Swiss Re

Swiss Reinsurance Company Consolidated

Half-Year 2020 Report

Content

Income statement

For the six months ended 30 June

USD millions	Note	2019	2020
Revenues			
Gross premiums written	4	19 437	**20 443**
Net premiums written	4	18 186	**18 964**
Change in unearned premiums		–3 248	**–2 739**
Premiums earned	3	14 938	**16 225**
Fee income from policyholders	3	93	**82**
Net investment income – non-participating business[1]	7	1 145	**923**
Net realised investment gains/losses – non-participating business[2]	7	622	**974**
Net investment result – unit-linked business	7	48	**–113**
Other revenues		17	**18**
Total revenues		16 863	**18 109**
Expenses			
Claims and claim adjustment expenses	3	–6 037	**–8 024**
Life and health benefits	3	–4 984	**–5 997**
Return credited to policyholders		–73	**100**
Acquisition costs	3	–3 138	**–3 477**
Operating expenses		–1 127	**–1 067**
Total expenses before interest expenses		–15 359	**–18 465**
Income/loss before interest and income tax expense/benefit		1 504	**–356**
Interest expenses		–307	**–259**
Income/loss before income tax expense/benefit		1 197	**–615**
Income tax expense/benefit		–208	**155**
Net income/loss before attribution of non-controlling interests		989	**–460**
Income/loss attributable to non-controlling interests		–21	**–31**
Net income/loss attributable to common shareholder		968	**–491**

[1] Total impairments for the six months ended 30 June of USD 18 million in 2019 and nil in 2020, respectively, were fully recognised in earnings.
[2] Total impairments for the six months ended 30 June of USD 2 million in 2019 and USD 25 million in 2020, respectively, were fully recognised in earnings.

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

Statement of comprehensive income

For the six months ended 30 June

USD millions	2019	2020
Net income/loss before attribution of non-controlling interests	989	**–460**
Other comprehensive income, net of tax:		
Change in net unrealised investment gains/losses	2 356	**1 395**
Change in other-than-temporary impairment	2	
Change in foreign currency translation	27	**63**
Change in adjustment for pension benefits	8	**22**
Change in credit risk of financial liabilities at fair value option	–1	**3**
Other comprehensive income/loss attributable to non-controlling interests	64	
Total comprehensive income before attribution of non-controlling interests	3 445	**1 023**
Comprehensive income/loss attributable to non-controlling interests	–85	**–31**
Total comprehensive income attributable to common shareholder	3 360	**992**

Reclassification out of accumulated other comprehensive income
For the six months ended 30 June

2019 USD millions	Net unrealised investment gains/losses[1]	Other-than-temporary impairment	Foreign currency translation[2]	Adjustment for pension benefits[3]	Credit risk of financial liabilities at fair value option	Accumulated other comprehensive income
Balance as of 1 January	692	–3	–5 122	–768	5	–5 196
Change during the period	3 328		22	2	–1	3 351
Amounts reclassified out of accumulated other comprehensive income	–366		–6	8		–364
Tax	–606	2	11	–2		–595
Balance as of period end	3 048	–1	–5 095	–760	4	–2 804

2020 USD millions	Net unrealised investment gains/losses[1]	Other-than-temporary impairment	Foreign currency translation[2]	Adjustment for pension benefits[3]	Credit risk of financial liabilities at fair value option	**Accumulated other comprehensive income**
Balance as of 1 January	2 956	–1	–5 211	–779	3	**–3 032**
Change during the period	2 586		34	3	4	**2 627**
Amounts reclassified out of accumulated other comprehensive income	–808			26		**–782**
Tax	–383		29	–7	–1	**–362**
Balance as of period end	**4 351**	**–1**	**–5 148**	**–757**	**6**	**–1 549**

[1] Reclassification adjustment included in net income is presented in "Net realised investment gains/losses – non-participating business".
[2] Reclassification adjustment is limited to translation gains and losses realised upon sale or upon complete or substantially complete liquidation of an investment in a foreign entity.
[3] Reclassification adjustment included in net income is presented in "Operating expenses".

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

Balance sheet

Assets

USD millions	Note	31.12.2019	30.06.2020
Investments	7, 8, 9		
Fixed income securities:			
Available-for-sale (including 12 842 in 2019 and 5 096 in 2020 subject to securities lending and repurchase agreements) (amortised cost: 2019: 67 680; 2020: 63 495)		71 613	**69 202**
Trading (including 1 911 in 2019 and 1 445 in 2020 subject to securities lending and repurchase agreements)		2 410	**2 134**
Equity securities at fair value through earnings (including 134 in 2019 and 2 in 2020 subject to securities lending and repurchase agreements)		2 373	**2 229**
Policy loans, mortgages and other loans		2 357	**2 530**
Investment real estate		2 526	**2 521**
Short-term investments (including 1 086 in 2019 and 944 in 2020 subject to securities lending and repurchase agreements)		5 032	**7 559**
Other invested assets		5 911	**5 775**
Investments for unit-linked business (including equity securities at fair value through earnings: 520 in 2019 and 369 in 2020)		520	**369**
Total investments		92 742	**92 319**
Cash and cash equivalents (including 1 051 in 2019 and 720 in 2020 subject to securities lending)		5 507	**9 465**
Accrued investment income		609	**540**
Premiums and other receivables		14 063	**15 467**
Reinsurance recoverable on unpaid claims and policy benefits		12 520	**12 273**
Funds held by ceding companies		10 901	**11 731**
Deferred acquisition costs	6	7 167	**7 437**
Acquired present value of future profits	6	619	**576**
Goodwill		3 741	**3 693**
Income taxes recoverable		296	**168**
Deferred tax assets		3 852	**4 563**
Other assets		2 378	**2 963**
Total assets		154 395	**161 195**

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

Liabilities and equity

USD millions	Note	31.12.2019	30.06.2020
Liabilities			
Unpaid claims and claim adjustment expenses	5	63 852	**65 695**
Liabilities for life and health policy benefits	8	21 266	**22 288**
Policyholder account balances		5 405	**5 244**
Unearned premiums		9 818	**12 728**
Funds held under reinsurance treaties		9 537	**10 436**
Reinsurance balances payable		1 765	**1 843**
Income taxes payable		279	**170**
Deferred and other non-current tax liabilities		4 975	**5 679**
Short-term debt	10	2 415	**1 875**
Accrued expenses and other liabilities	7	7 801	**8 616**
Long-term debt	10	8 737	**9 102**
Total liabilities		135 850	**143 676**
Equity			
Common shares, CHF 0.10 par value			
2019: 344 052 565; 2020: 344 052 565 shares authorised and issued		32	**32**
Additional paid-in capital		9 406	**9 406**
Shares in Swiss Re Ltd, net of tax		–19	**–12**
Accumulated other comprehensive income:			
Net unrealised investment gains/losses, net of tax		2 956	**4 351**
Other-than-temporary impairment, net of tax		–1	**–1**
Foreign currency translation, net of tax		–5 211	**–5 148**
Adjustment for pension and other post-retirement benefits, net of tax		–779	**–757**
Credit risk of financial liabilities at fair value option, net of tax		3	**6**
Total accumulated other comprehensive income		–3 032	**–1 549**
Retained earnings		10 644	**8 494**
Shareholder's equity		17 031	**16 371**
Non-controlling interests		1 514	**1 148**
Total equity		18 545	**17 519**
Total liabilities and equity		154 395	**161 195**

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

Statement of shareholder's equity

For the twelve months ended 31 December and the six months ended 30 June

USD millions	2019	2020
Common shares		
Balance as of 1 January	32	**32**
Issue of common shares		
Balance as of period end	32	**32**
Additional paid-in capital		
Balance as of 1 January	8 701	**9 406**
Capital contribution	700	
Share-based compensation	–3	**–3**
Realised gains/losses on treasury shares	8	**3**
Balance as of period end	9 406	**9 406**
Shares in Swiss Re Ltd, net of tax		
Balance as of 1 January	–19	**–19**
Change in shares in Swiss Re Ltd		**7**
Balance as of period end	–19	**–12**
Net unrealised investment gains/losses, net of tax		
Balance as of 1 January	692	**2 956**
Changes during the period	2 264	**1 395**
Balance as of period end	2 956	**4 351**
Other-than-temporary impairment, net of tax		
Balance as of 1 January	–3	**–1**
Changes during the period	2	
Balance as of period end	–1	**–1**
Foreign currency translation, net of tax		
Balance as of 1 January	–5 122	**–5 211**
Changes during the period	–89	**63**
Balance as of period end	–5 211	**–5 148**
Adjustment for pension and other post-retirement benefits, net of tax		
Balance as of 1 January	–768	**–779**
Changes during the period	–11	**22**
Balance as of period end	–779	**–757**
Credit risk of financial liabilities at fair value option, net of tax		
Balance as of 1 January	5	**3**
Changes during the period	–2	**3**
Balance as of period end	3	**6**

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

USD millions	2019	2020
Retained earnings		
Balance as of 1 January	11 246	**10 644**
Change in group structure		**7**
Transactions under common control	122	**4**
Net income/loss after attribution of non-controlling interests	854	**–491**
Dividends on common shares	–1 670	**–1 670**
Impact of ASU 2016-02[1]	92	
Balance as of period end	10 644	**8 494**
Shareholder's equity	17 031	**16 371**
Non-controlling interests		
Balance as of 1 January	1 949	**1 514**
Transactions with non-controlling interests	–431	**–397**
Income/loss attributable to non-controlling interests	67	**31**
Other comprehensive income attributable to non-controlling interests	44	
Dividends to non-controlling interests	–115	
Balance as of period end	1 514	**1 148**
Total equity	18 545	**17 519**

[1] Impact of Accounting Standards Update. Please refer to the Annual Report 2019 for more details.

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

Statement of cash flows

For the six months ended 30 June

USD millions	2019	2020
Cash flows from operating activities		
Net income/loss attributable to common shareholder	968	**–491**
Add income/loss attributable to non-controlling interests	21	**31**
Adjustments to reconcile net income to net cash provided/used by operating activities:		
Depreciation, amortisation and other non-cash items	156	**196**
Net realised investment gains/losses	–669	**–861**
Income from equity-accounted investees, net of dividends received	38	**105**
Change in:		
Technical provisions and other reinsurance assets and liabilities, net	2 978	**4 802**
Funds held by ceding companies and under reinsurance treaties	–134	**58**
Reinsurance recoverable on unpaid claims and policy benefits	145	**90**
Other assets and liabilities, net	620	**515**
Income taxes payable/recoverable	–77	**–361**
Trading positions, net	–21	**226**
Net cash provided/used by operating activities	4 025	**4 310**
Cash flows from investing activities		
Fixed income securities:		
Sales	21 141	**31 820**
Maturities	2 531	**2 944**
Purchases	–25 562	**–30 120**
Net purchases/sales/maturities of short-term investments	–1 091	**–2 374**
Equity securities:		
Sales	1 539	**1 299**
Purchases	–1 017	**–1 289**
Securities purchased/sold under agreement to resell/repurchase, net	139	**497**
Net purchases/sales/maturities of other investments	–296	**–1 133**
Net purchases/sales/maturities of investments held for unit-linked business	7	**11**
Net cash provided/used by investing activities	–2 609	**1 655**
Cash flows from financing activities		
Policyholder account balances for unit-linked business:		
Deposits	12	**22**
Withdrawals	–26	**–36**
Issuance/repayment of long-term debt	1 802	**468**
Issuance/repayment of short-term debt	–1 765	**–541**
Purchase/sale of shares in Swiss Re Ltd.	7	**4**
Dividends paid to parent	–1 670	**–1 670**
Transactions with non-controlling interests		**–200**
Net cash provided/used by financing activities	–1 640	**–1 953**

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

USD millions	2019	2020
Total net cash provided/used	–224	**4 012**
Effect of foreign currency translation	–5	**–54**
Change in cash and cash equivalents	–229	**3 958**
Cash and cash equivalents as of 1 January	3 695	**5 507**
Cash and cash equivalents as of 30 June	3 466	**9 465**

Interest paid was USD 195 million and USD 183 million (thereof USD 10 million and USD 3 million for letter of credit fees) for the six months ended 30 June 2019 and 2020, respectively. Tax paid was USD 285 million and USD 206 million for the six months ended 30 June 2019 and 2020, respectively.

A non-cash transaction of USD 201 million in the period ended 30 June 2020 decreased "Fixed income securities, available-for-sale" and "Non-controlling interests".

Cash and cash equivalents include restricted cash and cash equivalents, for instance pledged cash and cash equivalents (please refer to Note 7 "Investments").

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

Notes to the Group financial statements

1 Organisation and summary of significant accounting policies

Nature of operations

The Swiss Reinsurance Company Group, which is headquartered in Zurich, Switzerland, comprises Swiss Reinsurance Company Ltd (the parent company, referred to as "SRZ") and its subsidiaries (collectively, the "Group"). The Group is a wholesale provider of reinsurance, insurance and other insurance-based forms of risk transfer. Working through brokers and a network of offices around the globe, the Group serves a client base consisting of insurance companies and public-sector clients.

SRZ is a wholly owned subsidiary of Swiss Re Ltd. Swiss Re Ltd is the ultimate parent company of the Swiss Re Group, which consists of four business segments: Property & Casualty Reinsurance, Life & Health Reinsurance, Corporate Solutions and Life Capital. The presentation of each segment's balance sheet is closely aligned with the segment legal entity structure.

Basis of presentation

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

The Board of Directors of SRZ has decided that as of 1 January 2024 the Group's consolidated financial statements will be prepared in accordance with International Financial Reporting Standards (IFRS). Financial statements for periods ending on or prior to 31 December 2023 will continue to be prepared in accordance with US GAAP.

Use of estimates in the preparation of financial statements

The preparation of financial statements requires management to make significant estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses as well as the related disclosure, including contingent assets and liabilities. The Group's liabilities for unpaid claims and claim adjustment expenses and policy benefits for life and health include estimates for premium, claim and benefit data not received from ceding companies at the date of the financial statements. In addition, the Group uses certain financial instruments and invests in securities of certain entities for which exchange trading does not exist. The Group determines these estimates based on historical information, actuarial analyses, financial modelling and other analytical techniques. Actual results could differ significantly from the estimates described above.

Valuation of financial assets

The fair value of the majority of the Group's financial instruments is based on quoted prices in active markets or observable inputs. These instruments include government and agency securities, commercial paper, most investment-grade corporate debt, most high-yield debt securities, exchange-traded derivative instruments, most mortgage- and asset-backed securities and listed equity securities. In markets with reduced or no liquidity, spreads between bid and offer prices are normally wider compared to spreads in highly liquid markets. Such market conditions affect the valuation of certain asset classes of the Group, such as some asset-backed securities as well as certain derivative structures referencing such asset classes.

The Group considers both the credit risk of its counterparties and own risk of non-performance in the valuation of derivative instruments and other over-the-counter financial assets. In determining the fair value of these financial instruments, the assessment of the Group's exposure to the credit risk of its counterparties incorporates consideration of existing collateral and netting arrangements entered into with each counterparty. The measure of the counterparty credit risk is estimated with incorporation of the observable credit spreads, where available, or credit spread estimates derived based on the benchmarking techniques where market data is not available. The impact of the Group's own risk of non-performance is analysed in the manner consistent with the aforementioned approach, with consideration of the Group's observable credit spreads. The value representing such risk is incorporated into the fair value of the financial instruments (primarily derivatives), in a liability position as of the measurement date. The change in this adjustment from period to period is reflected in realised gains and losses in the income statement.

For assets or derivative structures at fair value, the Group uses market prices or inputs derived from market prices. A separate internal price verification process, independent of the trading function, provides an additional control over the market prices or market input used to determine the fair values of such assets. Although management considers that appropriate values have been ascribed to such assets, there is always a level of uncertainty and judgement over these valuations. Subsequent valuations could differ significantly from the results of the process described above. The Group may become aware of counterparty valuations, either directly through the exchange of information or indirectly, for example, through collateral demands. Any implied differences are considered in the independent price verification process and may result in adjustments to initially indicated valuations. As of 30 June 2020, the Group has not provided any collateral on financial instruments in excess of its own market value estimates.

Subsequent events

Subsequent events for the current reporting period have been evaluated up to 30 July 2020. This is the date on which the financial statements are available to be issued.

Adoption of new accounting standards

In August 2018, the FASB issued ASU 2018-13, "Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement", an update to topic 820, "Fair Value Measurement". The amendments in this ASU add, remove and modify some disclosure requirements on fair value measurement. The Group adopted the standard retrospectively on 1 January 2020 with the exception of the amendments which require prospective adoption. The applicable amendments of ASU 2018-13 are reflected in Note 8 Fair value disclosures.

In August 2018, the FASB issued ASU 2018-15, "Customer's Accounting for Implementation Cost Incurred in a Cloud Computing Arrangement That Is a Service Contract", a consensus of the FASB Emerging Issues Task Force (EITF) to Subtopic 350-40, "Internal-Use Software". The amendments in this ASU align the requirements for capitalising implementation costs incurred in a cloud computing arrangement (CCA) that is a service contract with the requirements for capitalising implementation costs incurred to develop or obtain internal use software. The update requires that implementation costs related to a CCA that is a service contract need to be capitalised based on the phase and nature of the costs. The Group adopted ASU 2018-15 prospectively on 1 January 2020. The adoption did not have a material impact on the Group's financial statements.

In October 2018, the FASB issued ASU 2018-17, "Targeted Improvements to Related Party Guidance for Variable Interest Entities", an update to Topic 810, "Consolidation". The standard requires that indirect interests held through related parties in common control arrangements should be considered on a proportional basis for determining whether fees paid to decision makers and service providers are variable interests. The Group adopted the ASU retrospectively on 1 January 2020. The adoption did not have an impact on the Group's financial statements.

In November 2018, the FASB issued ASU 2018-18, "Clarifying the Interaction between Topic 808 and Topic 606", an update to Topic 808, "Collaborative Arrangements". The amendments in this ASU provide guidance on whether certain transactions between collaborative arrangement participants should be accounted for with revenue under Topic 606 "Revenue from Contracts with Customers". In particular, the update requires that in a transaction with a collaborative arrangement participant that is not directly related to sales to third parties, the presentation of the transaction together with revenue recognised under Topic 606 is precluded. The Group adopted ASU 2018-18 on 1 January 2020 retrospectively to the date of initial application of Topic 606. The adoption did not have an impact on the Group's financial statements.

In April 2019, the FASB issued ASU 2019-04, "Codification Improvements to Topic 326, Financial Instruments – Credit Losses, Topic 815, Derivatives and Hedging, and Topic 825, Financial Instruments". The ASU provides selective clarifications and corrections of guidance on credit losses, hedging, and recognising and measuring financial instruments. The Group adopted the standard on 1 January 2020 with the exception of the guidance relating to ASU 2016-13 "Measurement of Credit Losses". The adoption did not have an impact on the Group's financial statements. The amendments related to credit losses will be adopted together with ASU 2016-13 as required by the standard.

In March 2020, the FASB issued ASU 2020-03, "Codification Improvements to Financial Instruments". The amendments in this ASU address seven specific issues identified related to financial instruments with the aim to improve and clarify the Codification, correct unintended application of current guidance and eliminate inconsistencies. The Group adopted issues 1, 2, 3, 4 and 5 on 9 March 2020, which is the issuance date of the ASU. The adoption did not have an impact on the Group's financial statements. Issues 6 and 7 will be adopted together with ASU 2016-13 "Measurement of Credit Losses" as required by the standard.

In March 2020, the FASB issued ASU 2020-04, "Facilitation of the Effects of Reference Rate Reform on Financial Reporting", an update to Topic 848, "Reference Rate Reform". In response to concerns about structural risks of interbank offered rates (IBORs) and, particularly, the risk of cessation of the London Interbank Offered Rate (LIBOR), regulators in several jurisdictions around the world have undertaken reference rate reform initiatives to identify alternative reference rates. The amendments in this update provide optional expedients and exceptions for applying US GAAP accounting principles to contracts, hedging relationships and other transactions that reference LIBOR or another reference rate expected to be discontinued because of these reference rate reform initiatives. The Group adopted ASU 2020-04 on 12 March 2020, which is the issuance date of the standard. There is a choice to apply the guidance by Topic or industry Subtopic at any time prospectively during the effective period from 12 March 2020 through 31 December 2022. As of 30 June 2020, the Group did not apply the guidance to any Topic or Subtopic.

Future adoption of new accounting standards

In June 2016, the FASB issued ASU 2016-13, "Measurement of Credit Losses", an update to Topic 326, "Financial Instruments – Credit Losses". ASU 2016-13 replaces the incurred loss impairment methodology in current US GAAP with a methodology that reflects expected credit losses. The standard is applicable to all financial assets such as financial instruments that are measured at amortised cost, available-for-sale debt securities and reinsurance recoverables. The objective of the expected credit loss model is that a reporting entity recognises its estimate of expected credit losses incorporating forward-looking information in a valuation allowance for financial assets in scope. As amended by ASU 2019-10 "Effective Dates", ASU 2016-13 is effective for annual and interim periods beginning after 15 December 2022. For most affected financial assets, the ASU must be adopted using a modified retrospective approach, with a cumulative effect adjustment recorded to opening retained earnings on the adoption date. The Group is currently assessing the impact of the new requirements.

In January 2017, the FASB issued ASU 2017-04, "Simplifying the Test for Goodwill Impairment", an update to Topic 350, "Intangibles – Goodwill and Other". This ASU simplifies the subsequent measurement of goodwill and eliminates Step 2 from the goodwill impairment test. In computing the implied fair value of goodwill under Step 2, an entity has to perform procedures to determine the fair value of its assets and liabilities (including unrecognised assets and liabilities) at the impairment testing date following the procedure that would be required in determining the fair value of assets acquired and liabilities assumed in a business combination. Instead, under the amendments in this update, an entity should perform its regular goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount. An entity should recognise an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value; however, the loss recognised should not exceed the total amount of goodwill allocated to that reporting unit. As amended by ASU 2019-10 "Effective Dates", ASU 2017-04 is effective for goodwill impairment tests in annual and interim periods beginning after 15 December 2022. Early application of the ASU is permitted. The Group is currently assessing the impact of the new requirements.

In August 2018, the FASB issued ASU 2018-12, "Targeted Improvements to the Accounting for Long-Duration Contracts", an update to Topic 944, "Financial Services – Insurance". This ASU requires that the cash flows and net premium ratio will be updated for changes in insurance assumptions (eg mortality, morbidity, terminations) when measuring the liability for future policy benefits for nonparticipating traditional and limited-payment insurance and reinsurance contracts. There will no longer be a provision for adverse deviation. In addition, the discount rate used to reflect the time value of money in the calculation of the liability for future policy benefits will be standardised. Further, the ASU requires deferred acquisition costs (DAC) relating to most long-duration contracts to be amortised on a constant basis over the expected term of the contract. As amended by ASU 2019-09 "Effective Date", ASU 2018-12 is effective for annual periods beginning after 15 December 2023, and interim periods beginning after 15 December 2024. Due to the decision of the Board of Directors of Swiss Reinsurance Company Ltd to prepare the Group's consolidated financial statements in accordance with IFRS beginning 1 January 2024, the Group does not plan to adopt ASU 2018-12.

2 Information on business segments

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

The Group presents two core operating business segments: Property & Casualty Reinsurance and Life & Health Reinsurance. The presentation of each segment's balance sheet is closely aligned to the segment legal entity structure. The assignment of assets and liabilities for entities that span over more than one segment is determined by considering local statutory requirements, legal and other constraints, the economic view of duration and currency requirements of the reinsurance business written and the capacity of the segments to absorb risks. Interest expense is based on the segment's capital funding position. The tax impact of a segment is derived from the legal entity tax obligations and the segmentation of the pre-tax result. While most of the tax items can be directly attributed to individual segments, the tax which impacts two or more segments is allocated to the segments on a reasonable basis. Property & Casualty Reinsurance and Life & Health Reinsurance share the same year-to-date effective tax rate as both business segments belong to the Reinsurance Business Unit.

Accounting policies applied by the business segments are in line with those described in the summary of significant accounting policies (please refer to Note 1).

The Group operating segments are outlined below.

Property & Casualty Reinsurance and Life & Health Reinsurance
Reinsurance consists of two segments, Property & Casualty and Life & Health. The Reinsurance Business Unit operates globally, both through brokers and directly with clients, and provides a large range of solutions for risk and capital management. Clients include stock and mutual insurance companies as well as public sector and governmental entities. In addition to traditional reinsurance solutions, Reinsurance offers insurance-linked securities and other insurance-related capital market products in both Property & Casualty and Life & Health.

Property & Casualty includes the business lines property, casualty (including motor) and specialty. Life & Health includes the life and health lines of business.

Other
Items not allocated to the business segments are included in the "Other" column which encompasses non-core activities.
The "Other" column includes mainly certain costs not allocated to the Reinsurance business segments, certain Treasury activities, as well as the remaining non-core activities which have been in run-off since November 2007.

Consolidation
Segment information is presented net of external and internal retrocession and other intra-group arrangements. The Group total is obtained after elimination of intra-group transactions in the "Consolidation" column. This includes significant intra-group reinsurance arrangements, recharge of trademark licence fees and intersegmental funding.

a) Business segments – income statement
For the six months ended 30 June

2019 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Other	Consolidation	Total
Revenues					
Gross premiums written	12 405	6 954	78		19 437
Net premiums written	12 014	6 145	27		18 186
Change in unearned premiums	–3 295	47			–3 248
Premiums earned	8 719	6 192	27		14 938
Fee income from policyholders		92	1		93
Net investment income – non-participating business	693	577	–32	–93	1 145
Net realised investment gains/losses – non-participating business	435	190	–3		622
Net investment result – unit-linked business		48			48
Other revenues	7		10		17
Total revenues	9 854	7 099	3	–93	16 863
Expenses					
Claims and claim adjustment expenses	–6 036		–1		–6 037
Life and health benefits		–4 986	2		–4 984
Return credited to policyholders		–71	–2		–73
Acquisition costs	–2 237	–904	3		–3 138
Operating expenses	–587	–369	–171		–1 127
Total expenses before interest expenses	–8 860	–6 330	–169	0	–15 359
Income/loss before interest and income tax expense/benefit	994	769	–166	–93	1 504
Interest expenses	–174	–221	–5	93	–307
Income/loss before income tax expense/benefit	820	548	–171	0	1 197
Income tax expense/benefit	–128	–89	9		–208
Net income/loss before attribution of non-controlling interests	692	459	–162	0	989
Income/loss attributable to non-controlling interests			–21		–21
Net income/loss attributable to common shareholder	692	459	–183	0	968
Claims ratio in %	69.2				
Expense ratio in %	32.4				
Combined ratio in %	101.6				
Management expense ratio[1] in %		5.4			
Net operating margin[2] in %	10.1	10.9			8.9

[1] Management expense ratio is calculated as "Operating expenses" divided by "Total revenues" excluding "Net realised investment gains/losses – non-participating business" and "Net investment result – unit-linked business".
[2] Net operating margin is calculated as "Income before interest and income tax expense/ benefit" divided by "Total revenues" excluding "Net investment result – unit-linked business".

Business segments – income statement

For the six months ended 30 June

2020 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Other	Consolidation	Total
Revenues					
Gross premiums written	12 776	7 598	69		20 443
Net premiums written	12 270	6 659	35		18 964
Change in unearned premiums	–2 669	–70			–2 739
Premiums earned	9 601	6 589	35		16 225
Fee income from policyholders		79	3		82
Net investment income – non-participating business	485	582	–40	–104	923
Net realised investment gains/losses – non-participating business	496	340	138		974
Net investment result – unit-linked business		–113			–113
Other revenues	13	3	2		18
Total revenues	10 595	7 480	138	–104	18 109
Expenses					
Claims and claim adjustment expenses	–8 027		3		–8 024
Life and health benefits		–5 985	–12		–5 997
Return credited to policyholders		102	–2		100
Acquisition costs	–2 497	–966	–14		–3 477
Operating expenses	–597	–351	–119		–1 067
Total expenses before interest expenses	–11 121	–7 200	–144	0	–18 465
Income/loss before interest and income tax expense/benefit	**–526**	**280**	**–6**	**–104**	**–356**
Interest expenses	–160	–199	–4	104	–259
Income/loss before income tax expense/benefit	–686	81	–10	0	–615
Income tax expense/benefit	167	–19	7		155
Net income/loss before attribution of non-controlling interests	–519	62	–3	0	–460
Income/loss attributable to non-controlling interests			–31		–31
Net income/loss attributable to common shareholder	–519	62	–34	0	–491
Claims ratio in %	83.6				
Expense ratio in %	32.2				
Combined ratio in %	115.8				
Management expense ratio[1] in %		4.8			
Net operating margin[2] in %	–5.0	3.7			–2.0

[1] Management expense ratio is calculated as "Operating expenses" divided by "Total revenues" excluding "Net realised investment gains/losses – non-participating business" and "Net investment result – unit-linked business".
[2] Net operating margin is calculated as "Income before interest and income tax expense/ benefit" divided by "Total revenues" excluding "Net investment result – unit-linked business".

Business segments – balance sheet

As of 31 December

2019 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Other	Consolidation	Total
Total assets	89 269	67 026	14 164	–16 064	154 395

As of 30 June

2020 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Other	Consolidation	Total
Total assets	**94 664**	**68 668**	**14 395**	**–16 532**	**161 195**

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b) Property & Casualty Reinsurance business segment – by line of business
For the six months ended 30 June

2019 USD millions	Property	Casualty	Specialty	Unallocated	Total
Revenues					
Gross premiums written	4 677	5 968	1 760		12 405
Net premiums written	4 332	5 946	1 736		12 014
Change in unearned premiums	–1 322	–1 498	–475		–3 295
Premiums earned	3 010	4 448	1 261		8 719
Net investment income				693	693
Net realised investment gains/losses				435	435
Other revenues				7	7
Total revenues	3 010	4 448	1 261	1 135	9 854
Expenses					
Claims and claim adjustment expenses	–2 152	–3 226	–658		–6 036
Acquisition costs	–599	–1 313	–325		–2 237
Operating expenses	–301	–206	–80		–587
Total expenses before interest expenses	–3 052	–4 745	–1 063	0	–8 860
Income/loss before interest and income tax expense	–42	–297	198	1 135	994
Interest expenses				–174	–174
Income/loss before income tax expense	–42	–297	198	961	820
Claims ratio in %	71.5	72.5	52.2		69.2
Expense ratio in %	29.9	34.2	32.1		32.4
Combined ratio in %	101.4	106.7	84.3		101.6

Property & Casualty Reinsurance business segment – by line of business

For the six months ended 30 June

2020 USD millions	Property	Casualty	Specialty	Unallocated	Total
Revenues					
Gross premiums written	5 827	5 155	1 794		12 776
Net premiums written	5 396	5 129	1 745		12 270
Change in unearned premiums	–1 853	–445	–371		–2 669
Premiums earned	3 543	4 684	1 374		9 601
Net investment income				485	485
Net realised investment gains/losses				496	496
Other revenues				13	13
Total revenues	**3 543**	**4 684**	**1 374**	**994**	**10 595**
Expenses					
Claims and claim adjustment expenses	–3 188	–3 953	–886		–8 027
Acquisition costs	–782	–1 356	–359		–2 497
Operating expenses	–295	–223	–79		–597
Total expenses before interest expenses	**–4 265**	**–5 532**	**–1 324**	**0**	**–11 121**
Income/loss before interest and income tax expense	**–722**	**–848**	**50**	**994**	**–526**
Interest expenses				–160	–160
Income/loss before income tax expense	**–722**	**–848**	**50**	**834**	**–686**
Claims ratio in %	90.0	84.4	64.5		83.6
Expense ratio in %	30.4	33.7	31.9		32.2
Combined ratio in %	120.4	118.1	96.4		115.8

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

For the six months ended 30 June

2019 USD millions	Life	Health	Unallocated	Total
Revenues				
Gross premiums written	4 933	2 021		6 954
Net premiums written	4 182	1 963		6 145
Change in unearned premiums	3	44		47
Premiums earned	4 185	2 007		6 192
Fee income from policyholders	92			92
Net investment income – non-participating business	442	135		577
Net realised investment gains/losses – non-participating business	–13		203	190
Net investment result – unit-linked business	48			48
Other revenues				0
Total revenues	4 754	2 142	203	7 099
Expenses				
Life and health benefits	–3 380	–1 606		–4 986
Return credited to policyholders	–71			–71
Acquisition costs	–634	–270		–904
Operating expenses	–238	–131		–369
Total expenses before interest expenses	–4 323	–2 007	0	–6 330
Income before interest and income tax expense	431	135	203	769
Interest expenses			–221	–221
Income/loss before income tax expense	431	135	–18	548
Management expense ratio[1] in %	5.0	6.1		5.4
Net operating margin[2] in %	9.2	6.3		10.9

[1] Management expense ratio is calculated as "Operating expenses" divided by "Total revenues" excluding "Net realised investment gains/losses – non-participating business" and "Net investment result – unit-linked business".
[2] Net operating margin is calculated as "Income before interest and income tax expense" divided by "Total revenues" excluding "Net investment result – unit-linked business".

Life & Health Reinsurance business segment – by line of business

For the six months ended 30 June

2020 USD millions	Life	Health	Unallocated	Total
Revenues				
Gross premiums written	5 170	2 428		7 598
Net premiums written	4 382	2 277		6 659
Change in unearned premiums	12	–82		–70
Premiums earned	4 394	2 195		6 589
Fee income from policyholders	79			79
Net investment income – non-participating business	445	137		582
Net realised investment gains/losses – non-participating business	67	–1	274	340
Net investment result – unit-linked business	–113			–113
Other revenues	2	1		3
Total revenues	**4 874**	**2 332**	**274**	**7 480**
Expenses				
Life and health benefits	–4 192	–1 793		–5 985
Return credited to policyholders	102			102
Acquisition costs	–668	–298		–966
Operating expenses	–235	–116		–351
Total expenses before interest expenses	**–4 993**	**–2 207**	**0**	**–7 200**
Income/loss before interest and income tax expense	**–119**	**125**	**274**	**280**
Interest expenses			–199	–199
Income/loss before income tax expense	**–119**	**125**	**75**	**81**
Management expense ratio[1] in %	4.8	5.0		4.8
Net operating margin[2] in %	–2.4	5.4		3.7

[1] Management expense ratio is calculated as "Operating expenses" divided by "Total revenues" excluding "Net realised investment gains/losses – non-participating business" and "Net investment result – unit-linked business".
[2] Net operating margin is calculated as "Income before interest and income tax expense" divided by "Total revenues" excluding "Net investment result – unit-linked business".

3 Insurance information

Premiums earned and fees assessed against policyholders

For the six months ended 30 June

2019 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Other	Total
Premiums earned, thereof:				
Direct		7	28	35
Reinsurance	8 888	6 998	51	15 937
Intra-group transactions (assumed and ceded)				0
Premiums earned before retrocession to external parties	8 888	7 005	79	15 972
Retrocession to external parties	–169	–813	–52	–1 034
Net premiums earned	8 719	6 192	27	14 938
Fee income from policyholders, thereof:				
Direct				0
Reinsurance		92	48	140
Gross fee income before retrocession to external parties		92	48	140
Retrocession to external parties			–47	–47
Net fee income	0	92	1	93

2020 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Other	Total
Premiums earned, thereof:				
Direct			34	34
Reinsurance	9 815	7 526	33	17 374
Intra-group transactions (assumed and ceded)				0
Premiums earned before retrocession to external parties	9 815	7 526	67	17 408
Retrocession to external parties	–214	–937	–32	–1 183
Net premiums earned	**9 601**	**6 589**	**35**	**16 225**
Fee income from policyholders, thereof:				
Direct				0
Reinsurance		79	44	123
Gross fee income before retrocession to external parties		79	44	123
Retrocession to external parties			–41	–41
Net fee income	**0**	**79**	**3**	**82**

Claims and claim adjustment expenses

For the six months ended 30 June

2019 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Other	Total
Claims paid, thereof:				
Gross claims paid to external parties	–6 207	–5 322	–118	–11 647
Intra-group transactions (assumed and ceded)				0
Claims before receivables from retrocession to external parties	–6 207	–5 322	–118	–11 647
Retrocession to external parties	244	707	109	1 060
Net claims paid	–5 963	–4 615	–9	–10 587
Change in unpaid claims and claim adjustment expenses; life and health benefits, thereof:				
Gross – with external parties	36	–361	8	–317
Intra-group transactions (assumed and ceded)				0
Unpaid claims and claim adjustment expenses; life and health benefits before impact of retrocession to external parties	36	–361	8	–317
Retrocession to external parties	–109	–10	2	–117
Net unpaid claims and claim adjustment expenses; life and health benefits	–73	–371	10	–434
Claims and claim adjustment expenses; life and health benefits	–6 036	–4 986	1	–11 021

Acquisition costs

For the six months ended 30 June

2019 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Other	Total
Acquisition costs, thereof:				
Gross acquisition costs with external parties	–2 268	–1 008	–14	–3 290
Intra-group transactions (assumed and ceded)	–1		1	0
Acquisition costs before impact of retrocession to external parties	–2 269	–1 008	–13	–3 290
Retrocession to external parties	32	104	16	152
Net acquisition costs	–2 237	–904	3	–3 138

Claims and claim adjustment expenses

For the six months ended 30 June

2020 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Other	Total
Claims paid, thereof:				
Gross claims paid to external parties	−6 625	−5 880	−121	−12 626
Intra-group transactions (assumed and ceded)				0
Claims before receivables from retrocession to external parties	−6 625	−5 880	−121	−12 626
Retrocession to external parties	271	844	98	1 213
Net claims paid	**−6 354**	**−5 036**	**−23**	**−11 413**
Change in unpaid claims and claim adjustment expenses; life and health benefits, thereof:				
Gross – with external parties	−1 462	−1 094	30	−2 526
Intra-group transactions (assumed and ceded)				0
Unpaid claims and claim adjustment expenses; life and health benefits before impact of retrocession to external parties	−1 462	−1 094	30	−2 526
Retrocession to external parties	−211	145	−16	−82
Net unpaid claims and claim adjustment expenses; life and health benefits	**−1 673**	**−949**	**14**	**−2 608**
Claims and claim adjustment expenses; life and health benefits	**−8 027**	**−5 985**	**−9**	**−14 021**

Acquisition costs

For the six months ended 30 June

2020 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Other	Total
Acquisition costs, thereof:				
Gross acquisition costs with external parties	−2 540	−1 125	−64	−3 729
Intra-group transactions (assumed and ceded)	−1		1	0
Acquisition costs before impact of retrocession to external parties	−2 541	−1 125	−63	−3 729
Retrocession to external parties	44	159	49	252
Net acquisition costs	**−2 497**	**−966**	**−14**	**−3 477**

Reinsurance assets and liabilities

The reinsurance assets and liabilities as of 31 December 2019 and 30 June 2020 were as follows:

2019 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Other	Consolidation	Total
Assets					
Reinsurance recoverable on unpaid claims and policy benefits	2 325	4 887	5 322	–14	12 520
Deferred acquisition costs	2 613	4 529	25		7 167
Liabilities					
Unpaid claims and claim adjustment expenses	49 963	13 094	808	–13	63 852
Liabilities for life and health policy benefits		20 679	587		21 266
Policyholder account balances		1 401	4 004		5 405

2020 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Other	Consolidation	Total
Assets					
Reinsurance recoverable on unpaid claims and policy benefits	2 074	4 885	5 329	–15	12 273
Deferred acquisition costs	2 791	4 623	23		7 437
Liabilities					
Unpaid claims and claim adjustment expenses	50 998	13 893	814	–10	65 695
Liabilities for life and health policy benefits		21 721	567		22 288
Policyholder account balances		1 220	4 024		5 244

Reinsurance receivables

Reinsurance receivables as of 31 December 2019 and 30 June 2020 were as follows:

USD millions	2019	**2020**
Premium receivables invoiced	3 187	2 405
Receivables invoiced from ceded re/insurance business	536	550
Assets arising from the application of the deposit method of accounting and meeting the definition of financing receivables	246	493
Recognised allowance	–29	–32

4 Premiums written

For the six months ended 30 June

2019 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Other	Consolidation	Total
Gross premiums written, thereof:					
Direct		7	28		35
Reinsurance	12 405	6 947	50		19 402
Intra-group transactions (assumed)					0
Gross premiums written	12 405	6 954	78		19 437
Intra-group transactions (ceded)					0
Gross premiums written before retrocession to external parties	12 405	6 954	78		19 437
Retrocession to external parties	–391	–809	–51		–1 251
Net premiums written	12 014	6 145	27	0	18 186

2020 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Other	Consolidation	Total
Gross premiums written, thereof:					
Direct			34		34
Reinsurance	12 776	7 598	35		20 409
Intra-group transactions (assumed)					0
Gross premiums written	12 776	7 598	69		20 443
Intra-group transactions (ceded)					0
Gross premiums written before retrocession to external parties	12 776	7 598	69		20 443
Retrocession to external parties	–506	–939	–34		–1 479
Net premiums written	**12 270**	**6 659**	**35**	**0**	**18 964**

5 Unpaid claims and claim adjustment expenses

A reconciliation of the opening and closing reserve balances for unpaid claims and claim adjustment expenses as of 31 December 2019 and 30 June 2020 is presented as follows:

USD millions	2019	**2020**
Balance as of 1 January	58 652	63 852
Reinsurance recoverable	–3 773	–3 775
Deferred expense on retroactive reinsurance	–169	–168
Net balance as of 1 January	54 710	59 909
Incurred related to:		
Current year	23 652	13 766
Prior year	1 065	190
Amortisation of deferred expense on retroactive reinsurance and impact of commutations	–123	–26
Total incurred	24 594	13 930
Paid related to:		
Current year	–6 886	–1 643
Prior year	–15 011	–9 770
Total paid	–21 897	–11 413
Foreign exchange	141	–706
Effect of acquisitions, disposals, new retroactive reinsurance and other items	2 361	199
Net balance as of period end	59 909	61 919
Reinsurance recoverable	3 775	3 609
Deferred expense on retroactive reinsurance	168	167
Balance as of period end	63 852	65 695

Prior-year development

Non-life claims development in the first six months ended 30 June 2020 on prior years is mainly due to adverse development for casualty in North America, where the adverse experience in liability and motor is partially offset by favourable development in workers' compensation. The movement for property includes reserve releases for natural catastrophe mainly in Asia and North America. Favourable development for specialty mostly comes from marine related to natural catastrophe events in North America and man-made losses, partially offset by adverse development for engineering.

For life and health lines of business, the development on prior years' claims was unfavourable. For life business favourable development in the US driven by positive experience is partially offset by unfavourable development in Asia and the UK due to adverse experience. For health line of business, adverse experience in the disability portfolios in Australia and the US led to an unfavourable claims development. Claims development related to prior years for the disability portfolio also includes an element of interest accretion for unpaid claims reported at an estimated present value.

A summary of prior-year net claims and claim adjustment expenses development by lines of business for the year ended 31 December 2019 and for the six months ended 30 June 2020 is shown below[1]:

USD millions	2019	2020
Line of business:		
Property	76	–166
Casualty	621	338
Specialty	–89	–102
Life and health	457	120
Total	1 065	190

[1] Adverse development is shown as positive numbers, and represents a charge to the income statement. Favourable development is shown as negative, and represents a credit to the income statement.

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

As of 31 December 2019 and 30 June 2020, the DAC were as follows:

2019 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Other	Total
Opening balance as of 1 January	2 156	4 784	0	6 940
Deferred	5 269	434	7	5 710
Effect of acquisitions/disposals and retrocessions		–256	38	–218
Amortisation	–4 809	–445	–19	–5 273
Effect of foreign currency translation and other changes	–3	12	–1	8
Closing balance	2 613	4 529	25	7 167

2020 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Other	Total
Opening balance as of 1 January	2 613	4 529	25	7 167
Deferred	2 693	405		3 098
Effect of acquisitions/disposals and retrocessions		–6	6	0
Amortisation	–2 497	–206	–8	–2 711
Effect of foreign currency translation and other changes	–18	–99		–117
Closing balance	**2 791**	**4 623**	**23**	**7 437**

Retroceded DAC may arise on retrocession of reinsurance portfolios, including reinsurance undertaken as part of a securitisation. The associated potential retrocession recoveries are determined by the nature of the retrocession agreements and by the terms of the securitisation.

As of 31 December 2019 and 30 June 2020, the PVFP was as follows:

			2019			**2020**
USD millions	Life & Health Reinsurance	Other	Total	Life & Health Reinsurance	Other	Total
Opening balance as of 1 January	804	38	842	577	42	619
Effect of acquisitions/disposals and retrocessions[1]	–161	15	–146			0
Amortisation	–108	3	–105	–46		–46
Interest accrued on unamortised PVFP	32	–1	31	14		14
Effect of change in unrealised gains/losses		–13	–13		–2	–2
Effect of foreign currency translation	10		10	–9		–9
Closing balance	577	42	619	**536**	**40**	**576**

[1] Impact from termination of a reinsurance arrangement included.

Retroceded PVFP may arise on retrocession of reinsurance portfolios, including reinsurance undertaken as part of a securitisation. The associated potential retrocession recoveries are determined by the nature of the retrocession agreements and by the terms of the securitisation.

7 Investments

Investment income

Net investment income by source (excluding unit-linked business) for the six months ended 30 June was as follows:

USD millions	2019	2020
Fixed income securities	1 041	907
Equity securities	30	19
Policy loans, mortgages and other loans	42	43
Investment real estate	112	120
Short-term investments	42	22
Other current investments	54	32
Share in earnings of equity-accounted investees	–1	–59
Cash and cash equivalents	26	15
Net result from deposit-accounted contracts	–1	10
Deposits with ceding companies	310	233
Gross investment income	1 655	**1 342**
Investment expenses	–142	–160
Interest charged for funds held	–368	–259
Net investment income – non-participating business	1 145	**923**

Dividends received from investments accounted for using the equity method were USD 37 million and USD 46 million for the six months ended 30 June 2019 and 2020, respectively.

Share in earnings of equity-accounted investees included impairments of the carrying amount of equity-accounted investees of USD 18 million and nil for the six months ended 30 June 2019 and 2020, respectively.

Realised gains and losses

Realised gains and losses for fixed income securities, equity securities and other investments (excluding unit-linked business) for the six months ended 30 June were as follows:

USD millions	2019	2020
Fixed income securities available-for-sale:		
Gross realised gains	469	1 114
Gross realised losses	–75	–163
Other-than-temporary impairments		–25
Net realised investment gains/losses on equity securities	134	–80
Change in net unrealised investment gains/losses on equity securities	255	–36
Net realised investment gains/losses on trading securities	39	69
Change in net unrealised investment gains/losses on trading securities	92	15
Net realised/unrealised gains/losses on other investments	–183	–118
Net realised/unrealised gains/losses on insurance-related activities	–22	67
Foreign exchange gains/losses	–87	131
Net realised investment gains/losses – non-participating business	622	**974**

Net realised/unrealised gains/losses on insurance-related activities included impairments of USD 2 million and nil for the six months ended 30 June 2019 and 2020, respectively.

Investment result – unit-linked business

The net investment result on unit-linked business credited to policyholders amounted to gains of USD 48 million and to losses of USD 113 million for the six months ended 30 June 2019 and 2020, respectively, originating from equity securities.

Impairment on fixed income securities related to credit losses

Other-than-temporary impairments for debt securities are bifurcated between credit and non-credit components, with the credit component recognised through earnings and the non-credit component recognised in other comprehensive income. The credit component of other-than-temporary impairments is defined as the difference between a security's amortised cost basis and the present value of expected cash flows. Methodologies for measuring the credit component of impairment are aligned to market observer forecasts of credit performance drivers. Management believes that these forecasts are representative of median market expectations.

For securitised products, cash flow projection analysis is conducted by integrating forward-looking evaluation of collateral performance drivers, including default rates, prepayment rates and loss severities, and deal-level features, such as credit enhancement and prioritisation among tranches for payments of principal and interest. Analytics are differentiated by asset class, product type and security-level differences in historical and expected performance. For corporate bonds and hybrid debt instruments, an expected loss approach based on default probabilities and loss severities expected in the current and forecasted economic environment is used for securities identified as credit-impaired to project probability-weighted cash flows. Expected cash flows resulting from these analyses are discounted, and the present value is compared to the amortised cost basis to determine the credit component of other-than-temporary impairments.

A reconciliation of other-than-temporary impairments related to credit losses recognised in earnings for the six months ended 30 June was as follows:

USD millions	2019	**2020**
Balance as of 1 January	77	59
Credit losses for which an other-than-temporary impairment was not previously recognised	2	16
Reductions for securities sold during the period	–6	–20
Impact of increase in cash flows expected to be collected	–2	–1
Impact of foreign exchange movements		–1
Balance as of 30 June	71	**53**

Investments available-for-sale

Amortised cost or cost, estimated fair values and other-than-temporary impairments of fixed income securities classified as available-for-sale as of 31 December 2019 and 30 June 2020 were as follows:

2019 USD millions	Amortised cost or cost	Gross unrealised gains	Gross unrealised losses	Other-than-temporary impairments recognised in other comprehensive income	Estimated fair value
Debt securities issued by governments and government agencies:					
US Treasury and other US government corporations and agencies	11 590	247	–35		11 802
US Agency securitised products	6 693	96	–13		6 776
States of the United States and political subdivisions of the states	1 395	146	–3		1 538
United Kingdom	4 114	576	–26		4 664
Germany	2 650	269	–34		2 885
France	1 759	276	–9		2 026
Japan	2 025	98	–1		2 122
Canada	1 786	137	–3		1 920
Other	9 473	490	–31		9 932
Total	41 485	2 335	–155		43 665
Corporate debt securities	22 431	1 682	–19		24 094
Mortgage- and asset-backed securities	3 764	107	–15	–2	3 854
Fixed income securities available-for-sale	67 680	4 124	–189	–2	71 613

2020 USD millions	Amortised cost or cost	Gross unrealised gains	Gross unrealised losses	Other-than-temporary impairments recognised in other comprehensive income	Estimated fair value
Debt securities issued by governments and government agencies:					
US Treasury and other US government corporations and agencies	7 802	683	–3		8 482
US Agency securitised products	6 244	239	–6		6 477
States of the United States and political subdivisions of the states	1 227	213	–1		1 439
United Kingdom	3 707	813	–6		4 514
Germany	2 894	340	–6		3 228
France	2 130	368	–1		2 497
Japan	2 043	43	–32		2 054
Canada	1 726	224	–5		1 945
Other	9 159	599	–33		9 725
Total	36 932	3 522	–93		40 361
Corporate debt securities	23 414	2 265	–77		25 602
Mortgage- and asset-backed securities	3 149	126	–34	–2	3 239
Fixed income securities available-for-sale	**63 495**	**5 913**	**–204**	**–2**	**69 202**

The "Other-than-temporary impairments recognised in other comprehensive income" column includes only securities with a credit-related loss recognised in earnings. Subsequent recovery in fair value of securities previously impaired in other comprehensive income is also presented in the "Other-than-temporary impairments recognised in other comprehensive income" column.

Unrealised losses on securities available-for-sale

The following table shows the fair value and unrealised losses of the Group's fixed income securities, aggregated by investment category and length of time that individual securities were in a continuous unrealised loss position as of 31 December 2019 and 30 June 2020.

2019 USD millions	Less than 12 months Fair value	 Unrealised losses	12 months or more Fair value	 Unrealised losses	Total Fair value	 Unrealised losses
Debt securities issued by governments and government agencies:						
US Treasury and other US government corporations and agencies	1 898	35	86	0	1 984	35
US Agency securitised products	1 790	7	651	6	2 441	13
States of the United States and political subdivisions of the states	39	1	23	2	62	3
United Kingdom	1 297	22	83	4	1 380	26
Germany	663	33	10	1	673	34
France	280	8	16	1	296	9
Japan	443	1			443	1
Canada	653	2	62	1	715	3
Other	1 313	16	276	15	1 589	31
Total	8 376	125	1 207	30	9 583	155
Corporate debt securities	1 361	10	221	9	1 582	19
Mortgage- and asset-backed securities	675	5	447	12	1 122	17
Total	10 412	140	1 875	51	12 287	191

2020 USD millions	Less than 12 months Fair value	 Unrealised losses	12 months or more Fair value	 Unrealised losses	Total Fair value	 Unrealised losses
Debt securities issued by governments and government agencies:						
US Treasury and other US government corporations and agencies	249	3			249	3
US Agency securitised products	504	6	66	0	570	6
States of the United States and political subdivisions of the states	19	1	3	0	22	1
United Kingdom	111	2	65	4	176	6
Germany	285	5	10	1	295	6
France	25	0	16	1	41	1
Japan	810	32			810	32
Canada	31	3	44	2	75	5
Other	1 239	21	144	12	1 383	33
Total	3 273	73	348	20	3 621	93
Corporate debt securities	2 605	67	152	10	2 757	77
Mortgage- and asset-backed securities	748	22	292	14	1 040	36
Total	**6 626**	**162**	**792**	**44**	**7 418**	**206**

Maturity of fixed income securities available-for-sale

The amortised cost or cost and estimated fair values of investments in fixed income securities available-for-sale by remaining maturity are shown below. Fixed maturity investments are assumed not to be called for redemption prior to the stated maturity date. As of 31 December 2019 and 30 June 2020, USD 17 021 million and USD 17 421 million, respectively, of fixed income securities available-for-sale were callable.

		2019		2020
USD millions	Amortised cost or cost	Estimated fair value	Amortised cost or cost	Estimated fair value
Due in one year or less	5 423	5 445	5 768	5 802
Due after one year through five years	22 166	22 516	16 745	17 290
Due after five years through ten years	10 422	11 035	11 053	11 949
Due after ten years	26 541	29 391	27 553	31 678
Mortgage- and asset-backed securities with no fixed maturity	3 128	3 226	2 376	2 483
Total fixed income securities available-for-sale	67 680	71 613	**63 495**	**69 202**

Investments trading and at fair value through earnings

The carrying amounts of fixed income securities classified as trading and equity securities at fair value through earnings (excluding unit-linked business) as of 31 December 2019 and 30 June 2020 were as follows:

USD millions	2019	2020
Debt securities issued by governments and government agencies	2 358	2 090
Mortgage- and asset-backed securities	52	44
Fixed income securities trading – non-participating business	2 410	**2 134**
Equity securities at fair value through earnings – non-participating business	2 373	**2 229**

Investments held for unit-linked business

As of 31 December 2019 and 30 June 2020, the carrying amounts of investments held for unit-linked business consist of equity securities at fair value through earnings of USD 520 million and USD 369 million.

Mortgage, policy and other loans, and investment real estate

As of 31 December 2019 and 30 June 2020, the carrying and respective fair values of investments in mortgage, policy and other loans, and investment real estate (excluding unit-linked business) were as follows:

		2019		2020
USD millions	Carrying value	Fair value	Carrying value	Fair value
Policy loans	45	45	44	44
Mortgage loans	1 014	1 045	1 002	1 038
Other loans	1 298	1 329	1 484	1 502
Investment real estate	2 526	4 557	2 521	4 568

Depreciation expense related to investment real estate was USD 30 million and USD 32 million for the six months ended 30 June 2019 and 2020, respectively. Accumulated depreciation on investment real estate totalled USD 660 million and USD 701 million as of 31 December 2019 and 30 June 2020, respectively.

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

Investment real estate held by the Group includes residential and commercial investment real estate.

Other financial assets and liabilities by measurement category

As of 31 December 2019 and 30 June 2020, "Other invested assets" and "Accrued expenses and other liabilities" by measurement category were as follows:

2019 USD millions	Fair value	Investments measured at net asset value as practical expedient	Amortised cost or cost	Equity-accounted	Not in scope[1]	Total
Other invested assets						
Derivative financial instruments	556					556
Reverse repurchase agreements			2 062			2 062
Securities lending/borrowing	457		21			478
Equity-accounted investments	20			1 495		1 515
Other	51	699	550			1 300
Other invested assets	1 084	699	2 633	1 495	0	5 911
Accrued expenses and other liabilities						
Derivative financial instruments	645					645
Repurchase agreements			678			678
Securities lending	458		115			573
Securities sold short	1 764					1 764
Other			1 202		2 939	4 141
Accrued expenses and other liabilities	2 867	0	1 995	0	2 939	7 801

2020 USD millions	Fair value	Investments measured at net asset value as practical expedient	Amortised cost or cost	Equity-accounted	Not in scope[1]	Total
Other invested assets						
Derivative financial instruments	539					539
Reverse repurchase agreements			1 511			1 511
Securities lending/borrowing	628		116			744
Equity-accounted investments	13			1 396		1 409
Other	39	755	778			1 572
Other invested assets	**1 219**	**755**	**2 405**	**1 396**	**0**	**5 775**
Accrued expenses and other liabilities						
Derivative financial instruments	672					672
Repurchase agreements			775			775
Securities lending	629		116			745
Securities sold short	980					980
Other			2 005		3 439	5 444
Accrued expenses and other liabilities	**2 281**	**0**	**2 896**	**0**	**3 439**	**8 616**

[1] Amounts do not relate to financial assets or liabilities.

Offsetting of derivatives, financial assets and financial liabilities

Offsetting of derivatives, financial assets and financial liabilities as of 31 December 2019 and 30 June 2020 was as follows:

2019 USD millions	Gross amounts of recognised financial assets	Amounts set-off in the balance sheet	Net amounts of financial assets presented in the balance sheet	Related financial instruments not set-off in the balance sheet	Net amount
Derivative financial instruments – assets	1 740	–1 184	556	–32	524
Reverse repurchase agreements	5 158	–3 096	2 062	–2 035	27
Securities borrowing	171	–150	21	–20	1
Total	7 069	–4 430	2 639	–2 087	552

2019 USD millions	Gross amounts of recognised financial liabilities	Amounts set-off in the balance sheet	Net amounts of financial liabilities presented in the balance sheet	Related financial instruments not set-off in the balance sheet	Net amount
Derivative financial instruments – liabilities	–1 703	1 058	–645	75	–570
Repurchase agreements	–3 352	2 674	–678	653	–25
Securities lending	–1 145	572	–573	524	–49
Total	–6 200	4 304	–1 896	1 252	–644

2020 USD millions	Gross amounts of recognised financial assets	Amounts set-off in the balance sheet	Net amounts of financial assets presented in the balance sheet	Related financial instruments not set-off in the balance sheet	Net amount
Derivative financial instruments – assets	1 992	–1 453	**539**	–25	**514**
Reverse repurchase agreements	3 261	–1 750	**1 511**	–1 511	**0**
Securities borrowing	137	–21	**116**	–116	**0**
Total	**5 390**	**–3 224**	**2 166**	**–1 652**	**514**

2020 USD millions	Gross amounts of recognised financial liabilities	Amounts set-off in the balance sheet	Net amounts of financial liabilities presented in the balance sheet	Related financial instruments not set-off in the balance sheet	Net amount
Derivative financial instruments – liabilities	–1 885	1 213	**–672**	166	**–506**
Repurchase agreements	–2 225	1 450	**–775**	775	**0**
Securities lending	–1 066	321	**–745**	682	**–63**
Total	**–5 176**	**2 984**	**–2 192**	**1 623**	**–569**

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

Assets pledged

As of 31 December 2019 and 30 June 2020, investments with a carrying value of USD 4 182 million and USD 4 300 million, respectively, were on deposit with regulatory agencies in accordance with local requirements, of which USD 190 million and USD 303 million, respectively, were cash and cash equivalents. As of 31 December 2019 and 30 June 2020, investments with a carrying value of USD 13 348 million and USD 15 047 million, respectively, were placed on deposit or pledged to secure certain reinsurance liabilities, including pledged investments in subsidiaries, of which USD 192 million and USD 320 million, respectively, were cash and cash equivalents. Cash and cash equivalents pledged include some instances where cash is legally restricted from usage or withdrawal.

As of 31 December 2019 and 30 June 2020, securities of USD 17 024 million and USD 8 207 million, respectively, were transferred to third parties under securities lending transactions and repurchase agreements on a fully collateralised basis. Corresponding liabilities of USD 1 251 million and USD 1 520 million, respectively, were recognised in accrued expenses and other liabilities for the obligation to return collateral that the Group has the right to sell or reuse.

As of 31 December 2019 and 30 June 2020, a real estate portfolio with a carrying value of USD 188 million and USD 188 million, respectively, served as collateral for a credit facility, allowing the Group to withdraw funds up to CHF 500 million.

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

As of 31 December 2019 and 30 June 2020, the fair value of the equity securities, government and corporate debt securities received as collateral was USD 7 036 million and USD 4 052 million, respectively. Of this, the amount that was sold or repledged as of 31 December 2019 and 30 June 2020 was USD 3 584 million and USD 1 834 million, respectively. The sources of the collateral are securities borrowing, reverse repurchase agreements and derivative transactions.

Recognised gross liability for the obligation to return collateral (from repurchase agreements and securities lending)

As of 31 December 2019 and 30 June 2020, the gross amounts of liabilities related to repurchase agreements and securities lending by the class of securities transferred to third parties and by the remaining maturity are shown below.

	Remaining contractual maturity of the agreements				
2019 USD millions	Overnight and continuous	Up to 30 days	30–90 days	Greater than 90 days	Total
Repurchase agreements					
Debt securities issued by governments and government agencies	30	3 312			3 342
Corporate debt securities	3	7			10
Total repurchase agreements	33	3 319	0	0	3 352
Securities lending					
Debt securities issued by governments and government agencies	295		493	299	1 087
Corporate debt securities	58				58
Total securities lending	353	0	493	299	1 145
Gross amount of recognised liabilities for repurchase agreements and securities lending					4 497

	Remaining contractual maturity of the agreements				
2020 USD millions	Overnight and continuous	Up to 30 days	30–90 days	Greater than 90 days	Total
Repurchase agreements					
Debt securities issued by governments and government agencies	29	2 168			2 197
Corporate debt securities	10	18			28
Total repurchase agreements	**39**	**2 186**		**0**	**2 225**
Securities lending					
Debt securities issued by governments and government agencies	753		306		1 059
Corporate debt securities	7				7
Total securities lending	**760**	**0**	**306**		**1 066**
Gross amount of recognised liabilities for repurchase agreements and securities lending					**3 291**

The programme is structured in a conservative manner within a clearly defined risk framework. Yield enhancement is conducted on a non-cash basis, thereby taking no re-investment risk.

8 Fair value disclosures

Fair value, as defined by the Fair Value Measurements and Disclosures Topic, is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

The Fair Value Measurements and Disclosures Topic requires all assets and liabilities that are measured at fair value to be categorised within the fair value hierarchy. This three-level hierarchy is based on the observability of the inputs used in the fair value measurement. The levels of the fair value hierarchy are defined as follows:

Level 1 inputs are unadjusted, quoted prices in active markets for identical assets or liabilities that the Group has the ability to access. Level 1 inputs are the most persuasive evidence of fair value and are to be used whenever possible. The types of instruments include most US government and sovereign obligations, active listed equities, certain exchange-traded derivative instruments and most money market securities.

Level 2 inputs are market-based inputs that are directly or indirectly observable, but not considered level 1 quoted prices. Level 2 inputs consist of (i) quoted prices for similar assets or liabilities in active markets; (ii) quoted prices for identical assets or liabilities in non-active markets (eg markets which have few transactions and where prices are not current or price quotations vary substantially); (iii) inputs other than quoted prices that are observable (eg interest rates, yield curves, volatilities, prepayment speeds, credit risks and default rates); (iv) inputs derived from, or corroborated by, observable market data; and (v) quoted prices provided by third-party brokers. The types of instruments that trade in markets that are not considered to be active include most government agency securities, investment-grade corporate bonds, certain mortgage- and asset-backed products, certain exchange-traded derivative instruments, catastrophe bonds, less liquid listed equities and state, municipal and provincial obligations.

Level 3 inputs are unobservable inputs. These inputs reflect the Group's own assumptions about market pricing using the best internal and external information available. Certain financial instruments are classified within level 3 of the fair value hierarchy because they trade infrequently and therefore have little or no price transparency. Such instruments include private equity, less liquid corporate debt securities and certain asset-backed securities (ABS). Certain over-the-counter (OTC) derivatives trade in less liquid markets with limited pricing information, and the determination of fair value for these derivatives is inherently more difficult. When appropriate, valuations are adjusted for various factors such as liquidity, bid/offer spreads and credit considerations. Such adjustments are generally based on available market evidence. In the absence of such evidence, management's best estimate is used.

Pursuant to the election of the fair value option, the Group classifies certain liabilities for life and health policy benefits in level 3 of the fair value hierarchy. When appropriate, valuations are adjusted for various factors such as liquidity, bid/offer spreads and credit considerations. Such adjustments are generally based on available market evidence. In the absence of such evidence, management's best estimate is used.

The fair values of assets are adjusted to incorporate the counterparty risk of non-performance. Similarly, the fair values of liabilities reflect the risk of non-performance of the Group, captured by the Group's credit spread. These valuation adjustments from assets and liabilities measured at fair value using significant unobservable inputs are recognised in net realised gains and losses. For the six months ended 30 June 2020, these adjustments were not material. Whenever the underlying assets or liabilities are reported in a specific business segment, the valuation adjustment is allocated accordingly. Valuation adjustments not attributable to any business segment are reported in Other.

In certain situations, the Group uses inputs to measure the fair value of asset or liability positions that fall into different levels of the fair value hierarchy. In these situations, the Group will determine the appropriate level based on the lowest level input that is significant to the determination of the fair value.

Valuation techniques
US government securities typically have quoted market prices in active markets and are categorised as level 1 instruments in the fair value hierarchy. Non-US government holdings are generally classified as level 2 instruments and are valued on the basis of the quotes provided by pricing services, which are subject to the Group's pricing validation reviews and pricing vendor challenge process. Valuations provided by pricing vendors are generally based on the actual trade information as substantially all of the Group's non-US government holdings are traded in a transparent and liquid market.

Corporate debt securities mainly include US and European investment-grade positions, which are priced on the basis of quotes provided by third-party pricing vendors and first utilise valuation inputs from actively traded securities, such as bid prices, bid spreads to Treasury securities, Treasury curves and same or comparable issuer curves and spreads. Issuer spreads are determined from actual quotes and traded prices and incorporate considerations of credit/default, sector composition, and liquidity and call features. Where market data is not available, valuations are developed based on the modelling techniques that utilise observable inputs and option-adjusted spreads and incorporate considerations of the security's seniority and maturity and the issuer's corporate structure.

Values of mortgage- and asset-backed securities are obtained both from third-party pricing vendors and through quoted prices, some of which may be based on the prices of comparable securities with similar structural and collateral features. Values of certain ABS for which there are no significant observable inputs are developed using benchmarks to similar transactions or indices. For both residential mortgage-backed securities (RMBS) and commercial mortgage-backed securities (CMBS), cash flows are derived based on the transaction-specific information, which incorporates priority in the capital structure, and are generally adjusted to reflect benchmark yields, market prepayment data, collateral performance (default rates and loss severity) for specific vintage and geography, credit enhancements and ratings. For certain RMBS and CMBS with low levels of market liquidity, judgements may be required to determine comparable securities based on the loan type and deal-specific performance. CMBS terms may also incorporate lock-out periods that restrict borrowers from prepaying the loans or provide disincentives to prepay and therefore reduce prepayment risk of these securities, compared to RMBS. The factors specifically considered in the valuation of CMBS include borrower-specific statistics in a specific region, such as debt service coverage and loan-to-value ratios, as well as the type of commercial property. Mortgage- and asset-backed securities also includes debt securitised by credit card, student loan and auto loan receivables. Pricing inputs for these securities also focus on capturing, where relevant, collateral quality and performance, payment patterns and delinquencies.

The Group uses third-party pricing vendor data to value agency securitised products, which mainly include collateralised mortgage obligations (CMO) and mortgage-backed government agency securities. The valuations generally utilise observable inputs consistent with those noted above for RMBS and CMBS.

Equity securities held by the Group for proprietary investment purposes are mainly classified in level 1. Securities classified in level 1 are traded on public stock exchanges for which quoted prices are readily available.

The category "Other invested assets" includes the Group's private equity and hedge fund investments which are made directly or via ownership of funds. Valuation of direct private equity investments requires significant management judgement due to the absence of quoted market prices and the lack of liquidity. Initial valuation is based on the acquisition cost and is further refined based on the available market information for the public companies that are considered comparable to the Group's holdings in the private companies being valued and the private company-specific performance indicators, both historic and projected. Subsequent valuations also reflect business or asset appraisals, as well as market transaction data for private and public benchmark companies and the actual companies being valued, such as financing rounds and mergers and acquisitions activity. The Group's holdings in private equity and hedge funds are generally valued utilising net asset values (NAV), subject to adjustments, as deemed necessary, for restrictions on redemption (lock-up periods and amount limitations on redemptions). These investments are included under investments measured at net asset value as a practical expedient.

The Group holds both exchange-traded and OTC interest rate, foreign exchange, credit and equity derivative contracts for hedging and trading purposes. The fair values of exchange-traded derivatives measured using observable exchange prices are classified in level 1. Long-dated contracts may require adjustments to the exchange-traded prices which would trigger reclassification to level 2 in the fair value hierarchy. OTC derivatives are generally valued by the Group based on the internal models, which are consistent with industry standards and practices, and use both observable (dealer, broker or market consensus prices, spot and forward rates, interest rate and credit curves and volatility indices) and unobservable inputs (adjustments for liquidity, inputs derived from the observable data based on the Group's judgements and assumptions). The Group's OTC interest rate derivatives primarily include interest rate swaps, futures, options, caps and floors and are valued based on the cash flow discounting models which generally utilise as inputs observable market yield curves and volatility assumptions.

The Group's OTC foreign exchange derivatives primarily include forward, spot and option contracts and are generally valued based on the cash flow discounting models, utilising as main inputs observable foreign exchange forward curves.

The Group's investments in equity derivatives primarily include OTC equity option contracts on single or baskets of market indices and equity options on individual or baskets of equity securities, which are valued using internally developed models (such as the Black-Scholes type option pricing model and various simulation models) calibrated with the inputs, which include underlying spot prices, dividend curves, volatility surfaces, yield curves and correlations between underlying assets.

The Group's OTC credit derivatives can include index and single-name credit default swaps. Plain vanilla credit derivatives, such as index and single-name credit default swaps, are valued by the Group based on the models consistent with the industry valuation standards for these credit contracts and primarily utilise observable inputs published by market data sources, such as credit spreads and recovery rates. These valuation techniques warrant classification of plain vanilla OTC derivatives as level 2 financial instruments in the fair value hierarchy.

Assets and liabilities measured at fair value on a recurring basis

As of 31 December 2019 and 30 June 2020, the fair values of assets and liabilities measured on a recurring basis by level of input were as follows:

2019 USD millions	Quoted prices in active markets for identical assets and liabilities (level 1)	Significant other observable inputs (level 2)	Significant unobservable inputs (level 3)	Impact of netting[1]	Total
Assets					
Fixed income securities held for proprietary investment purposes	11 443	61 785	795		74 023
Debt securities issued by US government and government agencies	11 443	1 978			13 421
US Agency securitised products		6 827			6 827
Debt securities issued by non-US governments and government agencies		25 775			25 775
Corporate debt securities		23 299	795		24 094
Mortgage- and asset-backed securities		3 906			3 906
Equity securities held for proprietary investment purposes	2 373				2 373
Equity securities backing unit-linked business	520				520
Short-term investments held for proprietary investment purposes	955	4 077			5 032
Derivative financial instruments	2	1 492	246	–1 184	556
Interest rate contracts		484			484
Foreign exchange contracts		373			373
Equity contracts	2	609	186		797
Credit contracts		23			23
Other contracts		3	60		63
Other invested assets	317	140	71		528
Funds held by ceding companies		174			174
Total assets at fair value	15 610	67 668	1 112	–1 184	83 206
Liabilities					
Derivative financial instruments	–4	–1 413	–286	1 058	–645
Interest rate contracts		–363	–2		–365
Foreign exchange contracts		–399			–399
Equity contracts	–4	–586	–20		–610
Credit contracts		–65			–65
Other contracts			–264		–264
Liabilities for life and health policy benefits			–91		–91
Funds held under reinsurance treaties	–135	–1 424			–1 559
Accrued expenses and other liabilities	–340	–1 882			–2 222
Total liabilities at fair value	–479	–4 719	–377	1 058	–4 517

[1] The netting of derivative receivables and derivative payables is permitted when a legally enforceable master netting agreement exists between two counterparties. A master netting agreement provides for the net settlement of all contracts, as well as cash collateral, through a single payment, in a single currency, in the event of default or on the termination of any one contract.

2020 USD millions	Quoted prices in active markets for identical assets and liabilities (level 1)	Significant other observable inputs (level 2)	Significant unobservable inputs (level 3)	Impact of netting[1]	Total
Assets					
Fixed income securities held for proprietary investment purposes	8 001	62 426	909		71 336
Debt securities issued by US government and government agencies	8 001	1 951			9 952
US Agency securitised products		6 928			6 928
Debt securities issued by non-US governments and government agencies		25 571			25 571
Corporate debt securities		24 693	909		25 602
Mortgage- and asset-backed securities		3 283			3 283
Equity securities held for proprietary investment purposes	2 229				2 229
Equity securities backing unit-linked business	369				369
Short-term investments held for proprietary investment purposes	2 625	4 934			7 559
Derivative financial instruments	55	1 604	333	–1 453	539
Interest rate contracts	24	676			700
Foreign exchange contracts		286			286
Equity contracts	31	596	269		896
Credit contracts		46			46
Other contracts			64		64
Other invested assets	566	62	53		681
Funds held by ceding companies		171			171
Total assets at fair value	**13 845**	**69 197**	**1 295**	**–1 453**	**82 884**
Liabilities					
Derivative financial instruments	–30	–1 406	–449	1 213	–672
Interest rate contracts	–13	–493	–2		–508
Foreign exchange contracts		–331			–331
Equity contracts	–17	–490	–28		–535
Credit contracts		–92			–92
Other contracts			–419		–419
Liabilities for life and health policy benefits			–118		–118
Funds held under reinsurance treaties	–137	–1 375			–1 512
Accrued expenses and other liabilities	–624	–984			–1 608
Total liabilities at fair value	**–791**	**–3 765**	**–567**	**1 213**	**–3 910**

[1] The netting of derivative receivables and derivative payables is permitted when a legally enforceable master netting agreement exists between two counterparties. A master netting agreement provides for the net settlement of all contracts, as well as cash collateral, through a single payment, in a single currency, in the event of default or on the termination of any one contract.

Assets and liabilities measured at fair value on a recurring basis using significant unobservable inputs (level 3)

As of 31 December 2019 and 30 June 2020, the reconciliations of the fair values of assets and liabilities measured on a recurring basis using significant unobservable inputs were as follows:

2019 USD millions	Fixed income securities	Derivative assets	Other invested assets	Total assets	Derivative liabilities	Liabilities for life and health policy benefits	Total liabilities
Assets and liabilities							
Balance as of 1 January	463	425	65	953	–297	–120	–417
Realised/unrealised gains/losses:							
Included in net income[1]		–144	5	–139	45	32	77
Included in other comprehensive income[2]	32			32		–3	–3
Purchases	379	34		413			0
Issuances				0	–65		–65
Sales	–55	–32		–87	26		26
Settlements	–20	–37		–57	5		5
Transfers into level 3			1	1			0
Transfers out of level 3	–6			–6			0
Impact of foreign exchange movements	2			2			0
Closing balance as of 31 December	795	246	71	1 112	–286	–91	–377

[1] Fair value changes are reported in "Net realised investment gains/losses – non-participating business".
[2] Fair value changes from fixed income securities are reported in "Net unrealised investment gains/losses". Fair value changes from liabilities for life and health policy benefits are reported in "Credit risk of financial liabilities at fair value option".

2020 USD millions	Fixed income securities	Derivative assets	Other invested assets	**Total assets**	Derivative liabilities	Liabilities for life and health policy benefits	**Total liabilities**
Assets and liabilities							
Balance as of 1 January	795	246	71	**1 112**	–286	–91	**–377**
Realised/unrealised gains/losses:							
Included in net income[1]		115	–18	**97**	–172	–32	**–204**
Included in other comprehensive income[2]	21			**21**		5	**5**
Purchases	111	23		**134**			**0**
Issuances				**0**	–27		**–27**
Sales	–3	–5		**–8**	5		**5**
Settlements	–9	–49		**–58**	31		**31**
Transfers into level 3		3		**3**			**0**
Transfers out of level 3				**0**			**0**
Impact of foreign exchange movements	–6			**–6**			**0**
Closing balance as of 30 June	**909**	**333**	**53**	**1 295**	**–449**	**–118**	**–567**

[1] Fair value changes are reported in "Net realised investment gains/losses – non-participating business".
[2] Fair value changes from fixed income securities are reported in "Net unrealised investment gains/losses". Fair value changes from liabilities for life and health policy benefits are reported in "Credit risk of financial liabilities at fair value option".

Gains and losses on assets and liabilities measured at fair value on a recurring basis using significant unobservable inputs (level 3)

The gains and losses relating to the assets and liabilities measured at fair value using significant unobservable inputs (level 3) for the six months ended 30 June were as follows:

USD millions	2019	2020
Gains/losses included in net income for the period	–48	**–107**
Whereof change in unrealised gains/losses relating to assets and liabilities still held at the reporting date	–59	**–114**

Quantitative information about level 3 fair value measurements

Unobservable inputs for major level 3 assets and liabilities as of 31 December 2019 and 30 June 2020 were as follows:

USD millions	2019 Fair value	2020 Fair value	Valuation technique	Unobservable input	Range (weighted average[1])
Assets					
Corporate debt securities	795	**909**			
Infrastructure loans	566	585	Discounted cash flow model	Valuation spread	98–646 bps (236 bps)
Private placement corporate debt	186	280	Corporate spread matrix	Credit spread	70–417 bps (163 bps)
Private placement credit tenant leases	42	42	Discounted cash flow model	Illiquidity premium	125–150 bps (146 bps)
Derivative equity contracts	186	**269**			
OTC equity option referencing correlated equity indices	186	269	Proprietary option model	Correlation	–38–55% (25%)
Liabilities					
Derivative equity contracts	–20	**–28**			
OTC equity option referencing correlated equity indices	–20	–28	Proprietary option model	Correlation	–30–95% (42%)
Other derivative contracts and liabilities for life and health policy benefits	–355	**–537**			
Variable annuity and fair valued GMDB contracts	–311	–504	Discounted cash flow model	Risk margin	4% (n/a)
				Volatility	13.9–72.1%
				Lapse	1.5–15%
				Mortality improvement	0–2%
				Withdrawal rate	0–90%

[1] Unobservable inputs were weighted by the relative fair value of the instruments. For Derivative equity contracts, the weighted average correlation is derived by computing an absolute piecewise correlation impact and is not weighted by the relative fair value.

Uncertainty of recurring level 3 measurements from the use of significant unobservable inputs

The significant unobservable input used in the fair value measurement of the Group's infrastructure loans is valuation spread. A significant increase (decrease) in this input in isolation would have resulted in a significantly lower (higher) fair value measurement. The significant unobservable input used in the fair value measurement of the Group's private placement corporate debt securities is credit spread. A significant increase (decrease) in this input in isolation would have resulted in a significantly lower (higher) fair value measurement. The significant unobservable input used in the fair value measurement of the Group's private placement credit tenant leases is illiquidity premium. A significant increase (decrease) in this input in isolation would have resulted in a significantly lower (higher) fair value measurement.

The significant unobservable input used in the fair value measurement of the Group's OTC equity option referencing correlated equity indices is correlation. Where the Group is long correlation risk, a significant increase (decrease) in this input in isolation would have resulted in a significantly higher (lower) fair value measurement. Where the Group is short correlation risk, a significant increase (decrease) in this input in isolation would have resulted in a significantly lower (higher) fair value measurement.

The significant unobservable inputs used in the fair value measurement of the Group's variable annuity and fair valued guaranteed minimum death benefit (GMDB) contracts are: risk margin, volatility, lapse, mortality improvement rate and withdrawal rate. A significant increase (decrease) in isolation in each of the following inputs: risk margin, volatility and withdrawal rate would have resulted in a significantly lower (higher) fair value of the Group's obligation. A significant increase (decrease) in isolation in lapse rate would, in general, have resulted in a significantly higher (lower) fair value of the Group's obligation due to the maturity of the contracts. Changes in the mortality improvement rate impact the fair value of the Group's obligation differently for living-benefit products, compared to death-benefit products. For the former, a significant increase (decrease) in the mortality improvement rate (ie decrease (increase) in mortality) in isolation would have resulted in a decrease (increase) in fair value of the Group's liability. For the latter, a significant increase (decrease) in the mortality improvement rate in isolation would have resulted in an increase (decrease) in fair value of the Group's liability.

Other invested assets measured at net asset value

Other invested assets measured at net asset value as of 31 December 2019 and 30 June 2020 were as follows:

USD millions	2019 Fair value	**2020** Fair value	Unfunded commitments	Redemption frequency (if currently eligible)	Redemption notice period
Private equity funds	471	505	595	non-redeemable	n/a
Hedge funds	208	212		redeemable[1]	45–95 days[2]
Private equity direct	8	27	53	non-redeemable	n/a
Real estate funds	12	11	15	non-redeemable	n/a
Total	699	**755**	**663**		

[1] The redemption frequency varies by position.
[2] Cash distribution can be delayed for an extended period depending on the sale of the underlyings.

The hedge fund investments employ a variety of strategies, including relative value and event-driven across various asset classes.

The private equity direct portfolio consists of equity and equity-like investments directly in other companies. These investments have no contractual term and are generally held based on financial or strategic intent.

Private equity and real estate funds generally have limitations imposed on the amount of redemptions from the fund during the redemption period due to illiquidity of the underlying investments. Fees may apply for redemptions or transferring of interest to other parties. Distributions are expected to be received from these funds as the underlying assets are liquidated. The period of time over which the underlying assets are expected to be liquidated is indeterminate as investees provide liquidation notices.

The redemption frequency of hedge funds varies depending on the manager as well as the nature of the underlying product. Additionally, certain funds may impose lock-up periods and redemption gates as defined in the terms of the individual investment agreement.

Fair value option

The fair value option under the Financial Instruments Topic permits the choice to measure specified financial assets and liabilities at fair value on an instrument-by-instrument basis. The Group elected the fair value option for positions in the following line items:

Other invested assets

The Group elected the fair value option for certain investments classified as equity method investees within other invested assets in the balance sheet. The Group applied the fair value option, as the investments are managed on a fair value basis. The changes in fair value of these elected investments are recorded in earnings.

Funds held by ceding companies

For operational efficiencies, the Group elected the fair value option for funds held by the cedent under three of its reinsurance agreements. The assets are carried at fair value and changes in fair value are reported as a component of earnings.

Liabilities for life and health policy benefits

The Group elected the fair value option for existing GMDB reserves related to certain variable annuity contracts which are classified as universal-life-type contracts. The Group has applied the fair value option, as the equity risk associated with those contracts is managed on a fair value basis and it is economically hedged with derivative options in the market. The liability is carried at fair value and changes in fair value attributable to instrument-specific credit risk are reported in other comprehensive income and all other changes in fair value are reported as a component of earnings.

Funds held under reinsurance treaties

For operational efficiencies, the Group elected the fair value option for funds held under reinsurance treaties under some of its reinsurance agreements. The liabilities are carried at fair value and changes in fair value are reported as a component of earnings.

Assets and liabilities measured at fair value pursuant to election of the fair value option

Pursuant to the election of the fair value option for the items described, the balances as of 31 December 2019 and 30 June 2020 were as follows:

USD millions	2019	2020
Assets		
Other invested assets	5 911	5 775
of which at fair value pursuant to the fair value option	20	13
Funds held by ceding companies	10 901	11 731
of which at fair value pursuant to the fair value option	174	171
Liabilities		
Liabilities for life and health policy benefits	–21 266	–22 288
of which at fair value pursuant to the fair value option	–91	–118
Funds held under reinsurance treaties	–9 537	–10 436
of which at fair value pursuant to the fair value option	–1 559	–1 512

Changes in fair values for items measured at fair value pursuant to election of the fair value option

Gains/losses included in earnings for items measured at fair value pursuant to election of the fair value option including foreign exchange impact for the six months ended 30 June were as follows:

USD millions	2019	2020
Other invested assets	6	–6
Funds held by ceding companies	6	5
Liabilities for life and health policy benefits	18	–32
Funds held under reinsurance treaties	–101	–65
Total	–71	**–98**

Fair value changes from other invested assets, funds held by ceding companies and funds held under reinsurance treaties are reported in "Net investment income – non-participating business". Fair value changes from the GMDB reserves are shown in "Life and health benefits".

Assets and liabilities not measured at fair value but for which the fair value is disclosed

Assets and liabilities not measured at fair value but for which the fair value is disclosed as of 31 December 2019 and 30 June 2020 were as follows:

2019 USD millions	Significant other observable inputs (level 2)	Significant unobservable inputs (level 3)	Total
Assets			
Policy loans		45	45
Mortgage loans		1 045	1 045
Other loans		1 329	1 329
Investment real estate		4 557	4 557
Total assets	0	6 976	6 976
Liabilities			
Debt	–7 238	–6 225	–13 463
Total liabilities	–7 238	–6 225	–13 463

2020 USD millions	Significant other observable inputs (level 2)	Significant unobservable inputs (level 3)	Total
Assets			
Policy loans		44	44
Mortgage loans		1 038	1 038
Other loans		1 502	1 502
Investment real estate		4 568	4 568
Total assets	**0**	**7 152**	**7 152**
Liabilities			
Debt	–7 235	–6 226	–13 461
Total liabilities	**–7 235**	**–6 226**	**–13 461**

Policy loans, other loans and certain mortgage loans are classified as level 3 measurements, as they do not have an active exit market. Some of these positions need to be assessed in conjunction with the corresponding insurance business, whilst the fair value of some other positions does not differ materially from the carrying amount. Considering these circumstances for these positions, the Group presents the carrying amount as an approximation for the fair value. For certain commercial mortgage loans and infrastructure loans, which are included in mortgage loans and other loans respectively, the fair value can be estimated using discounted cash flow models which are based on discount curves and spread inputs that require management's judgement.

Investments in real estate are fair valued primarily by external appraisers based on proprietary discounted cash flow models that incorporate applicable risk premium adjustments to discount yields and projected market rental income streams based on market-specific data. These fair value measurements are classified in level 3 in the fair value hierarchy.

Debt positions, which are fair valued based on executable broker quotes or the discounted cash flow method using observable inputs, are classified as level 2 measurements. Fair value of the majority of the Group's level 3 debt positions is judged to approximate carrying value due to the highly tailored nature of the obligation and short-notice termination provisions.

9 Derivative financial instruments

The Group uses a variety of derivative financial instruments including swaps, options, forwards, credit derivatives and exchange-traded financial futures in its trading and hedging strategies, in line with the Group's overall risk management strategy. The objectives include managing exposure to price, foreign currency and/or interest rate risk on planned or anticipated investment purchases, existing assets or liabilities, as well as locking in attractive investment conditions for future available funds.

The fair values represent the gross carrying value amounts at the reporting date for each class of derivative contract held or issued by the Group. The gross fair values are not an indication of credit risk, as many OTC transactions are contracted and documented under ISDA master agreements or their equivalent. Management believes that such agreements provide for legally enforceable set-off in the event of default, which substantially reduces credit exposure.

Fair values and notional amounts of derivative financial instruments

As of 31 December 2019 and 30 June 2020, the fair values and notional amounts of the derivatives outstanding were as follows:

2019 USD millions	Notional amount assets/liabilities	Fair value assets	Fair value liabilities	Carrying value assets/liabilities
Derivatives not designated as hedging instruments				
Interest rate contracts	23 087	483	–343	140
Foreign exchange contracts	31 751	286	–143	143
Equity contracts	15 672	797	–610	187
Credit contracts	3 593	23	–65	–42
Other contracts	9 191	63	–264	–201
Total	83 294	1 652	–1 425	227
Derivatives designated as hedging instruments				
Interest rate contracts	1 403	1	–22	–21
Foreign exchange contracts	16 425	87	–256	–169
Total	17 828	88	–278	–190
Total derivative financial instruments	101 122	1 740	–1 703	37
Amount offset				
Where a right of set-off exists		–675	675	
Due to cash collateral		–509	383	
Total net amount of derivative financial instruments		556	–645	–89

2020 USD millions	Notional amount assets/liabilities	Fair value assets	Fair value liabilities	Carrying value assets/liabilities
Derivatives not designated as hedging instruments				
Interest rate contracts	21 033	693	–491	202
Foreign exchange contracts	35 143	229	–183	46
Equity contracts	26 168	896	–535	361
Credit contracts	10 077	46	–92	–46
Other contracts	9 072	64	–419	–355
Total	**101 493**	**1 928**	**–1 720**	**208**
Derivatives designated as hedging instruments				
Interest rate contracts	3 727	7	–17	–10
Foreign exchange contracts	19 840	57	–148	–91
Total	**23 567**	**64**	**–165**	**–101**
Total derivative financial instruments	**125 060**	**1 992**	**–1 885**	**107**
Amount offset				
Where a right of set-off exists		–786	786	
Due to cash collateral		–667	427	
Total net amount of derivative financial instruments		**539**	**–672**	**–133**

The notional amounts of derivative financial instruments give an indication of the Group´s volume of derivative activity. The fair value assets are included in "Other invested assets" and the fair value liabilities are included in "Accrued expenses and other liabilities". The fair value amounts that were not offset were nil as of 31 December 2019 and 30 June 2020.

Non-hedging activities

The Group primarily uses derivative financial instruments for risk management and trading strategies. Gains and losses of derivative financial instruments not designated as hedging instruments are recorded in "Net realised investment gains/losses — non-participating business" in the income statement. For the six months ended 30 June, the gains and losses of derivative financial instruments not designated as hedging instruments were as follows:

USD millions	2019	**2020**
Derivatives not designated as hedging instruments		
Interest rate contracts	–105	27
Foreign exchange contracts	88	21
Equity contracts	–44	108
Credit contracts		63
Other contracts	8	–131
Total gains/losses recognised in income	–53	**88**

Hedging activities

The Group designates certain derivative financial instruments as hedging instruments. The designation of derivative financial instruments is primarily used for overall portfolio and risk management strategies. As of 30 June 2019 and 2020, the following hedging relationships were outstanding:

Fair value hedges

The Group enters into foreign exchange and interest rate swaps to reduce the exposure to foreign exchange and interest rate volatility for certain fixed income securities and its issued long-term debt positions. These derivative instruments are designated as hedging instruments in qualifying fair value hedges.

For the six months ended 30 June, the gains and losses attributable to the hedged risks were as follows:

		2019		**2020**
USD millions	Net realised investment gains/losses — non-participating business	Interest expenses	Net realised investment gains/losses — non-participating business	Interest expenses
Total amounts of income and expense line items	622	–307	974	–259
Foreign exchange contracts				
Gains/losses on derivatives	–16		124	
Gains/losses on hedged items	16		–124	
Interest rate contracts				
Gains/losses on derivatives				12
Gains/losses on hedged items				–11

As of 31 December 2019 and 30 June 2020, the carrying values of the hedged assets and liabilities, and the cumulative amounts of fair value hedging adjustments included therein, recognised in the balance sheet, were as follows:

		2019		**2020**
USD millions	Carrying value	Cumulative basis adjustment	Carrying value	Cumulative basis adjustment
Assets				
Fixed income securities available-for-sale	8 436		**10 344**	
Liabilities				
Long-term debt	–1 355	20	**–1 897**	**8**

Hedges of the net investment in foreign operations

The Group designates derivative and non-derivative monetary financial instruments as hedging the foreign currency exposure of its net investment in certain foreign operations.

As of 31 December 2019 and 30 June 2020, the Group recorded an accumulated net unrealised foreign currency remeasurement gain of USD 1 039 million and USD 1 260 million, respectively, in "Other comprehensive income - Foreign currency translation". These offset translation gains and losses on the hedged net investment.

Maximum potential loss

In consideration of the rights of set-off and the qualifying master netting arrangements with various counterparties, the maximum potential loss as of 31 December 2019 and 30 June 2020 was approximately USD 1 065 million and USD 1 206 million, respectively. The maximum potential loss is based on the positive market replacement cost assuming non-performance of all counterparties, excluding cash collateral.

Credit risk-related contingent features

Certain derivative instruments held by the Group contain provisions that require its debt to maintain an investment-grade credit rating. If the Group's credit rating were downgraded or no longer rated, the counterparties could request immediate payment, guarantee or an ongoing full overnight collateralisation on derivative instruments in net liability positions.

The total fair value of derivative financial instruments containing credit risk-related contingent features amounted to USD 45 million and USD 52 million as of 31 December 2019 and 30 June 2020, respectively. For derivative financial instruments containing credit risk-related contingent features, the Group posted collateral of nil and USD 47 million as of 31 December 2019 and 30 June 2020, respectively. In the event of a reduction of the Group's credit rating to below investment grade, a fair value of USD 5 million additional collateral would have had to be posted as of 30 June 2020. The total equals the amount needed to settle the instruments immediately as of 30 June 2020.

10 Debt and contingent capital instruments

The Group enters into long- and short-term debt arrangements to obtain funds for general corporate use and specific transaction financing. The Group defines short-term debt as debt having a maturity at the balance sheet date of not greater than one year and long-term debt as having a maturity of greater than one year. For subordinated debt positions, maturity is defined as the first optional redemption date (notwithstanding that optional redemption could be subject to regulatory consent). Interest expense is classified accordingly.

The Group's debt as of 31 December 2019 and 30 June 2020 was as follows:

USD millions	2019	**2020**
Senior financial debt	2 230	1 689
Contingent capital instruments classified as financial debt	185	186
Short-term debt	2 415	**1 875**
Senior financial debt	1 971	2 475
Senior operational debt	244	245
Subordinated financial debt	4 604	4 620
Subordinated operational debt	1 918	1 762
Long-term debt	8 737	**9 102**
Total carrying value	11 152	**10 977**
Total fair value	13 463	**13 461**

Interest expense on long-term debt and contingent capital instruments

Interest expense on long-term debt for the periods ended 30 June was as follows:

USD millions	2019	**2020**
Senior financial debt	37	37
Senior operational debt	6	4
Subordinated financial debt	63	113
Subordinated operational debt	56	55
Contingent capital instruments classified as financial debt	3	
Total	165	**209**

Swiss Re entered into interest rate swaps to hedge the interest rate risk on some of its external debt positions, resulting in the relevant debt positions now being fair valued. The change in fair value of the hedged interest-bearing liability attributable to the interest rate risk is recorded in net interest expense and shown in this note. The change in fair value of the interest rate swap is captured under derivative financial instruments and amounted to USD 12 million for the six month ended 30 June 2020, please also refer to Note 9 "Derivative Financial Instruments". The net impact of the liability and the interest rate swap fair value changes is reflected in the interest expense line item of the income statement.

Long-term debt issued in 2020

No long-term debt was issued in the first half of 2020.

11 Benefit plans

Net periodic benefit cost

Pension and post-retirement cost for the Group and affiliated companies for the six months ended 30 June 2019 and 2020 were USD 28 million and USD 41 million, respectively. Pension and post-retirement cost is presented in "Operating expenses".

Employer's contribution for 2020

For the six months ended 30 June 2020, the Group and affiliated companies contributed USD 62 million to its defined benefit pension plans and USD 8 million to other post-retirement plans, compared to USD 60 million and USD 8 million, respectively, in the same period of 2019.

The expected 2020 contributions to the defined benefit pension plans and to the post-retirement benefit plans, revised as of 30 June 2020 for the latest information, amount to USD 115 million and USD 17 million, respectively.

12 Variable interest entities

The Group enters into arrangements with variable interest entities (VIEs) in the normal course of business. The involvement ranges from being a passive investor to designing, structuring and managing the VIEs. The variable interests held by the Group arise primarily as a result of the Group's involvement in certain insurance-linked securitisations, life and health funding transactions, swaps in trusts, debt financing, investment, senior commercial mortgage and infrastructure loans as well as other entities, which meet the definition of a VIE.

When analysing whether the entity is a VIE, the Group mainly assesses if (1) the equity is sufficient to finance the entity's activities without additional subordinated financial support, (2) the equity holders have the right to make significant decisions affecting the entity's operations and (3) the holders of the voting rights substantively participate in the gains and losses of the entity.

When one of these criteria is not met, the entity is considered a VIE and is assessed for consolidation under the VIE section of the Consolidation Topic.

The party that has a controlling financial interest is called a primary beneficiary and consolidates the VIE. The party is deemed to have a controlling financial interest if it has both:

- the power to direct the activities of the VIE that most significantly impact the entity's economic performance; and
- the obligation to absorb the entity's losses that could potentially be significant to the VIE or the right to receive benefits from the entity that could potentially be significant to the VIE.

For all its variable interests in VIEs, the Group assesses whether it has a controlling financial interest in these entities and, thus, is the primary beneficiary. The Group identifies the activities that most significantly impact the entity's performance and determines whether the Group has the power to direct those activities. In conducting the analysis, the Group considers the purpose, the design and the risks that the entity was designed to create and pass through to its variable interest holders. Additionally, the Group assesses if it has the obligation to absorb losses or if it has the right to receive benefits of the VIE that could potentially be significant to the entity. If both criteria are met, the Group has a controlling financial interest in the VIE and consolidates the entity.

The Group monitors changes to the facts and circumstances of the existing involvement with legal entities to determine whether they require reconsideration of the entity's designation as a VIE or voting interest entity. For VIEs, the Group regularly reassesses the primary beneficiary determination.

Insurance-linked securitisations

The insurance-linked securitisations transfer pre-existing insurance risk to investors through the issuance of insurance-linked securities. In insurance-linked securitisations, the securitisation vehicle assumes the insurance risk from a sponsor through insurance or derivative contracts. The securitisation vehicle generally retains the issuance proceeds as collateral, which consists of investment-grade securities. The Group does not have potentially significant variable interest in these vehicles and therefore is not a primary beneficiary.

Typically, the variable interests held by the Group arise through ownership of insurance-linked securities, in which case the Group's maximum loss equals the principal amount of the securities held by the Group.

Life and health funding vehicles

The Group participates in certain structured transactions that retrocede longevity and mortality risks to captive reinsurers with an aim to provide regulatory capital credit to a transaction sponsor through the creation of funding notes by a separate funding vehicle which is generally considered a VIE. The Group's participation in these transactions is generally limited to providing contingent funding support via a financial contract with a funding vehicle, which represents a potentially significant variable interest in the funding vehicle. The Group does not have power to direct activities of the funding vehicles and therefore is not a primary beneficiary of the funding vehicles in these transactions. The Group's maximum exposure in these transactions equals either the total contract notional or outstanding balance of the funding notes issued by the vehicle, depending on the specific contractual arrangements.

Swaps in trusts

The Group provides interest rate and foreign exchange risk hedges to certain asset securitisation trusts which qualify as VIEs. As the Group's involvement is limited to interest rate and foreign exchange derivatives, it does not have the power to direct any activities of the trusts and therefore does not qualify as primary beneficiary of any of these trusts. These activities are in run-off.

Debt financing vehicles

The Group consolidates a debt-financing vehicle created to collateralise reinsurance coverage provided by the Group. The Group manages the asset portfolio in the vehicle and absorbs the variability of the investment return of the vehicle's portfolio, thereby satisfying both criteria for a controlling financial interest: power over activities most significant to the vehicle's economic performance and significant economic interest.

Investment vehicles
The Group's variable interests in investment partnerships arise through ownership of the limited partner interests. Many investment partnerships are VIEs because the limited partners as a group lack kick-out or participating rights. The Group does not hold the general partner interest in the limited partnerships and therefore does not direct investment activities of the entity. Therefore, the Group lacks power over the relevant activities of the vehicles and, consequently, does not qualify as the primary beneficiary. The Group is exposed to losses when the values of the investments held by the investment vehicles decrease. The Group's maximum exposure to loss equals the Group's share of the investment.

The Group is a passive investor in structured securitisation vehicles issuing residential and commercial mortgage-backed securities (RMBS and CMBS, respectively) and other asset-backed securities (ABS). The Group's investments in RMBS, CMBS and other ABS are passive in nature and do not obligate the Group to provide any financial or other support to the issuer entities. By design, RMBS, CMBS and ABS securitisation entities are not adequately capitalised and therefore considered VIEs. The Group is not the primary beneficiary, because it does not have power to direct most significant activities. These investments are accounted for as available-for-sale as described in the investment note and not included in the tables on the following pages.

The Group consolidates an investment vehicle, because the Group holds the entire interest in the entity and makes investment decisions related to the entity. The investment vehicle is a VIE because it is structured as an umbrella company comprised of multiple sub-funds. The majority of the investments held in this vehicle are accounted for as available-for-sale and are disclosed in the investment note and not included in the tables on the following pages.

Investment vehicles for unit-linked business
Additionally, the Group invests on behalf of the policyholders as a passive investor in a variety of investment funds across various jurisdictions. By design, many of these funds meet a VIE definition. While the Group may have a potentially significant variable interest in some of these entities due to its share of the fund's total net assets, it never has power over the fund's investment decisions, or unilateral kick-out rights relative to the decision maker.

The Group is not exposed to losses in the aforementioned investment vehicles, as the investment risk is borne by the policyholder.

Senior commercial mortgage and infrastructure loans
The Group also invests in structured commercial mortgage and infrastructure loans, which are held for investment.

The commercial mortgage loans are made to non-recourse special purpose entities collateralised with commercial real estate. The entities are adequately capitalised and generally structured as voting interest entities. Occasionally, the borrower entities can be structured as limited partnerships where the limited partners do not have kick-out or participating rights, which results in the VIE designation.

The infrastructure loans are made to non-recourse special purpose entities collateralised with infrastructure project assets. Some borrower entities may have insufficient equity investment at risk, which results in the VIE designation.

The Group does not have power over the activities most significant to the aforementioned borrower entities designated as VIEs and therefore does not consolidate them.

The Group's maximum exposure to loss from its investments equals the loan outstanding amount.

Other
The Group consolidates a vehicle providing reinsurance to its members, because it serves as a decision maker over the entity's investment and underwriting activities, provides retrocession for the majority of the vehicle's insurance risk and receives performance-based fees. Additionally, the Group is obligated to provide the vehicle with loans in the event of a deficit. The vehicle is a VIE, primarily because its total equity investment at risk is insufficient and the members lack decision-making rights.

The Group did not provide financial or other support to any VIEs during 2020 that it was not previously contractually required to provide.

Consolidated VIEs

The following table shows the total assets and liabilities in the Group's balance sheet related to VIEs of which the Group is the primary beneficiary as of 31 December 2019 and 30 June 2020:

USD millions	2019	**2020**
Fixed income securities available-for-sale	3 423	3 302
Short-term investments	260	137
Cash and cash equivalents	34	19
Accrued investment income	27	28
Premiums and other receivables	31	30
Funds held by ceding companies	1	1
Deferred acquisition costs	3	3
Deferred tax assets	167	206
Other assets	15	221
Total assets	3 961	**3 947**
Unpaid claims and claim adjustment expenses	55	56
Unearned premiums	12	11
Funds held under reinsurance treaties	4	4
Reinsurance balances payable	21	18
Deferred and other non-current tax liabilities	137	191
Accrued expenses and other liabilities	15	34
Long-term debt	1 918	1 762
Total liabilities	2 162	**2 076**

The assets of the consolidated VIEs may only be used to settle obligations of these VIEs and to settle any investors' ownership liquidation requests. There is no recourse to the Group for the consolidated VIEs' liabilities. The assets of the consolidated VIEs are not available to the Group's creditors.

Non-consolidated VIEs

The following table shows the total assets and liabilities on the Group's balance sheet related to VIEs in which the Group held a variable interest but was not the primary beneficiary as of 31 December 2019 and 30 June 2020:

USD millions	2019	2020
Fixed income securities available-for-sale	1 046	1 153
Equity securities at fair value through earnings	59	36
Policy loans, mortgages and other loans	1 264	1 252
Other invested assets	1 585	1 565
Investments for unit-linked business	148	120
Total assets	4 102	**4 126**
Accrued expenses and other liabilities	43	52
Total liabilities	43	**52**

The following table shows the Group's assets, liabilities and maximum exposure to loss related to VIEs in which the Group held a variable interest but was not the primary beneficiary as of 31 December 2019 and 30 June 2020:

			2019			**2020**
USD millions	Total assets	Total liabilities	Maximum exposure to loss[1]	Total assets	Total liabilities	Maximum exposure to loss[1]
Insurance-linked securitisations	598		627	709		738
Life and health funding vehicles	22		2 300	21		2 472
Swaps in trusts	83	43	–[2]	79	52	–[2]
Investment vehicles	1 540		1 540	1 501		1 501
Investment vehicles for unit-linked business	148			120		
Senior commercial mortgage and infrastructure loans	1 711		1 711	1 696		1 696
Total	4 102	43	–[2]	**4 126**	**52**	**–[2]**

[1] Maximum exposure to loss is the loss the Group would absorb from a variable interest in a VIE in the event that all of the assets of the VIE are deemed worthless.
[2] The maximum exposure to loss for swaps in trusts cannot be meaningfully quantified due to their derivative character.

The assets and liabilities for the swaps in trusts represent the positive and negative fair values of the derivatives the Group has entered into with the trusts.

Cautionary note on forward looking statements

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

Forward-looking statements typically are identified by words or phrases such as "anticipate", "assume", "believe", "continue", "estimate", "expect", "foresee", "intend", "may increase" and "may fluctuate" and similar expressions or by future or conditional verbs such as "will", "should", "would" and "could". These forward-looking statements involve known and unknown risks, uncertainties and other factors, which may cause the Group's actual results of operations, financial condition, solvency ratios, capital or liquidity positions or prospects to be materially different from any future results of operations, financial condition, solvency ratios, capital or liquidity positions or prospects expressed or implied by such statements. Such factors include, among others:

- the frequency, severity and development of insured claim events, particularly natural catastrophes, man-made disasters, pandemics, acts of terrorism or acts of war;
- mortality, morbidity and longevity experience;
- the cyclicality of the reinsurance sector;
- central bank intervention in the financial markets, trade wars or other protectionist measures relating to international trade arrangements, adverse geopolitical events, domestic political upheavals or other developments that adversely impact global economic conditions;
- increased volatility of, and/or disruption in, global capital and credit markets;
- the Group's ability to maintain sufficient liquidity and access to capital markets, including sufficient liquidity to cover potential recapture of reinsurance agreements, early calls of debt or debt-like arrangements and collateral calls due to actual or perceived deterioration of the Group's financial strength or otherwise;
- the Group's inability to realize amounts on sales of securities on the Group's balance sheet equivalent to their values recorded for accounting purposes;
- the Group's inability to generate sufficient investment income from its investment portfolio, including as a result of fluctuations in the equity and fixed income markets, the composition of the investment portfolio or otherwise;
- changes in legislation and regulation, or the interpretations thereof by regulators and courts, affecting the Group or its ceding companies, including as a result of comprehensive reform or shifts away from multilateral approaches to regulation of global operations;
- the lowering or loss of one of the financial strength or other ratings of one or more companies in the Group, and developments adversely affecting its ability to achieve improved ratings;
- uncertainties in estimating reserves, including differences between actual claims experience and underwriting and reserving assumptions;
- policy renewal and lapse rates;
- uncertainties in estimating future claims for purposes of financial reporting, particularly with respect to large natural catastrophes and certain large man-made losses, as significant uncertainties may be involved in estimating losses from such events and preliminary estimates may be subject to change as new information becomes available;
- legal actions or regulatory investigations or actions, including in respect of industry requirements or business conduct rules of general applicability;
- the outcome of tax audits, the ability to realize tax loss carryforwards and the ability to realize deferred tax assets (including by reason of the mix of earnings in a jurisdiction or deemed change of control), which could negatively impact future earnings, and the overall impact of changes in tax regimes on the Group's business model;

- changes in accounting estimates or assumptions that affect reported amounts of assets, liabilities, revenues or expenses, including contingent assets and liabilities;
- changes in accounting standards, practices or policies;
- strengthening or weakening of foreign currencies;
- reforms of, or other potential changes to, benchmark reference rates;
- failure of the Group's hedging arrangements to be effective;
- significant investments, acquisitions or dispositions, and any delays, unforeseen liabilities or other costs, lower-than-expected benefits, impairments, ratings action or other issues experienced in connection with any such transactions;
- extraordinary events affecting the Group's clients and other counterparties, such as bankruptcies, liquidations and other credit-related events;
- changing levels of competition;
- the effects of business disruption due to terrorist attacks, cyberattacks, natural catastrophes, public health emergencies, hostilities or other events;
- limitations on the ability of the Group's subsidiaries to pay dividends or make other distributions; and
- operational factors, including the efficacy of risk management and other internal procedures in anticipating and managing the foregoing risks.

These factors are not exhaustive. The Group operates in a continually changing environment and new risks emerge continually. Readers are cautioned not to place undue reliance on forward-looking statements. The Group undertakes no obligation to publicly revise or update any forward-looking statements, whether as a result of new information, future events or otherwise.

This communication is not intended to be a recommendation to buy, sell or hold securities and does not constitute an offer for the sale of, or the solicitation of an offer to buy, securities in any jurisdiction, including the United States. Any such offer will only be made by means of a prospectus or offering memorandum, and in compliance with applicable securities laws.

Note on risk factors

The operations, investments and other activities of Swiss Reinsurance Company Ltd ("SRZ") and its subsidiaries (collectively, the "Group") are subject to a range of risks that could adversely impact the Group's business, financial condition, results of operations, liquidity and cash flows. The Group is part of the broader Swiss Re group (collectively, "Swiss Re"), the holding company for which is Swiss Re Ltd ("SRL").

Coronavirus

The global spread of the novel coronavirus and the disease it causes ("COVID-19"), and the actions taken to mitigate their effects, have led to significant volatility in the financial markets, have had an adverse impact on global economic activity and have had adverse effects on the global economy, including recession. While many countries have reduced the level of COVID-19 infections, in others the level of infections continues to increase and, in the absence of a vaccine and/or alternative treatment solutions, the threat of new outbreaks still looms, raising the prospect of further mitigation efforts and the attendant consequences of such actions. As such, it remains difficult to predict the ultimate extent of the pandemic's impact going forward on the Group's business, operations, financial condition, results of operations, liquidity or solvency ratio.

In Property & Casualty Reinsurance, Swiss Re expects the COVID-19 crisis (in particular the impact on businesses and business activity) to have the greatest impact on event cancellation, some affirmative non-damage business interruption covers and other lines, including credit and surety. Exposures in credit and surety include trade credit insurance, commodity trade finance, construction contract surety and political risk covers. Swiss Re expects most of its event cancellation losses to have been recorded in the first and second quarters of 2020, while credit and surety losses could be spread over a longer period as the impact of recession becomes more apparent. In Life & Health Reinsurance, Swiss Re expects the COVID-19 crisis may have the greatest impact on its mortality exposures, with large sums assured in the United States, the United Kingdom, Canada and Australia. In China, the Group's major exposure is critical illness business, the impact of the COVID-19 crisis relates to mortality and medical exposures, and losses will depend on specific contractual terms. Financial market volatility could adversely affect the Group's investment result or access to the capital markets. Swiss Re implemented a range of hedges in March 2020, which helped mitigate the negative impact of the heightened market volatility.

The COVID-19 crisis presents a series of potential coverage challenges for the industry. A number of state legislatures in the United States are considering legislation to retroactively change existing primary insurance coverage for business interruption and loss of use to cover coronavirus-related losses, and other jurisdictions may do the same. Court cases against businesses alleging liability in respect of responses to the COVID-19 crisis as well as cases in a number of jurisdictions, including class actions in the United States and a test case brought by the Financial Conduct Authority in the United Kingdom, brought by or on behalf of policyholders relating to insurance contract terms and interpretations thereof already have been filed, and both these trends are likely to continue.

Swiss Re estimates that insurance demand will slow sharply in 2020 due to what is projected to be a deep, but short-lived recession, with an expectation of recovery of premium levels in 2021 alongside recovery of the global economy. Swiss Re notes that the upper end of the range of total property and casualty claims by third party insurance analysts is in the range of USD 100 billion. The future impact of the COVID-19 crisis will depend on a range of factors, including the duration of mitigation efforts and the availability of vaccines and/or alternative treatment solutions, the severity of the impact of mitigation efforts on businesses and business activity, the scope and efficacy of governmental stimulus and other relief efforts, the extent to which legislative or regulatory efforts or court cases succeed in shifting some of the burden of the pandemic to insurers (particularly for business interruption) on a retroactive basis, and the severity and duration of, and the speed of recovery from, recessionary impacts. Swiss Re's disclosures and other public statements should be read in the context of the evolving COVID-19 crisis and the related uncertainties, whether or not specific reference is made thereto.

General impact of adverse market conditions

The Group's operations as well as its investment returns are subject to conditions in the financial markets and macroeconomic factors, which are outside of its control. Financial, credit and foreign exchange markets are experiencing continued periods of volatility reflecting a range of political, geopolitical, economic and other uncertainties, some of the more significant of which are inter-related. Further adverse developments or the continuation of adverse trends that, in turn, have a negative impact on financial markets and economic conditions, could limit the Group's ability to access the capital markets and bank funding markets, could adversely affect the ability of counterparties to meet their obligations to the Group and could adversely affect the confidence of the ultimate buyers of insurance and reinsurance. Any of the foregoing factors, developments and trends could have an adverse effect on the Group's investment results, which in the current low interest rate environment could have a material adverse effect on the Group's overall results, make it difficult to determine the value of certain assets in the Group's portfolio, make it more difficult to acquire suitable investments to meet its risk and return criteria and otherwise have a material adverse effect on its business and operations. The most significant of these is the current impact of the COVID-19 crisis.

Regulatory changes

The Group operates in a highly regulated environment, which continues to change over time. The regulatory regimes to which members of the Group are subject have changed significantly in recent years and are expected to continue to evolve. While some regulation is national in scope, the global nature of the Group's business means that its operations are subject in effect to a patchwork of global, national and regional standards. Swiss Re and its subsidiaries are subject to group supervision and Swiss Re's subsidiaries are also subject to applicable regulation in each of the jurisdictions in which they conduct business, particularly Switzerland, the United States, the United Kingdom, Luxembourg and Germany. The Group is subject to the Swiss Solvency Test ("SST") and, through its legal entities organised in the European Economic Area, Solvency II. The Group could be affected by regulatory changes or developments affecting Swiss Re.

While certain regulatory processes are designed in part to foster convergence and achieve recognition of group supervisory schemes, the Group continues to face risks of extra-territorial application of regulations, particularly as to group supervision and group solvency requirements. In addition, regulators in jurisdictions beyond those where the Group has core operations increasingly are playing a far greater oversight role, requiring more localised resources and, despite a predominantly local focus, also raise issues of a cross-border nature. Furthermore, evolving regulatory schemes and requirements may be inconsistent or may conflict with each other, thereby subjecting the Group, particularly in light of the increasing focus on legal entities in isolation, to higher compliance and legal costs, as well as the possibility of higher operational, capital and liquidity costs. The effect of these trends could be exacerbated to the extent that the current political environment results in a return to more bilateral, and less harmonised, cross-border regulatory efforts, particularly if these efforts lead to national policies based on more protectionist philosophies.

On the international level, certain large insurance companies have been designated as global systemically important insurers ("G-SIIs") and reinsurance companies faced potential designation as G-SIIs. While further designations have been suspended until 2022, the determination to discontinue G-SII designations altogether will only be made in 2022, based on an assessment of progress made by the International Association of Insurance Supervisors ("IAIS"), in establishing a new holistic framework for systemic risk that was adopted in November 2019 and implemented as of the beginning of 2020. The new framework embraces an enhanced set of policy measures targeted at the exposures and activities that can lead to systemic risks from the insurance sector as a whole. As the systemic risk process is an evolving one, the implementation and implications of which are still evolving, both the direct consequences as well as the indirect consequences remain uncertain. Swiss Re cannot predict what additional regulatory changes will be implemented as the IAIS systemic risk process evolves and what any such changes may mean for how the Group or Swiss Re is structured in any particular jurisdiction and how aspects of the Group's business may be affected. Moreover, Swiss Re cannot predict whether the Financial Stability Board will endorse the new IAIS holistic framework or retain the existing G-SII approach, or what regulatory changes may apply in the future to ceding companies in the context of broader designations of reinsurers as systemically important.

In addition, large internationally active insurance groups ("IAIGs"), which include G-SIIs, may become subject to a risk-based group-wide global insurance capital standard ("ICS"). ICS Version 2.0 was adopted in November 2019, and is expected to take effect in 2025, following a five-year confidential reporting period during which no supervisory action will be taken on the basis of the monitoring. In November 2019, the IAIS also adopted the Common Framework for the Supervision of Internationally Active Insurance Groups ("ComFrame"), as well as some changes to a number of Insurance Core Principles ("ICPs") – guidance and standards on supervision of insurers and which apply to insurance companies regardless of size and international exposures. ComFrame strengthens ICP requirements for IAIGs and proposes that the group-wide supervisor, in consultation with the host supervisors, should exercise discretion in requiring IAIGs to submit resolution plans. Swiss Re expects that it will be classified as an IAIG.

The Group cannot predict which legislative and/or regulatory initiatives will be enacted or promulgated, what the scope and content of these initiatives ultimately will be, when they will be effective and what the implications will be for the industry, in general, and for the Group, in particular. The Group may be subject to changes in views of its regulators in respect of the models that the Group uses for capital and solvency purposes, and could be adversely affected if, for example, it is required to use standard models rather than internal models. Generally, legal and regulatory changes could have a material impact on the Group's business. Uncertainty regarding the future relationship between the United Kingdom and the European Union could also impact the legislative and/or regulatory regimes to which the Group is subject (including the United Kingdom's solvency capital regime, which is currently drawn largely from EU directives and regulations), both in the United Kingdom and in the European Union.

Regulatory changes also could occur in areas of broader application, such as competition policy and tax laws. For example, changes in tax laws, or the interpretation of the tax laws or tax regulations in jurisdictions in which the Group does business, or withdrawals of tax rulings in jurisdictions such as Switzerland that have issued such rulings to Swiss Re, could increase the taxes the Group pays, or impact the attractiveness of products offered by the Group, the Group's investment activities or the value of deferred tax assets. These changes, or inconsistencies between the various regimes that apply to the Group, could increase the costs of doing business (including due to increased capital requirements), reduce access to liquidity, limit the scope of current or future business or affect the competitive balance, or could make reinsurance less attractive to primary insurers.

Market risk

Volatility and disruption in the global financial markets could expose the Group to significant financial and capital markets risk, including changes in interest rates, credit spreads, equity prices and foreign currency exchange rates, which may adversely impact the Group's financial condition, results of operations, liquidity and capital position. The volatility is heightened by COVID-19-related concerns. The Group's exposure to interest rate risk is primarily related to the market price and cash flow variability associated with changes in interest rates. In general, low interest rates continue to pose significant challenges to the insurance and reinsurance industries, with earnings capacity under stress unless lower investment returns can be offset by lower combined ratios or higher returns from other asset classes, which in a soft market cycle is a challenge. Exposure to credit spreads primarily relates to market price and cash flow variability associated with changes in credit spreads. When credit spreads widen, the net unrealised loss position of the Group's investment portfolio can increase, as could other-than-temporary impairments.

The Group is exposed to changes in the level and volatility of equity prices, as well as the value of securities or instruments that derive their value from a particular equity security, a basket of equity securities or a stock index. The Group is also subject to equity price risk to the extent that the values of life-related benefits under certain products and life contracts, most notably variable annuity contracts, are wholly or partially exposed, directly and/or indirectly, to market fluctuations, including equity prices. To the extent market values fall, the financial exposure on guarantees related to these contracts would increase to the extent this exposure is not hedged. While the Group has an extensive hedging programme covering its existing variable annuity business, certain risks cannot be hedged, including actuarial, basis and correlation risks. Exposure to foreign exchange risk arises from changes in spot prices, forward prices and volatilities of currency rates.

These risks can have a significant effect on investment returns and market values of securities positions, which in turn may affect both the Group's results of operations and financial condition. The Group continues to focus on asset-liability management for its investment portfolio, but pursuing even this strategy has its risks – including a possible mismatch between investments and liability benchmarks – that in turn can lead to reinvestment risk. The Group seeks to manage the risks inherent in its investment portfolio by repositioning the portfolio from time to time, as needed, and to reduce risk and fluctuations through the use of hedges and other risk management tools.

Credit risk

If the credit markets were to deteriorate, the Group could experience losses. Changes in the market value of the underlying securities and other factors impacting their price could give rise to market value losses. The Group could also face write-downs in other areas of its portfolio, including other structured instruments, and the Group and its counterparties could face difficulties in valuing credit-related instruments. Differences in opinion with respect to valuations of credit-related instruments could result in legal disputes among the Group and its counterparties as to their respective obligations, the outcomes of which are difficult to predict and could be material.

Liquidity risks

The Group's business requires, and its clients expect, that it has sufficient capital and sufficient liquidity to meet its reinsurance obligations, and that this would continue to be the case following the occurrence of any foreseeable event or series of events, including extreme catastrophes, that would trigger reinsurance coverage obligations. The Group's uses of funds include, among other things, its obligations arising in its reinsurance business (including claims and other payments as well as insurance provision repayments due to portfolio transfers, securitisations and commutations), which may include large and unpredictable claims (including catastrophe claims), funding of capital requirements and operating costs, payment of principal and interest on outstanding indebtedness and funding of acquisitions. The Group also has unfunded capital commitments in its private equity and hedge fund investments, which could result in funding obligations at a time when it is subject to liquidity constraints. In addition, the Group has potential collateral requirements in connection with a number of reinsurance arrangements, the amounts of which may be material and the meeting of which could require the Group to liquidate cash equivalents or other securities.

The Group manages liquidity and funding risks by focusing on the liquidity stress that is likely to result from extreme capital markets scenarios or from extreme loss events or combinations of the two. Generally, the ability to meet liquidity needs could be adversely impacted by factors that the Group cannot control, such as market dislocations or interruptions, adverse economic conditions, severe disruption in the financial and worldwide credit markets and the related increased constraints on the availability of credit; changes in interest rates, foreign exchange rates and credit spreads; or by perceptions among market participants of the extent of the Group's liquidity needs.

Unexpected liquidity needs (including to meet collateral calls) could require the Group to increase levels of indebtedness or to liquidate investments or other assets. Should the Group require liquidity at a time when access to bank funding and the capital markets is limited, it may be unable to secure new sources of funding. The Group's ability to meet liquidity needs through asset sales may be constrained by market conditions and the related stress on valuations. In addition, the Group's ability to meet liquidity needs through the incurrence of debt may be limited by constraints on the general availability of credit in the case of bank funding, and adverse market conditions, in the case of capital markets debt. Failure to meet covenants in lending arrangements could further constrain access to liquidity. The Group's ability to meet liquidity needs may also be constrained by regulatory requirements that require regulated entities to maintain or increase regulatory capital, or that restrict intra-group transactions, the timing of dividend payments from subsidiaries or the fact that certain assets may be encumbered or are otherwise not tradeable. Finally, any adverse ratings action against the Group could trigger a need for further liquidity (for example, by triggering termination provisions or margin calls/collateral delivery requirements in contracts to which Swiss Re is a party) at a time when the Group's ability to obtain liquidity from external sources is limited by such ratings action. See also "Risks relating to credit rating downgrades."

Counterparty risks

The Group is exposed to the risk of defaults, or concerns about defaults, by its counterparties. Issuers or borrowers whose securities or loans the Group holds, trading counterparties, counterparties under swaps and other derivative contracts, clearing agents, clearing houses and other financial intermediaries may default on their obligations to the Group due to bankruptcy, insolvency, lack of liquidity, adverse economic conditions, operations failure, fraud or other reasons, which could also have a material adverse effect on the Group. The Group has increased its allocation to higher return-generating strategies, including high-quality corporate debt and some alternative assets, which tend to also be subject to potentially greater counterparty risk.

The Group could also be adversely affected by the insolvency of, or other credit constraints affecting, counterparties in its reinsurance operations. Moreover, the Group could be adversely affected by liquidity issues at ceding companies or at third parties to whom the Group has retroceded risk, and such risk could be exacerbated to the extent any such exposures are concentrated.

Risks relating to credit rating downgrades

Ratings are an important factor in establishing the competitive position of reinsurance companies. Third-party rating agencies assess and rate the financial strength of reinsurers and insurers, such as Swiss Re. These ratings are intended to measure a company's ability to repay its obligations and are based upon criteria established by the rating agencies. Ratings may be solicited or unsolicited and may be revised downward or revoked at the sole discretion of the rating agencies.

The Group's ratings reflect the current opinion of the relevant rating agencies. One or more of the Group's ratings could be downgraded or withdrawn in the future. In addition, unsolicited ratings may also be downgraded or withdrawn, such as a downgrade in April 2020 of unsolicited insurer financial strength and long-term issuer default ratings assigned to various entities within the Group. Rating agencies may increase the frequency and scope of ratings reviews, revise their criteria or take other actions that may negatively impact the Group's ratings and/or the ratings of its legal entities, which it cannot predict. In addition, changes to the process or methodology of issuing ratings, or the occurrence of events or developments affecting the Group, could adversely affect the Group's existing ratings or make it more difficult for the Group to achieve improved ratings which it would otherwise have expected.

As claims paying and financial strength ratings are key factors in establishing the competitive position of reinsurers, a decline in Swiss Re's ratings and/or the ratings of its key rated legal entities could make reinsurance provided by the Group less attractive to clients relative to reinsurance from competitors with similar or stronger ratings. A decline in ratings could also cause the loss of clients who are required by policy or regulation to purchase reinsurance only from reinsurers with certain ratings. Certain larger reinsurance and derivative contracts may contain terms that would allow the ceding companies or counterparties to terminate the contract if the Group's ratings or those of its subsidiaries are downgraded beyond a certain threshold. Furthermore, ratings directly impact the availability and terms of unsecured financing (potentially impacting the Group's ability to rollover existing facilities or obtain new facilities) and declines in the Group's ratings or the ratings of legal entities within the Group could also obligate the Group to provide collateral or other guarantees in the course of its business or trigger early termination of funding arrangements, potentially resulting in a need for additional liquidity. As a ratings decline could also have a material adverse impact on the Group's costs of borrowing or ability to access the capital markets, the adverse implications of a downgrade could be more severe.

Legal and regulatory risks
In the ordinary course of business, the Group is involved in lawsuits, arbitrations and other formal and informal dispute resolution procedures, the outcomes of which determine the Group's rights and obligations under reinsurance or other contractual agreements. From time to time, the Group may institute, or be named as a defendant in, legal proceedings, and the Group may be a claimant or respondent in arbitration proceedings. These proceedings could involve coverage or other disputes with ceding companies, disputes with parties to which the Group transfers risk under reinsurance arrangements, disputes with other counterparties or other matters. The Group cannot predict the outcome of any of the foregoing, which could be material for the Group.

The Group could in the future be involved in investigations and regulatory proceedings, which could result in adverse judgments, settlements, fines and other outcomes. The number of these investigations and proceedings involving the financial services industry remains high, and the scope of these investigations and proceedings over time has increased, not only in respect of matters covered by the Group's direct regulators, but also in respect of compliance with broader business conduct rules, including those in respect of market abuse, bribery, money laundering, trade sanctions and data protection and privacy. The Group also is subject to audits and challenges from time to time by tax authorities, which could result in increases in tax costs, changes to internal structures and interest and penalties. Tax authorities may also actively pursue additional taxes based on retroactive changes to tax laws. The Group could be subject to risks arising from alleged, or actual, violations of any of the foregoing, and could also be subject to litigation or enforcement actions arising from potential employee misconduct, including non-compliance with internal policies and procedures, negligence and malfeasance, such as undertaking or facilitating cyber-attacks on internal systems. Substantial legal liability could materially adversely affect the Group's business, financial condition or results of operations or could cause significant reputational harm, which could seriously affect its business.

Insurance, operational and other risks
As part of the Group's ordinary course operations, the Group is subject to a variety of risks, including risks that reserves may not adequately cover future claims and benefits; risks that

catastrophic events (including natural catastrophes, such as hurricanes, cyclones, tornadoes, windstorms, hail storms, wildfires, floods and earthquakes, as well as extreme space weather events such as solar storms and geomagnetic activity, and man-made disasters, such as acts of terrorism, cyberattacks and other disasters such as explosions, industrial accidents and fires, as well as pandemics) are inherently unpredictable in terms of both their frequency and severity and have exposed, and may continue to expose, the Group to unexpected large losses (and related uncertainties in estimating future claims in respect of such events); changes in the insurance industry that affect ceding companies, particularly those that further increase their sensitivity to counterparty risk; competitive conditions (including as a result of consolidation and the availability of significant levels of alternative capacity); cyclicality of the industry; risks related to emerging claims and coverage issues (including social inflation), which trend may potentially be exacerbated by the COVID-19 crisis; macro developments giving rise to emerging risks, such as climate change and technological developments (including greater exposure to cyber risks (where accumulation risk is yet to be fully understood), which could have a range of consequences from operational disruption, to loss of proprietary or customer data, to greater regulatory burdens and potential liability); risks arising from the Group's dependence on policies, procedures and expertise of ceding companies; risks related to investments in emerging markets; and risks related to the failure of, or attacks directed at, the Group's operational systems and infrastructure, including its information technology networks and systems. Any of the foregoing, as well as the occurrence of future risks that the Group's risk management procedures fail to identify or anticipate, could have a material adverse effect on the Group, and could also give rise to reputational risk.

Use of models; accounting matters

The Group is subject to risks relating to the preparation of estimates and assumptions that its management uses, for example, as part of its risk models as well as those that affect the reported amounts of assets, liabilities, revenues and expenses in the Group's financial statements (such as assumptions related to the Group's capital requirements and anticipated liabilities), including assumed and ceded business. For example, the Group estimates premiums pending receipt of actual data from ceding companies, which actual data could deviate from the estimates (and could be adversely affected if premiums turn out to be lower, while claims stay the same). In addition, particularly with respect to large natural catastrophes, it may be difficult to estimate losses, and preliminary estimates may be subject to a high degree of uncertainty and change as new information becomes available. Deterioration in market conditions could have an adverse impact on assumptions used for financial reporting purposes, which could affect possible impairment of present value of future profits, fair value of assets and liabilities, deferred acquisition costs or goodwill. Moreover, regulators could require the use of standard models instead of permitting the use of internal models. To the extent that management's estimates or assumptions prove to be incorrect, it could have a material impact on underwriting results (in the case of risk models) or on reported financial condition or results of operations (in the case of accounting judgments), and such impact could be material.

The Group's results may be impacted by changes in accounting standards, or changes in the interpretation of accounting standards. Changes in accounting standards could impact future reported results or require restatement of past reported results. The Group's results may also be impacted if regulatory authorities take issue with any conclusions the Group may reach in respect of accounting matters.

The Group uses non-GAAP financial measures in its external financial reporting. These measures are not prepared in accordance with US GAAP or any other comprehensive set of accounting rules or principles and should not be viewed as a substitute for measures prepared in accordance with US GAAP. Moreover, these may be different from, or otherwise inconsistent with, non-GAAP financial measures used by other companies. These measures have inherent limitations, are not required to be uniformly applied and are not audited.

Risks related to the Swiss Re corporate structure

SRZ is a wholly owned subsidiary of SRL, and the Group represents two of the four principal operating segments of the Swiss Re group (expected to be reduced to three by the end of 2020). Capital, funding, reserve and cost allocations are made at the Swiss Re group level across the four operating segments based principally on business plans as measured against US GAAP and economic value management metrics. Decisions at the Swiss Re group level in respect of the broader Swiss Re group could have an adverse impact on the Group's financial condition, including its capital and liquidity levels, as well as on its SST ratio. As part of Swiss Re's focus on efficient capital allocation, the Group expects to be paying dividends to SRL. Decisions on dividends payable by each of the operating segments, including the Group, are made at the Swiss Re group level based on legal entity, regulatory, capital and liquidity considerations. The structure of Swiss Re will continue to evolve over time (including as part of the announced intention to assess the further streamlining of the legal entity structure of the Swiss Re group), which could impact the Group to the extent that operations are transferred into or from the Group. The Group's structure could also change in connection with acquisitions or dispositions, and to the extent it undertakes acquisitions, it is subject to the risks inherent in acquiring and integrating new operations.

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