,907*	*1,163*
	thereof due in more than five years	*1,093*	*1,947*

b) Subordinated debt

Subordinated debt

in CHF millions, as of December 31		**2019**	2018
Zurich Insurance Group Ltd	6.30% CHF 2.1 billion perpetual loan	2,132	2,132
Issuances to capital markets under Euro Medium Term Note Programme	7.5% EUR 425 million notes, first callable on July 24, 2019, due July 2039	–	479
	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	968	984
	4.25% EUR 1 billion notes, first callable on October 2, 2023, due October 2043	1,087	1,127
	4.25% USD 300 million subordinated notes, first callable on October 1, 2025, due October 2045	291	295
	5.625% USD 1 billion subordinated notes, first callable on June 24, 2026, due June 2046	968	984
	3.5% EUR 750 million subordinated notes, first callable on October 1, 2026, due October 2046	815	845
	5.125% USD 500 million subordinated notes, first callable on June 1, 2028, due June 2048	484	492
	4.875% USD 500 million subordinated notes, first callable on October 2, 2028, due October 2048	484	492
	2.75% EUR 500 million subordinated notes, first callable on February 19, 2029, due February 2049	543	–
Total subordinated debt		**8,199**	**8,255**
	thereof due in one to five years	*2,480*	*2,536*
	thereof due in more than five years	*5,718*	*5,240*

Financial statements – statutory accounts (continued)

18. Liabilities from insurance and reinsurance business

Liabilities from insurance and reinsurance business

in CHF millions, as of December 31	2019	2018
Amounts due to policyholders	42	56
Amounts due to agents and intermediaries	14	25
Amounts due to insurance and reinsurance companies	1,378	1,021
Total liabilities from insurance and reinsurance business	**1,434**	**1,102**

19. Share capital

Share capital and profit sharing certificates

number of shares, as of December 31	2019	2018
Issued share capital, CHF 10.00 par value	82,500,000	82,500,000

a) Issued share capital
ZIC's issued share capital amounted to CHF 825,000,000, consisting of 82,500,000 fully paid registered shares with a par value of CHF 10.00 each.

b) Shareholders
As of December 31, 2019 and 2018, 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	2019	2018	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	*13,822*	*10,464*	*3,358*
Dividend paid	*(2,750)*	*–*	*(2,750)*
Net income after taxes	*3,714*	*3,358*	*355*
Retained earnings, end of year	14,786	13,822	964
Total shareholder's equity	**25,938**	**24,974**	**964**

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	2019	2018
Assets		
Investments in subsidiaries and associates	34,352	32,333
Debt securities	13	13
Other loans	5,057	5,089
Derivative assets	228	122
Deposits made under assumed reinsurance contracts	1,926	1,943
Cash and cash equivalents	965	1,194
Insurance reserves, ceded	1,755	1,692
Deferred acquisition costs, net of reinsurance	2,022	1,262
Receivables from insurance and reinsurance business	642	767
Other receivables	228	238
Accrued assets	316	271
Total assets	**47,504**	**44,924**
Liabilities		
Insurance reserves, gross	26,381	28,173
Provisions	174	168
Senior and other debt	10,871	11,010
Derivative liabilities	18	62
Deposits received under ceded reinsurance contracts	53	3
Liabilities from insurance and reinsurance business	1,160	772
Other liabilities	79	121
Accrued liabilities	202	174
Total liabilities	**38,938**	**40,483**

Assets and liabilities relating to ZIG Ltd

in CHF millions, as of December 31	2019	2018
Assets		
Equity securities	605	677
Cash and cash equivalent	127	65
Total assets	**732**	**742**
Liabilities		
Senior and other debt	113	2
Other liabilities	1	–
Accrued liabilities	91	91
Subordinated debt	2,132	2,132
Total liabilities	**2,337**	**2,226**

Financial statements – statutory accounts (continued)

21. Supplementary information

Supplementary information

in CHF millions, as of December 31	2019	2018
Limited guarantees, indemnity liabilities and pledges in favor of third parties	13,596	14,612
Leasing obligations not recorded on the balance sheet	247	246
Security deposits	9,845	11,604
Number of employees – Average full time equivalents	5,458	5,165
Audit fees	(11)	(11)
Other service fees	(1)	(3)

Limited guarantees, indemnity liabilities and pledges in favor of third parties included a guarantee of USD 3.0 billion both in 2019 (CHF 2.9 billion) and in 2018 (CHF 3.0 billion), in favor of subsidiaries to provide funds under certain circumstances. The total maximum exposure under this guarantee amounted to USD 265 million (CHF 257 million) as of December 31, 2019, and USD 479 million (CHF 471 million) as of December 31, 2018.

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 12.6 billion and CHF 12.5 billion were attributed to tied assets, as of December 31, 2019 and 2018, respectively.

To secure the insurance reserves of the assumed reinsurance business, investments with a value of CHF 9.9 billion and CHF 11.6 billion as of December 31, 2019 and 2018, respectively, were deposited in favor of ceding companies.

22. Net release of hidden reserves

In 2019 and in 2018, there was no material release of hidden reserves.

23. Subsequent events

On February 17, 2020, the Company announced the successful placement of CHF 250 million of senior unsecured notes which will mature in August 2032.

Financial statements – statutory accounts (continued)

Proposed appropriation of available earnings

number of shares, as of December 31	2019	2018
Registered shares eligible for dividends		
Eligible shares	82,500,000	82,500,000

The Board of Directors proposes to the Annual General Meeting to be held on April 1, 2020, to appropriate the available earnings for 2019 as follows:

in CHF	Available earnings
Available earnings	
As of January 1, 2019	13,822,036,780
Dividend paid	(2,750,000,000)
Net income after taxes	3,713,884,124
Available earnings, as of December 31, 2019	**14,785,920,904**

in CHF	Available earnings
Appropriation of available earnings	
As of January 1, 2020	14,785,920,904
Dividend payment out of available earnings	(2,900,000,000)
Balance carried forward	**11,885,920,904**

The Board of Directors proposes to the Annual General Meeting to be held on April 1, 2020, that the Company pay a dividend of CHF 2,900,000,000 out of available earnings for 2019 and to carry forward the remaining available earnings for 2019 in the amount of CHF 11,885,920,904 as shown in the above table.

Zurich, March 4, 2020

On behalf of the Board of Directors of Zurich Insurance Company Ltd

Michel M. Liès

Chairman

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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, 2019, balance sheet as at December 31, 2019 and notes, including a summary of significant accounting policies.

In our opinion, the accompanying financial statements (pages 151 to 167) as at December 31, 2019 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 three business units in one country.
The full scope audit work addressed 80% and 76% of the Company's gross written premiums and policy fees (GWP) and total assets, respectively.
In addition, specific procedures were performed on a further six business units in three countries representing a further 6% and 13% of the Company's GWP and total assets, respectively.

The following key audit matters have been identified:

Valuation of property and casualty reserves

Valuation of life insurance reserves

Recoverability of carrying value of investments in subsidiaries

Report of the statutory auditor (continued)

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 audit 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 misstatements, both individually and in aggregate, on the financial statements as a whole.

Overall audit materiality	CHF 190 million
How we determined it	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 relatively stable premium and investment income, and is a generally accepted benchmark. Total revenues are an important key performance indicator. 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.

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 48 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.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 30 million to CHF 185 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 six business units. Together full scope audits and the specific audit procedures accounted for 86% and 89% 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 and audit results arising from the work during regular conference calls with the component audit teams.

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 those with 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 Note 2 ("Summary of significant accounting policies") and Note 13 ("Insurance reserves, net") to the 2019 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 Company's actuaries in estimating property and casualty loss reserves.
- Utilizing information technology audit techniques to analyze claims through claims data plausibility checks and recalculation of claims development patterns.
- Involving our actuarial experts 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 Company, and assessed whether the recorded reserves were within a reasonable range.
- Performing sensitivity testing and evaluated the appropriateness of any significant adjustments made by management relating to 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 industry accepted practice.

Report of the statutory auditor (continued)

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 reserves.

Specifically, the continued low interest rate environment, which results in reduced investment returns, influences policyholders' behaviors and creates a strain on the sufficiency of reserves for traditional life insurance contracts.

Refer to Note 2 ("Summary of significant accounting poli-cies") and Note 13 ("Insurance reserves, net") to the 2019 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:

– Testing the completeness and accuracy of underlying data to source documentation.
– Involving our life insurance actuarial experts to independently test and challenge management's methodology and the assumptions used, with particular consideration of industry studies, the Company'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.
– Testing, on a sample basis, the calculation models applied to estimate the actuarially determined life insurance reserves.

Based on the work performed we determined that the methodologies, assumptions and underlying data used in the valuation of life insurance reserves are reasonable and in line with industry accepted practice.

Report of the statutory auditor (continued)

Recoverability of carrying value 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 34.4 billion, which makes up 37% of the Company's total assets.

Investments in subsidiaries are carried at cost less necessary impairments. The need for impairment is assessed by grouping the subsidiaries into regional sub-groups. Necessary impairments are recorded on an individual basis.

Management assesses whether there are any impairments in the carrying value of the investments in subsidiaries. The Company compares the carrying value to the market value of the subsidiary as at December 31. If the valuations indicate a need for an impairment, the Company reduces the carrying value of the investment in subsidiary accordingly. 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.

Refer to Note 2 ("Summary of significant accounting policies") and Note 7 ("Investments in subsidiaries and associates") to the 2019 financial statements.

How our audit addressed the key audit matter

We obtained an understanding of management's process and controls, and assessed and tested the design and operating effectiveness of selected key controls over the recoverability of the carrying value of investments in subsidiaries.

In relation to the particular matters set out opposite, our testing procedures included the following:

– Assessing the appropriateness of the Company's impairment testing methodology, including the grouping of the subsidiaries into the sub-groups defined by management and used for the impairment test.
– Testing the mathematical accuracy of management's calculation.
– Testing the reasonableness of the assumptions used in the impairment assessment including projections of future income, terminal growth rate assumptions and discount rates.
– Re-performing management's impairment test on the carrying value of all investments in subsidiaries, and challenged the impairment decisions taken.

Based on the work performed we consider management's impairment testing including the assumptions used to support the carrying value of investments in subsidiaries as reasonable.

Report of the statutory auditor (continued)

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 4, 2020

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Certain statements in this document are forward-looking statements, including, but not limited to, statements that are predictions of or indicate future events, trends, plans or objectives of Zurich Insurance Group Ltd or the Zurich Insurance Group (the Group). Forward-looking statements include statements regarding the Group's targeted profit, return on equity targets, expenses, pricing conditions, dividend policy and underwriting and claims results, as well as statements regarding the Group's understanding of general economic, financial and insurance market conditions and expected developments. Undue reliance should not be placed on such statements because, by their nature, they are subject to known and unknown risks and uncertainties and can be affected by other factors that could cause actual results and plans and objectives of Zurich Insurance Group Ltd or the Group to differ materially from those expressed or implied in the forward-looking statements (or from past results). Factors such as (i) general economic conditions and competitive factors, particularly in key markets; (ii) the risk of a global economic downturn; (iii) performance of financial markets; (iv) levels of interest rates and currency exchange rates; (v) frequency, severity and development of insured claims events; (vi) mortality and morbidity experience; (vii) policy renewal and lapse rates; and (viii) changes in laws and regulations and in the policies of regulators may have a direct bearing on the results of operations of Zurich Insurance Group Ltd and its Group and on whether the targets will be achieved. Zurich Insurance Group Ltd undertakes no obligation to publicly update or revise any of these forward-looking statements, whether to reflect new information, future events or circumstances or otherwise.

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Please also note that interim results are not necessarily indicative of full year results.

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Design by Radley Yeldar, www.ry.com

Photography: Ruben Sprich

Layout: NeidhartSchön AG, Zurich, www.neidhartschoen.ch

Publishing system: ns.publish by mms solutions AG, Zurich, www.mmssolutions.io

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