Swiss Re

Swiss Reinsurance Company Consolidated

Annual Report

2022

Contents

Income statement

For the years ended 31 December

USD millions	Note	2021	2022
Revenues			
Gross premiums written	4	46 658	**47 888**
Net premiums written	4	43 220	**43 917**
Change in unearned premiums		–753	**–1 049**
Premiums earned	3	42 467	**42 868**
Fee income from policyholders	3	259	**250**
Net investment income – non-participating business[1]	7	3 280	**2 826**
Net realised investment gains/losses – non-participating business[2]	7	468	**–41**
Net investment result – unit-linked business	7	63	**–43**
Other revenues		32	**56**
Total revenues		46 569	**45 916**
Expenses			
Claims and claim adjustment expenses	3	–17 181	**–19 271**
Life and health benefits	3	–14 977	**–14 057**
Return credited to policyholders		–431	**–280**
Acquisition costs	3	–8 228	**–7 800**
Operating expenses		–3 746	**–3 645**
Total expenses before interest expenses		–44 563	**–45 053**
Income before interest and income tax expense		2 006	**863**
Interest expenses		–562	**–602**
Income before income tax expense		1 444	**261**
Income tax expense	13	–326	**–83**
Net income before attribution of non-controlling interests		1 118	**178**
Income/loss attributable to non-controlling interests			**–8**
Net income attributable to common shareholder		1 118	**170**

[1] Total impairments for the years ended 31 December of nil in 2021 and USD 18 million in 2022, respectively, were fully recognised in earnings.
[2] Total impairments for the years ended 31 December of USD 10 million in 2021 and of USD 70 million in 2022 respectively, were fully recognised in earnings.

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

Statement of comprehensive income

For the years ended 31 December

USD millions	2021	2022
Net income before attribution of non-controlling interests	1 118	**178**
Other comprehensive income, net of tax:		
Change in net unrealised investment gains/losses	–2 965	**–9 679**
Change in other-than-temporary impairment	–5	**–2**
Change in foreign currency translation	–482	**43**
Change in adjustment for pension benefits	258	**125**
Change in credit risk of financial liabilities at fair value option		**–1**
Other comprehensive income/loss attributable to non-controlling interests	–16	**–7**
Total comprehensive income/loss before attribution of non-controlling interests	–2 092	**–9 343**
Comprehensive income/loss attributable to non-controlling interests	16	**–1**
Total comprehensive income/loss attributable to common shareholder	–2 076	**–9 344**

Reclassification out of accumulated other comprehensive income

For the years ended 31 December

2021 USD millions	Net unrealised investment gains/losses[1]	Other-than-temporary impairment[1]	Foreign currency translation[1,2]	Adjustment for pension benefits[3]	Credit risk of financial liabilities at fair value option	Accumulated other comprehensive income
Balance as of 1 January	5 635	–1	–5 066	–807	4	–235
Change during the period	–4 106	–6	–358	257		–4 213
Amounts reclassified out of accumulated other comprehensive income	393		–12	70		451
Tax	748	1	–112	–69		568
Balance as of period end	2 670	–6	–5 548	–549	4	–3 429

2022 USD millions	Net unrealised investment gains/losses[1]	Other-than-temporary impairment[1]	Foreign currency translation[1,2]	Adjustment for pension benefits[3]	Credit risk of financial liabilities at fair value option	**Accumulated other comprehensive income**
Balance as of 1 January	2 670	–6	–5 548	–549	4	**–3 429**
Change during the period	–13 417	–2	189	133	–1	**–13 098**
Amounts reclassified out of accumulated other comprehensive income	1 256		–5	25		**1 276**
Tax	2 482		–141	–33		**2 308**
Balance as of period end	**–7 009**	**–8**	**–5 505**	**–424**	**3**	**–12 943**

[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
As of 31 December

USD millions	Note	2021	2022
Investments	7, 8, 9		
Fixed income securities:			
Available-for-sale (including 13 662 in 2021 and 12 355 in 2022 subject to securities lending and repurchase agreements) (amortised cost: 2021: 82 398; 2022: 82 735)		85 685	**74 089**
Trading (including 824 in 2021 and 143 in 2022 subject to securities lending and repurchase agreements)		1 300	**484**
Equity securities at fair value through earnings (including 2 in 2021 and 12 in 2022 subject to securities lending and repurchase agreements)		3 973	**2 108**
Policy loans, mortgages and other loans		4 003	**4 403**
Investment real estate		2 871	**2 931**
Short-term investments (including 1 383 in 2021 and 1 465 in 2022 subject to securities lending and repurchase agreements)		8 402	**8 850**
Other invested assets		9 313	**8 514**
Investments for unit-linked business (including equity securities at fair value through earnings: 468 in 2021 and 330 in 2022)		468	**330**
Total investments		116 015	**101 709**
Cash and cash equivalents (including 903 in 2021 and 421 in 2022 subject to securities lending, and 4 in 2021 and 5 in 2022 backing unit-linked contracts)		5 006	**4 050**
Accrued investment income		635	**682**
Premiums and other receivables		16 875	**18 145**
Reinsurance recoverable on unpaid claims and policy benefits		6 482	**6 507**
Funds held by ceding companies		12 532	**13 929**
Deferred acquisition costs	6	8 142	**8 121**
Acquired present value of future profits	6	836	**794**
Goodwill		3 970	**3 863**
Income taxes recoverable		303	**312**
Deferred tax assets	13	5 996	**8 090**
Other assets		3 692	**3 611**
Total assets		180 484	**169 813**

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

Liabilities and equity
As of 31 December

USD millions	Note	2021	2022
Liabilities			
Unpaid claims and claim adjustment expenses	5	84 096	**85 418**
Liabilities for life and health policy benefits		22 196	**20 925**
Policyholder account balances		5 147	**4 850**
Unearned premiums		14 134	**14 747**
Funds held under reinsurance treaties		6 553	**6 921**
Reinsurance balances payable		1 074	**1 837**
Income taxes payable		262	**174**
Deferred and other non-current tax liabilities	13	6 279	**5 833**
Short-term debt	11	3 026	**2 620**
Accrued expenses and other liabilities		8 704	**7 648**
Long-term debt	11	9 741	**10 097**
Total liabilities		161 212	**161 070**
Equity			
Common shares, CHF 0.10 par value			
2021: 344 052 565; 2022: 344 052 565 shares authorised and issued		32	**32**
Additional paid-in capital		12 524	**11 342**
Treasury shares, net of tax		–19	**–22**
Accumulated other comprehensive income:			
Net unrealised investment gains/losses, net of tax		2 670	**–7 009**
Other-than-temporary impairment, net of tax		–6	**–8**
Foreign currency translation, net of tax		–5 548	**–5 505**
Adjustment for pension and other post-retirement benefits, net of tax		–549	**–424**
Credit risk of financial liabilities at fair value option, net of tax		4	**3**
Total accumulated other comprehensive income		–3 429	**–12 943**
Retained earnings		10 054	**10 224**
Shareholder's equity		19 162	**8 633**
Non-controlling interests		110	**110**
Total equity		19 272	**8 743**
Total liabilities and equity		180 484	**169 813**

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

Statement of shareholder's equity

For the years ended 31 December

USD millions	2021	2022
Common shares		
Balance as of 1 January	32	**32**
Balance as of period end	32	**32**
Additional paid-in capital		
Balance as of 1 January	13 003	**12 524**
Capital contribution	14	
Dividends on common shares	–500	**–1 200**
Share-based compensation	12	**11**
Realised gains/losses on treasury shares	–5	**7**
Balance as of period end	12 524	**11 342**
Shares in Swiss Re Ltd, net of tax		
Balance as of 1 January	–17	**–19**
Change in shares in Swiss Re Ltd	–2	**–3**
Balance as of period end	–19	**–22**
Net unrealised investment gains/losses, net of tax		
Balance as of 1 January	5 635	**2 670**
Changes during the period	–2 965	**–9 679**
Balance as of period end	2 670	**–7 009**
Other-than-temporary impairment, net of tax		
Balance as of 1 January	–1	**–6**
Changes during the period	–5	**–2**
Balance as of period end	–6	**–8**
Foreign currency translation, net of tax		
Balance as of 1 January	–5 066	**–5 548**
Changes during the period	–482	**43**
Balance as of period end	–5 548	**–5 505**
Adjustment for pension and other post-retirement benefits, net of tax		
Balance as of 1 January	–807	**–549**
Changes during the period	258	**125**
Balance as of period end	–549	**–424**

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

USD millions	2021	2022
Credit risk of financial liabilities at fair value option, net of tax		
Balance as of 1 January	4	**4**
Changes during the period		**–1**
Balance as of period end	4	**3**
Retained earnings		
Balance as of 1 January	8 936	**10 054**
Net income after attribution of non-controlling interests	1 118	**170**
Balance as of period end	10 054	**10 224**
Shareholder's equity	19 162	**8 633**
Non-controlling interests		
Balance as of 1 January	123	**110**
Transactions with non-controlling interests	3	
Income/loss attributable to non-controlling interests		**8**
Other comprehensive income attributable to non-controlling interests		
Change in net unrealised investment gains/losses	–5	**–4**
Change in foreign currency translation	–11	**–3**
Dividends to non-controlling interests		**–1**
Balance as of period end	110	**110**
Total equity	19 272	**8 743**

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

Statement of cash flows

For the years ended 31 December

USD millions	2021	2022
Cash flows from operating activities		
Net income attributable to common shareholder	1 118	**170**
Add income/loss attributable to non-controlling interests		**8**
Adjustments to reconcile net income to net cash provided/used by operating activities:		
Depreciation, amortisation and other non-cash items	616	**374**
Net realised investment gains/losses	–509	**105**
Income from equity-accounted investees, net of dividends received	–521	**252**
Change in:		
Technical provisions and other reinsurance assets and liabilities, net	4 251	**3 263**
Funds held by ceding companies and under reinsurance treaties	–400	**–1 019**
Reinsurance recoverable on unpaid claims and policy benefits	–474	**–143**
Other assets and liabilities, net	–1 051	**–736**
Income taxes payable/recoverable	116	**–295**
Derivative financial instruments and collateral, net	–254	**581**
Net cash provided/used by operating activities	2 892	**2 560**
Cash flows from investing activities		
Fixed income securities:		
Sales	34 378	**24 097**
Maturities	9 700	**5 441**
Purchases	–53 581	**–32 370**
Net purchases/sales/maturities of short-term investments	7 253	**–620**
Equity securities:		
Sales	2 094	**2 461**
Purchases	–1 362	**–1 270**
Securities purchased/sold under agreement to resell/repurchase, net	447	**140**
Cash paid/received for acquisitions/disposals and reinsurance transactions, net	–42	**22**
Net purchases/sales/maturities of other investments	–1 622	**–323**
Net purchases/sales/maturities of investments held for unit-linked business	32	**25**
Net cash provided/used by investing activities	–2 703	**–2 397**
Cash flows from financing activities		
Policyholder account balances for unit-linked business:		
Deposits	9	**18**
Withdrawals	–64	**–66**
Issuance/repayment of long-term debt	1 236	**1 330**
Issuance/repayment of short-term debt	–1 053	**–819**
Purchase/sale of shares in Swiss Re Ltd.	–2	**–3**
Dividends paid to parent	–500	**–1 200**
Capital contribution received from parent	14	
Dividends paid to non-controlling interests		**–1**
Net cash provided/used by financing activities	–360	**–741**

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

USD millions	2021	2022
Total net cash provided/used	–171	**–578**
Effect of foreign currency translation	–268	**–378**
Change in cash and cash equivalents	–439	**–956**
Cash and cash equivalents as of 1 January	5 445	**5 006**
Cash and cash equivalents as of 31 December	5 006	**4 050**

Interest paid was USD 569 million and USD 477 million (thereof USD 8 million and USD 8 million for letter of credit fees) for 2021 and 2022, respectively. Tax paid was USD 210 million and USD 378 million for 2021 and 2022, respectively.

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 as well as other insurance-related services. Working through brokers and a network of offices around the globe, the Group serves a client base consisting of insurance companies, mid- to large-sized corporations 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 three business segments: Property & Casualty Reinsurance, Life & Health Reinsurance, Corporate Solutions.

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) and comply with Swiss law. All significant intra-group transactions and balances have been eliminated on consolidation.

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). The impact of the adoption on the Group's financial statements is being assessed. Financial statements for periods ending on or prior to 31 December 2023 will continue to be prepared in accordance with US GAAP.

Principles of consolidation
The Group's financial statements include the consolidated financial statements of SRZ and its subsidiaries. Voting entities which SRZ directly or indirectly controls through holding a majority of the voting rights are consolidated in the Group's accounts. Variable interest entities (VIEs) are consolidated when the Group is the primary beneficiary. The Group is the primary beneficiary when it has power over the activities that impact the VIE's economic performance and at the same time has the obligation to absorb losses or the right to receive benefits that could potentially be significant to the VIE.

Companies which the Group does not control, but over which it directly or indirectly exercises significant influence, are accounted for using the equity method or the fair value option and are included in other invested assets. The Group's share of net profit or loss in investments accounted for under the equity method is included in net investment income. Equity and net income of these companies are adjusted as necessary to be in line with the Group's accounting policies. The results of consolidated subsidiaries and investments accounted for using the equity method are included in the financial statements for the period commencing from the date of acquisition.

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.

Foreign currency remeasurement and translation
Transactions denominated in foreign currencies are remeasured to the respective subsidiary's functional currency at average exchange rates. Monetary assets and liabilities are remeasured to the functional currency at closing exchange rates, whereas non-monetary assets and liabilities are remeasured to the functional currency at historical rates. Remeasurement gains and losses on monetary assets and liabilities and trading securities are reported in earnings.

Remeasurement gains and losses on available-for-sale securities, investments in consolidated subsidiaries and investments accounted for using the equity method are reported in shareholder's equity.

For consolidation purposes, assets and liabilities of subsidiaries with functional currencies other than US dollars are translated from the functional currency to US dollars at closing rates. Revenues and expenses are translated at average exchange rates. Translation adjustments are reported in shareholder's equity.

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 by incorporating 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 a manner consistent with the aforementioned approach, with consideration given to 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 investment 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 inputs 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 related to these valuations. Subsequent valuations could differ significantly from the results of the process described above. The Group may become aware of counterparty valuations, either directly through the exchange of information or indirectly, for example through collateral demands. Any implied differences are considered in the independent price verification process and may result in adjustments to initially indicated valuations. As of 31 December 2022, the Group had not provided any collateral on financial instruments in excess of its own market value estimates.

Investments

The Group's investments in fixed income securities are classified as available-for-sale (AFS) or trading. Fixed income securities AFS are carried at fair value, based on quoted market prices, with the difference between the applicable measure of cost and fair value being recognised in shareholder's equity. Trading fixed income securities are carried at fair value with unrealised gains and losses recognised in earnings. A trading classification is used for securities that are bought and held principally for the purpose of selling them in the near term.

For fixed income securities AFS that are other-than-temporary impaired and for which there is not an intention to sell, the impairment is separated into (i) the estimated amount relating to credit loss, and (ii) the amount relating to all other factors, including interest rates and associated foreign currency impacts. The estimated credit loss amount is recognised in earnings, with the remainder of the loss amount recognised in other comprehensive income. In cases where there is an intention or requirement to sell and the fair value is lower than cost expressed in functional currency terms, the cost of fixed income securities AFS is reduced to fair value, with a corresponding charge to realised investment losses. Subsequent recoveries are not recognised in earnings.

Equity investments are carried at fair value with unrealised gains and losses recognised in earnings, with the exception of equity method investments and investments that result in consolidation. Interest on fixed income securities is recorded in net investment income when earned and is adjusted for the amortisation of any purchase premium or discount. Dividends on equity securities are recognised as investment income on the ex-dividend date. Realised gains and losses on sales are included in earnings and are calculated using the specific identification method.

Policy loans, mortgages and other loans are carried at amortised cost. Interest income is recognised in accordance with the effective yield method.

Investment in real estate that the Group intends to hold for the production of income is carried at depreciated cost, net of any write-downs for impairment in value. Depreciation on buildings is recognised on a straight-line basis over the estimated useful life of the asset. Land is recognised at cost and not depreciated. Impairment in value is recognised if the sum of the estimated future undiscounted cash flows from the use of the real estate is lower than its carrying value. The impairment loss is measured as the amount by which the asset's carrying amount exceeds its fair value and is recognised in realised investment losses. Depreciation and other related charges or credits are included in net investment income. Investment in real estate held for sale is carried at the lower of cost or fair value, less estimated selling costs, and is not depreciated. Reductions in the carrying value of real estate held for sale are included in realised investment losses.

Short-term investments are measured at fair value with changes in fair value recognised in net income. The Group considers highly liquid investments with a remaining maturity at the date of acquisition of one year or less, but greater than three months, to be short-term investments.

Other invested assets include affiliated companies, equity accounted companies, derivative financial instruments, collateral receivables, securities purchased under agreement to resell, deposits and time deposits, and investments without readily determinable fair value (including limited partnership investments). Investments in limited partnerships where the Group's interest equals or exceeds 3% are accounted for using the equity method. Investments in limited partnerships where the Group's interest is below 3% and equity investments in corporate entities which are not publicly traded are accounted for at estimated fair value with changes in fair value recognised in earnings.

The Group enters into securities lending arrangements under which it loans certain securities in exchange for collateral and receives securities lending fees. The Group's policy is to require collateral, consisting of cash or securities, equal to at least 102% of the carrying value of the securities loaned. In certain arrangements, the Group may accept collateral of less than 102% if the structure of the overall transaction offers an equivalent level of security. Cash received as collateral is recognised along with an obligation to return the cash. Securities received as collateral that can be sold or repledged are also recognised along with an obligation to return those securities. Securities lending fees are recognised over the term of the related loans.

Derivative financial instruments and hedge accounting
The Group uses a variety of derivative financial instruments including swaps, options, forwards and exchange-traded financial futures for the Group's trading and hedging strategy in line with the overall risk management strategy. Derivative financial instruments are primarily used as a means of managing exposure to price, foreign currency and/or interest rate risk on planned or anticipated investment purchases, existing assets or existing liabilities and also to lock in attractive investment conditions for funds which become available in the future. The Group recognises all of its derivative instruments on the balance sheet at fair value. Changes in fair value on derivatives that are not designated as hedging instruments are recorded in income.

If the derivative is designated as a hedge of the fair value of assets or liabilities, changes in the fair value of the derivative are recognised in earnings, together with changes in the fair value of the related hedged item. If the derivative is designated as a hedge of the variability in expected future cash flows related to a particular risk, changes in the fair value of the derivative are reported in other comprehensive income until the hedged item is recognised in earnings. The ineffective portion of the hedge is recognised in earnings. When hedge accounting is discontinued on a cash flow hedge, the net gain or loss remains in accumulated other comprehensive income and is reclassified to earnings in the period in which the formerly hedged transaction is reported in earnings. When the Group discontinues hedge accounting because it is no longer probable that a forecasted transaction will occur within the required time period, the derivative continues to be carried on the balance sheet at fair value, and gains and losses that were previously recorded in accumulated other comprehensive income are recognised in earnings.

The Group recognises separately derivatives that are embedded within other host instruments if the economic characteristics and risks are not clearly and closely related to the economic characteristics and risks of the host contract and if it meets the definition of a derivative if it were a free-standing contract.

Derivative financial instrument assets are generally included in other invested assets and derivative financial instrument liabilities are generally included in accrued expenses and other liabilities.

The Group also designates non-derivative and derivative monetary financial instruments as hedges of the foreign currency exposure of its net investment in certain foreign operations. From the inception of the hedging relationship, remeasurement gains and losses on the designated non-derivative and derivative monetary financial instruments and translation gains and losses on the hedged net investment are reported as translation gains and losses in shareholder's equity.

Cash and cash equivalents
Cash and cash equivalents include cash on hand, short-term deposits, certain short-term investments in money market funds and highly liquid debt instruments with a remaining maturity at the date of acquisition of three months or less.

Deferred acquisition costs
The Group incurs costs in connection with acquiring new and renewal reinsurance and insurance business. Some of these costs, which consist primarily of commissions, are deferred as they are directly related to the successful acquisition of such business.

Deferred acquisition costs for short-duration contracts are amortised in proportion to premiums earned. Deferred acquisition costs for traditional long-duration contracts are amortised over the life of underlying contracts based upon the present value of gross premiums. Deferred acquisition costs for universal-life type contracts and similar products are amortised based on the present value of estimated gross profits. Estimated gross profits are updated quarterly.

Modifications of insurance and reinsurance contracts
The Group accounts for modifications of insurance and reinsurance contracts that result in a substantially unchanged contract as a continuation of the replaced contract. The associated deferred acquisition costs and present value of future profits (PVFP) will continue to be amortised. The Group accounts for modifications of insurance and reinsurance contracts that result in a substantially changed contract as an extinguishment of the replaced contract. The associated deferred acquisition costs or PVFP are written off immediately through income and any new deferrable costs associated with the replacement contract are deferred.

Business combinations
The Group applies the acquisition method of accounting for business combinations. This method allocates the cost of the acquired entity to the assets and liabilities assumed based on their estimated fair values at the date of acquisition.

The underlying assets and liabilities acquired are subsequently accounted for according to the relevant US GAAP guidance. This includes specific requirements applicable to subsequent accounting for assets and liabilities recognised as part of the acquisition method of accounting, including present value of future profits, goodwill and other intangible assets.

Acquired present value of future profits
The acquired present value of future profits (PVFP) of business in force is recorded in connection with the acquisition of life and health business. The initial value is calculated as the difference between established reserves, which are set up in line with US GAAP accounting policies and assumptions of the Group, and their fair value at the acquisition date. The resulting PVFP, which could be positive or negative, is amortised on a constant yield basis over the expected revenue recognition period of the business acquired, generally over periods ranging up to 30 years, with the accrual of interest added to the unamortised balance at the earned rate. Amortisation and accrual of interest are recognised in acquisition costs. The earned rate corresponds to either the current earned rate or the original earned rate depending on the business written. The rate is consistently applied for the entire life of the applicable business. For universal-life and similar products, PVFP is amortised in line with estimated gross profits, which are updated quarterly. The carrying value of PVFP is reviewed periodically for indicators of impairment in value. Adjustments to PVFP reflecting impairment in value are recognised in acquisition costs during the period in which the determination of impairment is made, or in other comprehensive income for shadow loss recognition.

Goodwill
The excess of the purchase price of acquired businesses over the estimated fair value of net assets acquired is recorded as goodwill. The goodwill is tested for impairment on an annual basis as of 30 September, unless there is an event or circumstances which makes an impairment more likely than not. Adjustments to reflect impairment in value are recognised in earnings in the period in which the determination of impairment is made.

Other assets
Other assets include deferred expenses on retroactive reinsurance, prepaid reinsurance premiums, receivables related to investing activities, real estate for own use, other classes of property, plant and equipment, lease right-of-use asset, accrued income, certain intangible assets and prepaid assets.

The excess of estimated liabilities for claims and claim adjustment expenses payable over consideration received in respect of retroactive property and casualty reinsurance contracts is recorded as a deferred expense. The deferred expense on retroactive reinsurance contracts is amortised through earnings over the expected claims-paying period.

Real estate for own use as well as other classes of property, plant and equipment are carried at depreciated cost. Depreciation on buildings is recognised on a straight-line basis over the estimated useful life. Land is recognised at cost and not depreciated.

Leases
The Group recognises for finance and operating leases a liability to make lease payments (the lease liability) and a right-of-use asset representing the right to use the underlying asset for the lease term. The lease right-of-use asset is included in "other assets" and the lease liability is included in "accrued expenses and other liabilities" on the balance sheet. Lease expense for lease payments is recognised on a straight-line basis over the lease term.

Additional disclosures are provided in Note 12 "Leases".

Capitalised software costs
External direct costs of materials and services incurred to develop or obtain software for internal use, payroll and payroll-related costs for employees directly associated with software development and interest cost incurred while developing software for internal use are capitalised and amortised on a straight-line basis through earnings over the estimated useful life.

Income taxes
Deferred income tax assets and liabilities are recognised based on the difference between financial statement carrying amounts and the corresponding income tax bases of assets and liabilities using enacted income tax rates and laws. A valuation allowance is recorded against deferred tax assets when it is deemed more likely than not that some or all of the deferred tax assets may not be realised.

The Group recognises the effect of income tax positions only if sustaining those positions is more likely than not. Changes in recognition or measurement are reflected in the period in which a change in judgement occurs. Interest and penalties related to unrecognised tax benefits are recorded in income tax expense.

The Group releases stranded tax effects for unrealised gains/losses on AFS securities to earnings on a straight-line basis over the average duration of the relevant AFS portfolio as an approximation of when the individual securities within the portfolio are sold or mature. For adjustment for pension and other post-retirement benefits, stranded tax effects are released to earnings when the relevant pension plan is terminated. For foreign currency translation, stranded tax effects are released to earnings in line with the recycling of the underlying foreign currency translation amounts.

Unpaid claims and claim adjustment expenses
Liabilities for unpaid claims and claim adjustment expenses for property and casualty and for life and health insurance and reinsurance contracts are accrued when insured events occur and are based on the estimated ultimate cost of settling the claims, using reports and individual case estimates received from ceding companies. Reserves also are established for claims incurred but not reported, which are developed on the basis of past experience adjusted for current trends and other factors that modify past experience. The establishment of the appropriate level of reserves is an inherently uncertain process involving estimates and judgements made by management, and therefore there can be no assurance that ultimate claims and claim adjustment expenses will not exceed the loss reserves currently established by the Group. These estimates are regularly reviewed, and adjustments for differences between estimates and actual payments for claims and for changes in estimates are reflected in income in the period in which the estimates are changed or payments are made.

The COVID-19 pandemic has continued to add some degree of uncertainty during 2022, both in respect of estimation of claims across the insurance and reinsurance industry and assessments of the wider potential global health and economic impacts. The Group has recorded its best estimate of claims and claim adjustment expenses incurred as a result of the pandemic as of 31 December 2022, with the best estimate reflecting the Group's expectations based on current facts and circumstances.

The Group does not discount liabilities arising from prospective property and casualty insurance and reinsurance contracts, including liabilities which are discounted for US statutory reporting purposes. Liabilities arising from property and casualty insurance and reinsurance contracts acquired in a business combination are initially recognised at fair value in accordance with the acquisition method of accounting.

The Group does not discount life and health claim reserves except for disability income claims in payment and mortality claims paid out in the form of an annuity. These claims are recognised at the estimated present value of the remaining ultimate net costs of the incurred claims.

Experience features which are directly linked to a reinsurance asset or liability are classified in a manner that is consistent with the presentation of that asset or liability.

Liabilities for life and health policy benefits
Liabilities for life and health policy benefits from reinsurance business are generally calculated using the net level premium method, based on assumptions as to investment yields, mortality, morbidity, withdrawals, lapses and policyholder dividends. Assumptions are set at the time the contract is issued or, in the case of contracts acquired by purchase, at the acquisition date. The assumptions are based on current best estimates, making allowance for possible adverse deviation. Interest rate assumptions for life and health (re)insurance benefit liabilities are based on estimates of expected investment yields. Assumed mortality or morbidity rates are generally based on experience multiples applied to the actuarial select and ultimate tables based on industry experience.

Policyholder account balances
Policyholder account balances relate to universal-life-type contracts and investment contracts.

Universal-life-type contracts are long-duration insurance contracts, providing either death or annuity benefits, with terms that are not fixed and guaranteed.

Investment contracts are long-duration contracts that do not incorporate significant insurance risk, ie there is no mortality and morbidity risk, or the mortality and morbidity risk associated with the insurance benefit features offered in the contract is of insignificant amount or remote probability. Amounts received as payment for investment contracts are reported as policyholder account balances. Related assets are included in general account assets except for investments for unit-linked, which are presented in a separate line item on the face of the balance sheet.

Amounts assessed against policyholders for mortality, administration and surrender are reported as fee income. Amounts credited to policyholders are reported as interest credited to policyholders. Investment income and realised investment gains and losses allocable to policyholders are included in net investment income and net realised investment gains/losses except for unit-linked, which is presented in a separate line item on the face of the income statement.

In unit-linked contracts, the investment risk is borne by the policyholder. Additional disclosures are provided in Note 7 "Investments".

Funds held assets and liabilities
On the asset side, funds held by ceding companies consist mainly of amounts retained by the ceding company for business written on a funds withheld basis. In addition, the account also includes amounts arising from the application of the deposit method of accounting to ceded retrocession or reinsurance contracts.

On the liability side, funds held under reinsurance treaties consist mainly of amounts arising from the application of the deposit method of accounting to inward insurance and reinsurance contracts. In addition, the account also includes amounts retained from ceded business written on a funds withheld basis.

Funds withheld assets are assets that would normally be paid to the Group but are withheld by the cedent to reduce a potential credit risk or to retain control over investments. In case of funds withheld liabilities, it is the Group that withholds assets related to ceded business in order to reduce its credit risk or retain control over the investments.

The deposit method of accounting is applied to insurance and reinsurance contracts that do not indemnify the ceding company or the Group against loss or liability relating to insurance risk. Under the deposit method of accounting, the deposit asset or liability is initially measured based on the consideration paid or received. For contracts that transfer neither significant timing nor underwriting risk, and contracts that transfer only significant timing risk, changes in estimates of the timing or amounts of cash flows are accounted for by recalculating the effective yield. The deposit is then adjusted to the amount that would have existed had the new effective yield been applied since the inception of the contract. The revenue and expense recorded for such contracts is included in net investment income. For contracts that transfer only significant underwriting risk, once a loss is incurred, the deposit is adjusted by the present value of the incurred loss. At each subsequent balance sheet date, the portion of the deposit attributable to the incurred loss is recalculated by discounting the estimated future cash flows. The resulting changes in the carrying amount of the deposit are recognised in claims and claim adjustment expenses.

Funds withheld balances are presented together with assets and liabilities arising from the application of the deposit method because of their common deposit-type character.

Premium deficiency testing
The level of the premium deficiency test is at the segment level or separate business within Group Items. The testing is performed net of external retrocessions.

For long duration contracts, liabilities for life and health policy benefits are increased with a charge to earnings if there is a premium deficiency. A premium deficiency exists if the liability for future policy benefits calculated using best estimate cash flows, including investment income, is higher than the net GAAP liability. If a premium deficiency exists, the deferred acquisition costs for the related business segment will be expensed to the extent of the deficiency. If the deficiency is greater than the deferred acquisition costs, then an additional liability will be established for the difference. In connection with the premium deficiency testing, an analysis is performed to determine that profits will not be followed by losses. The best estimate cash flows by year along with the change in the locked in GAAP reserve are reviewed to determine that there are not any profits followed by losses. If so, an additional GAAP reserve is established by calculating the portion of future premiums required to be used as an additional reserve to offset the future losses.

For short duration contracts, a premium deficiency exists when the unearned premium plus expected investment income is less than the total of expected claim costs and claim adjustment expenses, related estimated policy maintenance costs (incl. unallocated loss adjustment expenses), related unamortised acquisition costs and expected dividends to policyholders. If a premium deficiency exists, the deferred acquisition costs for the related business segment will be expensed to the extent of the deficiency. If the deficiency is greater than the deferred acquisition cost, then a liability will be established for the difference.

Shadow adjustments
Shadow adjustments are recognised in other comprehensive income reflecting the offset of adjustments to deferred acquisition costs and PVFP, typically related to universal-life-type contracts, and policyholder liabilities. The purpose is to reflect the fact that certain amounts recorded as unrealised investment gains and losses within shareholder's equity will ultimately accrue to policyholders and not to the shareholder.

Shadow loss recognition testing becomes relevant in low interest rate environments. The test considers whether the hypothetical sale of AFS securities and the reinvestment of proceeds at lower yields would lead to negative operational earnings in future periods, thereby causing a loss recognition event. For shadow loss recognition testing, the Group uses current market yields to determine best estimate US GAAP reserves rather than using locked-in or current book yields. If the unlocked best estimate US GAAP reserves based on current market rates are in excess of reserves based on locked-in or current book yields, a shadow loss recognition reserve is set up. These reserves are recognised in other comprehensive income and do not impact net income. In addition, shadow loss recognition reserves can reverse up to the amount of losses recognised due to past loss events.

Premiums
Property and casualty reinsurance premiums are recorded when written and include an estimate for written premiums receivable at period end. Premiums earned are generally recognised in income over the contract period in proportion to the amount of reinsurance provided. Unearned premiums consist of the unexpired portion of reinsurance provided. Life reinsurance premiums are earned when due. Related policy benefits are recorded in relation to the associated premium or gross profits so that profits are recognised over the expected lives of the contracts.

Life and health reinsurance premiums for group coverages are generally earned over the term of the coverage. For group contracts that allow experience adjustments to premiums, such premiums are recognised as the related experience emerges.

Reinstatement premiums are due where coverage limits for the remaining life of the contract are reinstated under pre-defined contract terms. The recognition of reinstatement premiums as written depends on individual contract features. Reinstatement premiums are either recognised as written at the time a loss event occurs or in line with the recognition pattern of premiums written of the underlying contract. The accrual of reinstatement premiums is based on actuarial estimates of ultimate losses. Reinstatement premiums are generally earned in proportion to the amount of reinsurance provided.

Insurance and reinsurance ceded
The Group uses retrocession arrangements to increase its aggregate underwriting capacity, to diversify its risk and to reduce the risk of catastrophic loss on reinsurance assumed. The ceding of risks to retrocessionaires does not relieve the Group of its obligations to its ceding companies. The Group regularly evaluates the financial condition of its retrocessionaires and monitors the concentration of credit risk to minimise its exposure to financial loss from retrocessionaires' insolvency. Premiums and losses ceded under retrocession contracts are reported as reductions of premiums earned and claims and claim adjustment expenses.

Amounts recoverable for ceded short- and long-duration contracts, including universal-life-type and investment contracts, are reported as assets in the accompanying consolidated balance sheet. The Group provides reserves for uncollectible amounts on reinsurance balances ceded, based on management's assessment of the collectability of the outstanding balances.

Receivables
Premium and claims receivables which have been invoiced are accounted for at face value. Together with assets arising from the application of the deposit method of accounting that meet the definition of financing receivables they are regularly assessed for impairment. Evidence of impairment is the age of the receivable and/or any financial difficulties of the counterparty. Allowances are set up on the net balance, meaning all balances related to the same counterparty are considered. The amount of the allowance is set up in relation to the time a receivable has been due and any financial difficulties of the debtor and can be as high as the outstanding net balance.

Pensions and other post-retirement benefits
The Group accounts for its pension and other post-retirement benefit costs using the accrual method of accounting. Amounts charged to expense are based on periodic actuarial determinations.

Share-based payment transactions
As of 31 December 2022, the Group has a Leadership Performance Plan (LPP)/Leadership Share Plan (LSP), restricted shares and a Global Share Participation Plan. The Group accounts for share-based payment transactions with employees using the fair value method. Under the fair value method, the fair value of the awards is recognised in earnings over the vesting period. Total compensation cost for share-based compensation plans recognised in net income was USD 23 million for the year ended 31 December 2022.

For share-based compensation plans which are settled in cash, compensation costs are recognised as liabilities, whereas for equity-settled plans, compensation costs are recognised as an accrual to additional paid-in capital within shareholder's equity. As of 31 December 2022, the accrual for share-based compensation plans in additional paid-in capital was USD 11 million.

Shares in Swiss Re Ltd
Shares in Swiss Re Ltd are reported at cost in shareholder's equity.

Subsequent events
Subsequent events for the current reporting period have been evaluated up to 15 March 2023. This is the date on which the financial statements are available to be issued.

Adoption of new accounting standards
In May 2021, the FASB issued ASU 2021-04, "Modification of equity-classified written call options", an update to Topic 260, "Earnings per share", to Topic 470-50, "Debt – Modification and Extinguishments", to Topic 718, "Compensation – Stock Compensation", and to Topic 815-40, "Derivatives and Hedging – Contract in Entity's Own Equity". The amendments in this update clarify and reduce diversity in the accounting by issuers for modifications or exchanges of freestanding equity-classified written call options that remain equity classified after modification or exchange. The Group adopted the standard on 1 January 2022. The adoption did not have an impact on the Group's financial statements.

In July 2021, the FASB issued ASU 2021-05, "Lessors – Certain Leases with Variable Lease Payments", an update to Topic 842, "Leases". The amendments in this update address stakeholders' concerns by amending the lease classification requirements for lessors to align them with practice under Topic 840. A lessor shall account for a lease with variable lease payments that do not depend on an index or a rate as an operating lease, if classifying the lease as a sales-type lease or a direct financing lease would result in the recognition of a day-one loss. The Group adopted the standard on 1 January 2022. The adoption did not have an impact on the Group's financial statements.

In November 2021, the FASB issued ASU 2021-10, "Disclosures by Business Entities about Government Assistance", an update to Topic 832, "Government Assistance". The amendments in this update require additional annual disclosures about transactions with a government that are accounted for by applying a grant or contribution accounting model. The Group adopted the standard on 1 January 2022. The adoption did not have an impact on the Group's financial statements.

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 2024, with the effective period amended by ASU 2022-06 "Deferral of the Sunset Date of Topic 848", an update to Topic 848, "Reference Rate Reform". As of 31 December 2022, the Group applied the guidance to Topic 815 related to Group's adherence to the ISDA 2020 Fallbacks Protocol, which is a standardized approach for amending contracts in order to incorporate IBOR fallback provisions and related to changes to the critical terms of a hedging relationship due to reference rate reform as well as to Topic 944 related to changes resulting from the replacement of discontinued reference rates included in contracts within the scope of Topic 944, "Financial Services – Insurance". The Group also applied the guidance to modifications of loan contracts within the scope of Topic 310 "Receivables" due to replacements of reference rates that are expected to be discontinued. These modifications are being accounted for by prospectively adjusting the effective interest rate.

In January 2021, the FASB issued ASU 2021-01, "Scope", an update to Topic 848, "Reference Rate Reform". Because of the broad population of derivatives affected by the market-wide transition to new reference rates (commonly referred to as the "discounting transition"), stakeholders analysed the accounting implications of the discounting transition against the available exceptions and expedients within Topic 848, "Reference Rate Reform", which led them to raise questions about the scope of that Topic. The amendments clarify the scope of Topic 848 and allow entities to apply certain optional provisions in Topic 848 to derivative instruments that undergo a modification of the interest rate used for margining, discounting, or contract price alignment because of the discounting transition that do not also reference LIBOR or another reference rate that is expected to be discontinued as a result of reference rate reform. The Group applied ASU 2021-01 as of 31 December 2022.

Although the Group has exposure to discontinued IBORs, the transition to the new risk-free reference rates did not have a material impact, mostly due to the transition relief measures in Topic 848, "Reference Rate Reform".

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 assets such as financial instruments that are measured at amortised cost, fixed income securities available-for-sale, premium receivables, funds withheld assets 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 assets in scope. The Group will adopt ASU 2016-13 on 1 January 2023 using a modified retrospective method. The impact of the adoption of the standard is expected to be a reduction in opening retained earnings of approximately USD 0.1 billion, net of tax, primarily driven by fixed income securities available-for-sale, other loans and reinsurance recoverables.

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 adoption of ASU 2017-04 is not expected to have an impact on the Group's financial statements.

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 2020-11 "Effective Date and Early Application", ASU 2018-12 is effective for annual periods beginning after 15 December 2024, and interim periods beginning after 15 December 2025. Due to the decision of the Board of Directors of SRZ 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 three core operating business segments: Property & Casualty Reinsurance, Life & Health Reinsurance and Corporate Solutions. 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 within an entity which impacts two or more segments is allocated to the segments based on the applicable statutory tax rate on pre-tax income or loss with permanent tax differences specifically allocated to the applicable segments. 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). Cross-segmental dividends and gains and losses on certain one-off transfers and transactions between segments are accounted for through segmental shareholders' equity.

The Group operating segments are outlined below.

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

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

Corporate Solutions
Corporate Solutions offers innovative insurance capacity to mid- to large-sized corporations across the globe. Offerings range from standard risk transfer covers and multi-line programmes to highly customised solutions tailored to the needs of clients. Corporate Solutions serves customers from offices worldwide.

Group items
Group items includes iptiQ, which operates as a standalone division, with results reported within the Group items segment. Group items also includes items not allocated to the business segments, which encompass certain administrative expenses related to non-core activities, Treasury units and reinsurance and insurance business in run-off. iptiQ partners with distributors providing Swiss Re access to risk pools offering white labelled protection cover in both the life and health as well as property and casualty businesses. As of 1 January 2022, a part of Principal Investments as well as Admin Re US have been reallocated from Group items to Reinsurance. Segmental comparative information for 2021 has been adjusted accordingly.

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 and intersegmental funding.

a) Business segments – income statement
For the year ended 31 December

2021[1] USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Corporate Solutions	Group items	Consolidation	Total
Revenues						
Gross premiums written	23 246	16 119	7 492	747	–946	46 658
Net premiums written	22 381	14 632	5 717	490		43 220
Change in unearned premiums	–455	104	–374	–28		–753
Premiums earned	21 926	14 736	5 343	462		42 467
Fee income from policyholders		259				259
Net investment income – non-participating business	1 676	1 389	121	164	–70	3 280
Net realised investment gains/losses – non-participating business	543	313	115	–503		468
Net investment result – unit-linked business		63				63
Other revenues	20	3	12	2	–5	32
Total revenues	24 165	16 763	5 591	125	–75	46 569
Expenses						
Claims and claim adjustment expenses	–14 773		–2 374	–38	4	–17 181
Life and health benefits		–13 729	–924	–320	–4	–14 977
Return credited to policyholders		–431				–431
Acquisition costs	–5 359	–2 056	–690	–123		–8 228
Operating expenses	–1 160	–876	–848	–867	5	–3 746
Total expenses before interest expenses	–21 292	–17 092	–4 836	–1 348	5	–44 563
Income/loss before interest and income tax expense/benefit	2 873	–329	755	–1 223	–70	2 006
Interest expenses	–299	–281	–26	–26	70	–562
Income/loss before income tax expense/benefit	2 574	–610	729	–1 249	0	1 444
Income tax expense/benefit	–424	100	–149	147		–326
Net income/loss before attribution of non-controlling interests	2 150	–510	580	–1 102	0	1 118
Income/loss attributable to non-controlling interests	–1		1			
Net income/loss attributable to common shareholders	2 149	–510	581	–1 102	0	1 118
Claims ratio in %	67.4		61.7			66.3
Expense ratio in %	29.7		28.8			29.5
Combined ratio in %	97.1		90.5			95.8
Management expense ratio[2] in %		5.3				
Net operating margin[3] in %	11.9	–2.0	13.5			4.3

[1] Comparative information for 2021 has been revised to reflect the reallocation of part of Principal Investments as well as Admin Re US from Group items to Reinsurance.
[2] 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".
[3] Net operating margin is calculated as "Income/loss before interest and income tax expense/benefit" divided by "Total revenues" excluding "Net investment result – unit-linked business".

Business segments – income statement
For the year ended 31 December

2022 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Corporate Solutions	Group items	Consolidation	Total
Revenues						
Gross premiums written	23 848	15 986	8 198	867	–1 011	47 888
Net premiums written	22 826	14 476	6 124	491		43 917
Change in unearned premiums	–798	258	–642	133		–1 049
Premiums earned	22 028	14 734	5 482	624		42 868
Fee income from policyholders		250				250
Net investment income – non-participating business	1 326	1 417	223	–42	–98	2 826
Net realised investment gains/losses – non-participating business	–100	128	29	–98		–41
Net investment result – unit-linked business		–43				–43
Other revenues	27	1	3	29	–4	56
Total revenues	**23 281**	**16 487**	**5 737**	**513**	**–102**	**45 916**
Expenses						
Claims and claim adjustment expenses	–16 344		–2 889	–38		–19 271
Life and health benefits		–12 948	–675	–434		–14 057
Return credited to policyholders		–280				–280
Acquisition costs	–5 106	–1 772	–748	–174		–7 800
Operating expenses	–1 106	–840	–793	–910	4	–3 645
Total expenses before interest expenses	**–22 556**	**–15 840**	**–5 105**	**–1 556**	**4**	**–45 053**
Income/loss before interest and income tax expense/benefit	**725**	**647**	**632**	**–1 043**	**–98**	**863**
Interest expenses	–382	–274	–24	–20	98	–602
Income/loss before income tax expense/benefit	**343**	**373**	**608**	**–1 063**	**0**	**261**
Income tax expense/benefit	–84	–91	–121	213		–83
Net income/loss before attribution of non-controlling interests	**259**	**282**	**487**	**–850**	**0**	**178**
Income/loss attributable to non-controlling interests			–8			–8
Net income/loss attributable to common shareholders	**259**	**282**	**479**	**–850**	**0**	**170**
Claims ratio in %	74.2		65.0			72.3
Expense ratio in %	28.2		28.1			28.2
Combined ratio in %	102.4		93.1			100.5
Management expense ratio[1] in %		5.1				
Net operating margin[2] in %	3.1	3.9	11.0			1.9

[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/loss 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

2021[1] USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Corporate Solutions	Group items	Consolidation	Total
Assets						
Fixed income securities	42 762	34 086	9 688	449		86 985
Equity securities	2 218	213	254	1 288		3 973
Other investments	20 075	3 658	162	1 680	–9 388	16 187
Short-term investments	4 335	2 327	1 476	264		8 402
Investments for unit-linked business		468				468
Cash and cash equivalents	1 301	2 048	858	799		5 006
Deferred acquisition costs	2 538	4 718	480	406		8 142
Acquired present value of future profits		836				836
Reinsurance recoverable	2 004	2 289	6 907	114	–4 832	6 482
Other reinsurance assets	15 423	11 963	3 120	164	–1 263	29 407
Goodwill	1 903	1 855	182	30		3 970
Other	9 103	9 239	3 137	1 209	–12 062	10 626
Total assets	101 662	73 700	26 264	6 403	–27 545	180 484
Liabilities						
Unpaid claims and claim adjustment expenses	56 883	16 152	15 660	232	–4 831	84 096
Liabilities for life and health policy benefits		20 487	798	912	–1	22 196
Policyholder account balances		5 147				5 147
Other reinsurance liabilities	16 040	1 627	5 317	424	–1 647	21 761
Short-term debt	1 269	1 750		649	–642	3 026
Long-term debt	3 596	11 774	499	1 275	–7 403	9 741
Other	14 640	10 989	1 132	1 505	–13 021	15 245
Total liabilities	92 428	67 926	23 406	4 997	–27 545	161 212
Shareholder's equity	9 227	5 774	2 755	1 406	0	19 162
Non-controlling interests	7		103			110
Total equity	9 234	5 774	2 858	1 406	0	19 272
Total liabilities and equity	101 662	73 700	26 264	6 403	–27 545	180 484

[1] Comparative information for 2021 has been revised to reflect the reallocation of part of Principal Investments as well as Admin Re US from Group items to Reinsurance.

Business segments – balance sheet
As of 31 December

2022 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance[1]	Corporate Solutions[1]	Group items[1]	Consolidation	Total
Assets						
Fixed income securities	38 918	27 220	7 922	513		74 573
Equity securities	1 104	268	116	620		2 108
Other investments	17 693	3 549	371	1 479	–7 244	15 848
Short-term investments	4 367	2 795	1 451	237		8 850
Investments for unit-linked business		330				330
Cash and cash equivalents	1 601	1 713	718	18		4 050
Deferred acquisition costs	2 675	4 520	489	437		8 121
Acquired present value of future profits		794				794
Reinsurance recoverable	1 865	2 211	6 413	273	–4 255	6 507
Other reinsurance assets	17 024	12 335	3 135	216	–636	32 074
Goodwill	1 859	1 791	184	29		3 863
Other	12 156	9 185	3 104	1 898	–13 648	12 695
Total assets	**99 262**	**66 711**	**23 903**	**5 720**	**–25 783**	**169 813**
Liabilities						
Unpaid claims and claim adjustment expenses	58 317	16 784	13 914	662	–4 259	85 418
Liabilities for life and health policy benefits		19 426	625	874		20 925
Policyholder account balances		4 850				4 850
Other reinsurance liabilities	16 842	2 000	5 341	361	–1 039	23 505
Short-term debt	1 120	1 500		66	–66	2 620
Long-term debt	4 962	9 670	499	915	–5 949	10 097
Other	13 562	11 443	1 326	1 794	–14 470	13 655
Total liabilities	**94 803**	**65 673**	**21 705**	**4 672**	**–25 783**	**161 070**
Shareholder's equity	**4 451**	**1 038**	**2 096**	**1 048**	**0**	**8 633**
Non-controlling interests	8		102			110
Total equity	**4 459**	**1 038**	**2 198**	**1 048**	**0**	**8 743**
Total liabilities and equity	**99 262**	**66 711**	**23 903**	**5 720**	**–25 783**	**169 813**

[1] Information reflects the sale of Elips Life AG and the simultaneously entered long-term reinsurance partnership. Please refer to Note 10 "Disposals" for more details.

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

2021 USD millions	Property	Casualty	Specialty	Unallocated	Total
Revenues					
Gross premiums written	9 855	9 681	3 710		23 246
Net premiums written	9 102	9 624	3 655		22 381
Change in unearned premiums	–409	140	–186		–455
Premiums earned	8 693	9 764	3 469		21 926
Net investment income				1 676	1 676
Net realised investment gains/losses				543	543
Other revenues				20	20
Total revenues	8 693	9 764	3 469	2 239	24 165
Expenses					
Claims and claim adjustment expenses	–5 685	–7 057	–2 031		–14 773
Acquisition costs	–1 743	–2 750	–866		–5 359
Operating expenses	–587	–371	–202		–1 160
Total expenses before interest expenses	–8 015	–10 178	–3 099	0	–21 292
Income/loss before interest and income tax expense	678	–414	370	2 239	2 873
Interest expenses				–299	–299
Income/loss before income tax expense	678	–414	370	1 940	2 574
Claims ratio in %	65.4	72.2	58.5		67.4
Expense ratio in %	26.8	32.0	30.8		29.7
Combined ratio in %	92.2	104.2	89.3		97.1

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

2022 USD millions	Property	Casualty	Specialty	Unallocated	Total
Revenues					
Gross premiums written	10 478	9 462	3 908		23 848
Net premiums written	9 551	9 405	3 870		22 826
Change in unearned premiums	–460	–70	–268		–798
Premiums earned	9 091	9 335	3 602		22 028
Net investment income				1 326	1 326
Net realised investment gains/losses				–100	–100
Other revenues				27	27
Total revenues	**9 091**	**9 335**	**3 602**	**1 253**	**23 281**
Expenses					
Claims and claim adjustment expenses	–6 764	–7 229	–2 351		–16 344
Acquisition costs	–1 732	–2 565	–809		–5 106
Operating expenses	–474	–436	–196		–1 106
Total expenses before interest expenses	**–8 970**	**–10 230**	**–3 356**	**0**	**–22 556**
Income/loss before interest and income tax expense	**121**	**–895**	**246**	**1 253**	**725**
Interest expenses				–382	–382
Income/loss before income tax expense	**121**	**–895**	**246**	**871**	**343**
Claims ratio in %	74.4	77.5	65.3		74.2
Expense ratio in %	24.3	32.1	27.9		28.2
Combined ratio in %	98.7	109.6	93.2		102.4

c) Life & Health Reinsurance business segment – by line of business
For the year ended 31 December

2021 USD millions	Life	Health	Unallocated	Total
Revenues				
Gross premiums written	11 348	4 771		16 119
Net premiums written	10 146	4 486		14 632
Change in unearned premiums	46	58		104
Premiums earned	10 192	4 544		14 736
Fee income from policyholders	259			259
Net investment income – non-participating business	1 168	221		1 389
Net realised investment gains/losses – non-participating business	–3		316	313
Net investment result – unit-linked business	63			63
Other revenues	2	1		3
Total revenues	11 681	4 766	316	16 763
Expenses				
Life and health benefits	–10 345	–3 384		–13 729
Return credited to policyholders	–431			–431
Acquisition costs	–1 388	–668		–2 056
Operating expenses	–573	–303		–876
Total expenses before interest expenses	–12 737	–4 355	0	–17 092
Income/loss before interest and income tax expense	–1 056	411	316	–329
Interest expenses			–281	–281
Income/loss before income tax expense	–1 056	411	35	–610
Management expense ratio[1] in %	4.9	6.4		5.3
Net operating margin[2] in %	–9.1	8.6		–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/loss 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 year ended 31 December

2022 USD millions	Life	Health	Unallocated	Total
Revenues				
Gross premiums written	11 351	4 635		15 986
Net premiums written	10 108	4 368		14 476
Change in unearned premiums	132	126		258
Premiums earned	10 240	4 494		14 734
Fee income from policyholders	250			250
Net investment income – non-participating business	1 160	257		1 417
Net realised investment gains/losses – non-participating business	58	–2	72	128
Net investment result – unit-linked business	–43			–43
Other revenues	1			1
Total revenues	**11 666**	**4 749**	**72**	**16 487**
Expenses				
Life and health benefits	–9 427	–3 521		–12 948
Return credited to policyholders	–280			–280
Acquisition costs	–1 132	–640		–1 772
Operating expenses	–553	–287		–840
Total expenses before interest expenses	**–11 392**	**–4 448**	**0**	**–15 840**
Income before interest and income tax expense	**274**	**301**	**72**	**647**
Interest expenses			–274	–274
Income/loss before income tax expense	**274**	**301**	**–202**	**373**
Management expense ratio[1] in %	4.7	6.0		5.1
Net operating margin[2] in %	2.3	6.3		3.9

[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".

d) Group items business segment

For the year ended 31 December

2021 USD millions	iptiQ	Other	Total
Revenues			
Gross premiums written	723	24	747
Net premiums written	466	24	490
Change in unearned premiums	–28		–28
Premiums earned	438	24	462
Net investment income – non-participating business	21	143	164
Net realised investment gains/losses	–4	–499	–503
Other revenues	2		2
Total revenues	457	–332	125
Expenses			
Claims and claim adjustment expenses	–38		–38
Life and health benefits	–302	–18	–320
Acquisition costs	–105	–18	–123
Operating expenses	–290	–577	–867
Total expenses before interest expenses	–735	–613	–1 348
Income/loss before interest and income tax expense/benefit	–278	–945	–1 223
Interest expenses	–1	–25	–26
Income/loss before income tax expense/benefit	–279	–970	–1 249
Income tax expense/benefit	32	115	147
Net income/loss	–247	–855	–1 102

Group items business segment
For the year ended 31 December

2022 USD millions	iptiQ	Other	Total
Revenues			
Gross premiums written	851	16	867
Net premiums written	475	16	491
Change in unearned premiums	7	126	133
Premiums earned	482	142	624
Net investment income – non-participating business	–21	–21	–42
Net realised investment gains/losses	–18	–80	–98
Other revenues	29		29
Total revenues	**472**	**41**	**513**
Expenses			
Claims and claim adjustment expenses	–38		–38
Life and health benefits	–323	–111	–434
Acquisition costs	–144	–30	–174
Operating expenses	–329	–581	–910
Total expenses before interest expenses	**–834**	**–722**	**–1 556**
Income/loss before interest and income tax expense/benefit	**–362**	**–681**	**–1 043**
Interest expenses	–1	–19	–20
Income/loss before income tax expense/benefit	**–363**	**–700**	**–1 063**
Income tax expense/benefit	22	191	213
Net income/loss	**–341**	**–509**	**–850**

e) Net premiums earned and fee income from policyholders by geography

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

USD millions	2021	2022
Americas	20 984	22 151
Europe (including Middle East and Africa)	13 543	13 211
Asia-Pacific	8 199	7 756
Total	42 726	**43 118**

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

USD millions	2021	2022
United States	18 300	19 557
United Kingdom	3 963	3 878
Australia	2 055	1 830
China	1 847	1 619
Canada	1 509	1 517
Germany	1 450	1 349
Japan	1 288	1 160
Ireland	813	1 021
France	1 022	996
Netherlands	1 131	870
Switzerland	990	739
Other	8 358	8 582
Total	42 726	**43 118**

Net premiums earned and fee income from policyholders are allocated by country, based on the underlying contract.

3 Insurance information

Premiums earned and fees assessed against policyholders
For the years ended 31 December

2021 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Corporate Solutions	Group items	Total
Premiums earned, thereof:					
Direct			5 816	624	6 440
Reinsurance	22 057	16 192	1 021	9	39 279
Intra-group transactions (assumed and ceded)	654	9	–501	–162	0
Premiums earned before retrocession to external parties	22 711	16 201	6 336	471	45 719
Retrocession to external parties	–785	–1 465	–993	–9	–3 252
Net premiums earned	21 926	14 736	5 343	462	42 467
Fee income from policyholders, thereof:					
Direct					0
Reinsurance		261			261
Gross fee income before retrocession to external parties		261			261
Retrocession to external parties		–2			–2
Net fee income	0	259	0	0	259

2022 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Corporate Solutions	Group items	Total
Premiums earned, thereof:					
Direct			6 224	810	7 034
Reinsurance	22 157	16 183	1 072	137	39 549
Intra-group transactions (assumed and ceded)	791		–482	–309	0
Premiums earned before retrocession to external parties	22 948	16 183	6 814	638	46 583
Retrocession to external parties	–920	–1 449	–1 332	–14	–3 715
Net premiums earned	**22 028**	**14 734**	**5 482**	**624**	**42 868**
Fee income from policyholders, thereof:					
Direct					0
Reinsurance		251			251
Gross fee income before retrocession to external parties		251			251
Retrocession to external parties		–1			–1
Net fee income	**0**	**250**	**0**	**0**	**250**

Claims and claim adjustment expenses
For the year ended 31 December

2021 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Corporate Solutions	Group items	Total
Claims paid, thereof:					
Gross claims paid to external parties	−11 818	−14 235	−3 751	−500	−30 304
Intra-group transactions (assumed and ceded)	−561	−75	534	102	0
Claims before receivables from retrocession to external parties	−12 379	−14 310	−3 217	−398	−30 304
Retrocession to external parties	282	1 493	518	2	2 295
Net claims paid	−12 097	−12 817	−2 699	−396	−28 009
Change in unpaid claims and claim adjustment expenses; life and health benefits, thereof:					
Gross – with external parties	−2 903	−1 055	−696	7	−4 647
Intra-group transactions (assumed and ceded)	166	70	−265	29	0
Unpaid claims and claim adjustment expenses; life and health benefits before impact of retrocession to external parties	−2 737	−985	−961	36	−4 647
Retrocession to external parties	61	73	362	2	498
Net unpaid claims and claim adjustment expenses; life and health benefits	−2 676	−912	−599	38	−4 149
Claims and claim adjustment expenses; life and health benefits	−14 773	−13 729	−3 298	−358	−32 158

Acquisition costs
For the year ended 31 December

2021 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Corporate Solutions	Group items	Total
Acquisition costs, thereof:					
Gross acquisition costs with external parties	−5 374	−2 332	−923	−154	−8 783
Intra-group transactions (assumed and ceded)	−112	−4	87	29	0
Acquisition costs before impact of retrocession to external parties	−5 486	−2 336	−836	−125	−8 783
Retrocession to external parties	127	280	146	2	555
Net acquisition costs	−5 359	−2 056	−690	−123	−8 228

Claims and claim adjustment expenses
For the year ended 31 December

2022 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Corporate Solutions	Group items	Total
Claims paid, thereof:					
Gross claims paid to external parties	−12 949	−14 212	−4 286	−480	−31 927
Intra-group transactions (assumed and ceded)	−744	−8	616	136	0
Claims before receivables from retrocession to external parties	−13 693	−14 220	−3 670	−344	−31 927
Retrocession to external parties	407	1 330	736	8	2 481
Net claims paid	**−13 286**	**−12 890**	**−2 934**	**−336**	**−29 446**
Change in unpaid claims and claim adjustment expenses; life and health benefits, thereof:					
Gross – with external parties	−3 388	−85	−305	−262	−4 040
Intra-group transactions (assumed and ceded)	292	8	−428	128	0
Unpaid claims and claim adjustment expenses; life and health benefits before impact of retrocession to external parties	−3 096	−77	−733	−134	−4 040
Retrocession to external parties	38	19	103	−2	158
Net unpaid claims and claim adjustment expenses; life and health benefits	**−3 058**	**−58**	**−630**	**−136**	**−3 882**
Claims and claim adjustment expenses; life and health benefits	**−16 344**	**−12 948**	**−3 564**	**−472**	**−33 328**

Acquisition costs
For the year ended 31 December

2022 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Corporate Solutions	Group items	Total
Acquisition costs, thereof:					
Gross acquisition costs with external parties	−5 106	−2 075	−1 038	−218	−8 437
Intra-group transactions (assumed and ceded)	−125	−2	87	40	0
Acquisition costs before impact of retrocession to external parties	−5 231	−2 077	−951	−178	−8 437
Retrocession to external parties	125	305	203	4	637
Net acquisition costs	**−5 106**	**−1 772**	**−748**	**−174**	**−7 800**

Reinsurance recoverable on unpaid claims and policy benefits
As of 31 December 2021 and 2022, the Group had a reinsurance recoverable of USD 6 482 million and USD 6 507 million, respectively. The concentration of credit risk is regularly monitored and evaluated. The reinsurance programme with Berkshire Hathaway and subsidiaries accounted for 26% and 24% of the Group's reinsurance recoverable as of year-end 2021 and 2022, respectively.

The Group cedes certain re/insurance contracts to affiliated companies within the Swiss Re Group, but outside of the Group (please refer to Note 15).

Reinsurance receivables
Reinsurance receivables as of 31 December were as follows:

USD millions	2021	**2022**
Premium receivables invoiced	4 835	4 717
Receivables invoiced from ceded re/insurance business	392	517
Assets arising from the application of the deposit method of accounting and meeting the definition of financing receivables	640	614
Recognised allowance	–80	–71

4 Premiums written

For the years ended 31 December

2021 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Corporate Solutions	Group items	Consolidation	Total
Gross premiums written, thereof:						
Direct			6 321	738		7 059
Reinsurance	22 424	16 110	1 056	9		39 599
Intra-group transactions (assumed)	822	9	115		−946	0
Gross premiums written	23 246	16 119	7 492	747	−946	46 658
Intra-group transactions (ceded)	−115		−585	−246	946	0
Gross premiums written before retrocession to external parties	23 131	16 119	6 907	501		46 658
Retrocession to external parties	−750	−1 487	−1 190	−11		−3 438
Net premiums written	22 381	14 632	5 717	490	0	43 220

2022 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Corporate Solutions	Group items	Consolidation	Total
Gross premiums written, thereof:						
Direct			6 994	858		7 852
Reinsurance	22 922	15 986	1 119	9		40 036
Intra-group transactions (assumed)	926		85		−1 011	0
Gross premiums written	23 848	15 986	8 198	867	−1 011	47 888
Intra-group transactions (ceded)	−85		−564	−362	1 011	0
Gross premiums written before retrocession to external parties	23 763	15 986	7 634	505		47 888
Retrocession to external parties	−937	−1 510	−1 510	−14		−3 971
Net premiums written	**22 826**	**14 476**	**6 124**	**491**	**0**	**43 917**

5 Unpaid claims and claim adjustment expenses

A reconciliation of the opening and closing reserve balances for unpaid claims and claim adjustment expenses for the years ended 31 December is presented as follows:

USD millions	2021	**2022**
Balance as of 1 January	81 258	84 096
Reinsurance recoverable	−3 636	−3 975
Deferred expense on retroactive reinsurance	−191	−165
Net balance as of 1 January	77 431	**79 956**
Incurred related to:		
Current year[1]	32 416	32 255
Prior year[1]	−487	675
Amortisation of deferred expense on retroactive reinsurance and impact of commutations	8	9
Total incurred	31 937	**32 939**
Paid related to:		
Current year[1]	−9 718	−8 798
Prior year[1]	−18 291	−20 648
Total paid	−28 009	**−29 446**
Foreign exchange	−1 686	−2 731
Effect of acquisitions, disposals, new retroactive reinsurance and other items	283	355
Net balance as of period end	79 956	**81 073**
Reinsurance recoverable	3 975	4 224
Deferred expense on retroactive reinsurance	165	121
Balance as of period end	84 096	**85 418**

[1] The Group has revised the methodology used to estimate the current/prior year split of incurred and paid claims for a part of the individual mortality business in the US. The revision had no impact on net income or shareholders' equity. The comparatives have been adjusted accordingly.

Prior-year development

Non-life claims development on prior years in the year ended 31 December 2022 is mainly driven by increasing reserves to allow for heightened inflation across all the regions. Excluding this inflation adjustment, there is favourable development in property and specialty, partially offset by adverse development from casualty. The adverse movement in casualty is mainly from liability and motor, partly offset by favourable development in workers' compensation. Development in property is principally due to lower-than-expected claims activity in all regions. Specialty was mainly impacted by favourable development in engineering and marine partly offset by adverse experience in aviation.

For life and health lines of business, development on prior years' unpaid claims in the year ended 31 December 2022 is unfavourable. There is unfavourable development in the US, Latin America, Australia & New Zealand, and Asia driven by adverse experience and strengthening of claim reserves, partially offset by favourable development in Continental Europe and the UK. Claims development related to prior years for 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 years ended 31 December is shown below[1]:

USD millions	2021	**2022**
Line of business:		
Property	–918	–468
Casualty	473	810
Specialty	–255	–13
Life and health[2]	213	346
Total	–487	**675**

[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.
[2] The Group has revised the methodology used to estimate the current/prior year split of incurred and paid claims for a part of the individual mortality business in the US. The revision had no impact on net income or shareholders' equity. The comparatives have been adjusted accordingly.

US asbestos and environmental claims exposure

The Group's obligation for claims payments and claims settlement charges also includes obligations for long-latent injury claims arising out of policies written prior to 1986, in particular in the area of US asbestos and environmental liability.

At the end of 2022, the Group carried net reserves for US asbestos and environmental liabilities equal to USD 1 285 million. During 2022, the Group incurred net gains of USD 21 million and net paid losses of USD 124 million in relation to these liabilities. These amounts include ULAE.

Estimating ultimate asbestos and environmental liabilities is particularly complex for a number of reasons relating in part to the long period between exposure and manifestation of claims, and in part to other factors, which include risks and lack of predictability inherent in complex litigation, changes in projected costs to resolve, and in the projected number of, asbestos and environmental claims, the effect of bankruptcy protection, insolvencies, and changes in the legal, legislative and regulatory environment. As a result, the Group believes that projection of exposures for asbestos and environmental claims is subject to far less predictability relative to non-environmental and non-asbestos exposures. Management believes that its reserves for asbestos and environmental claims are appropriately established based upon known facts and the current state of the law. However, reserves are subject to revision as new information becomes available and as claims develop. Additional liabilities may arise for amounts in excess of reserves, and the Group's estimate of claims and claim adjustment expenses may change. Any such additional liabilities or increases in estimates cannot be reasonably estimated in advance but could result in charges that could be material to operating results.

Short duration contract unpaid claims and claim adjustment expenses

Basis of presentation for claims development information

This section of the note provides claims development information and information on reserves for claims relating to insured events that have been incurred but not yet reported ("IBNR").

Claims development information and IBNR are presented on an accident year basis and by line of business for individually significant categories. Additional aggregation or disaggregation is provided where appropriate, necessary and practicable ("disaggregation categories"). For instance, Reinsurance liability and motor lines of business are further disaggregated into proportional and non-proportional treaty types to provide more specific information on claims development. Amounts shown in the claims development tables are on a nominal basis, including cases where the Group discounts claims liabilities for measurement under US GAAP, and are net of external retrocession and retrocession between business segments to the extent that a retrocession programme can be allocated to a disaggregation category. Ceded retroactive reinsurance is not included in the claims development table if it cannot be allocated on a reasonable basis to the disaggregation categories used to present claims development information. Loss portfolio transfers are presented prospectively as reliable historical claims information is not always obtainable, or the data is incomplete and of insufficient quality.

In the Property & Casualty Reinsurance segment as well as for the non-life business in the Corporate Solutions segment, all contracts that transfer significant insurance risk are included in scope to the extent they can be allocated to a disaggregation category. For many reinsurance contracts, proportional contracts in particular, ceding companies do not report losses by accident year. In these cases, the Group has allocated reported losses by underwriting year to accident year to produce the accident year tables. Similarly, IBNR is calculated on an underwriting year basis and then the liabilities are allocated to accident year.

Life & Health contracts that are not expected to remain in force for an extended period are classified as short duration contracts. These provide insurance protection for a fixed short duration and their provisions may be subject to changes at the end of contract period, such as adjustments to the premium charged or the coverage provided. Examples of short duration contracts in the Life & Health Reinsurance segment include group life business, certain types of disability and long-term care contracts, group accident, and health coverage including critical illness and medical expenses. The Group provides claims development information for Life & Health Reinsurance where reported accident year information is available and there is potential for claims development. This primarily applies to the group disability business in Australia, Continental Europe and the UK. This business is generally considered to have relatively higher claims estimation uncertainty than other life and health lines such as group life, due to longer claims development periods.

The Group provides no claims development information for the Group items segment as its short duration reserves are not material. This is also the case for Life & Health business in the Corporate Solutions segment, where short duration contracts mainly include medical expenses coverage business.

For Property & Casualty Reinsurance, Life & Health Reinsurance and Corporate Solutions, the Group discloses data for ten accident years and reporting periods.

The Corporate Solutions business segment was created in 2012. Corporate Solutions related business written in Property & Casualty Reinsurance prior to 2012 is included in the net claims development information reported by this segment. All but an immaterial portion of claims arising from accident years prior to 2012 relate to accident years which are over ten years ago and therefore out of the required range of disclosure.

The current reporting period estimate of net claims liabilities for accident years older than the number of years shown in the claims development tables is presented as a total after disclosure of cumulative paid claims.

The information presented in claims development tables is presented at current balance sheet foreign exchange rates as of the date of these financial statements to permit an analysis of claims development excluding the impact of foreign exchange movements.

Some of the information provided in the following tables is Required Supplementary Information (RSI) under US GAAP and does not form part of these consolidated audited financial statements. Claims development information for all periods except the current reporting period and any information derived from it – including average annual percentage payout of claims incurred – is considered RSI and is identified as RSI in the tables presented.

Methodology for determining the presented amounts of liabilities for unpaid claims
The liability for unpaid claims and claim adjustment expenses is based on an estimate of the ultimate cost of settling the claims based on both information reported to us by ceding companies and internal estimates.

Non-life re/insurance contracts
The Group develops and recognises its own estimate of IBNR claims, which includes circumstances in which cedents have not reported any claims to the Group or where the Group´s estimate of reserves needed to cover reported claims differs from the amounts reported by cedents. For reinsurance business, case reserves and estimated IBNR are reported by cedents and this IBNR is presented together with the Group´s own estimate as IBNR in the claims development tables. For insurance business, reserving is performed similarly, except that estimates for case reserves and IBNR are performed by the Group.

Reserving is done on portfolio or contract level depending on the features of the contract. For business reviewed on a portfolio level, the expected ultimate losses are set for most lines and types of business based on analysis performed using standard actuarial techniques. In general, contracts are aggregated into portfolios by combining contracts with similar features, and ultimate losses are derived using a blend of initial costing loss ratio and actual reported experience, with more weighting given to experience over time.

The initial reserving estimate uses a loss ratio projection method, where the projected loss ratio is generally the costing loss ratio, reflecting the underwriter's view of the risk. In the case of new information regarding loss trends, rate changes or a different underwriter's estimate, the projected loss ratio can be adjusted if approved by the Regional Reserving Committee. As experience develops, the most common standard reserving methods used are successively the Bornhuetter-Ferguson, Benktander and Chain Ladder methods. The Bornhuetter-Ferguson method assumes that the future claims experience is in line with the one anticipated by the costing loss ratio, used as an a priori loss ratio, and not based on claims experience. The Benktander method is a weighted average of the Bornhuetter-Ferguson and Chain Ladder methods, where the weighted average is linked to the reported development pattern. In other terms, this method mainly follows the Bornhuetter-Ferguson method in the early stages and the Chain Ladder later on, progressively giving more weight to the experience. The Chain Ladder method assumes past trends will be repeated and extrapolates the current position to ultimate using historical development trends.

In most cases, these standard actuarial techniques encompass a number of loss development factor techniques applied to claim tables of paid and reported losses. Other actuarial techniques may be applicable to specific categories, such as an analysis of frequency and severity. Life contingency techniques for projecting regular payments related to bodily injury claims are applied to motor proportional, motor non-proportional, liability proportional, liability non-proportional, accident and health, where the information is available. In some cases, techniques specific to the projection of future payments for specific risks such as asbestos or pollution claims are applied to both proportional and non-proportional liability claims, also in Corporate Solutions (see also separate section "US asbestos and environmental claims exposure" on page 37). Reserving for non-traditional business is carried out on a deal-by-deal basis according to each deal's specifications. For large events, a separate process takes into consideration the relevant expertise from underwriting and claims functions in estimating the ultimate loss.

Contract-level reserving is based on standard actuarial techniques but requires more detailed contract, pricing, claim and exposure information than required for the business reviewed on a portfolio level.

Life and health re/insurance contracts
For the Life & Health business, liability for unpaid claims includes case reserves, IBNR, and provisions for disability income claims-in-payment. Estimates for case reserves allow for expected rates of decline for the not yet settled claims. IBNR claim reserves are calculated using generally accepted actuarial reserving techniques, such as Chain Ladder and Bornhuetter-Ferguson approaches, and assumptions as to the claims reporting patterns, initial expected ultimate claims, and weighting given to historical experience. Liability for disability income claims-in-payment is determined by calculating expected future claim payments using the assumed rate of termination of claims due to death or recovery.

Claims frequency information
Claims frequency information is not available for the disaggregation categories of Property & Casualty Reinsurance, as cedents do not report claims frequency information to the Group for most of the assumed reinsurance contract types.

Life & Health Reinsurance reports claims frequency information based on individual incidence. The number of reported claims is the actual number of claims booked. For disability business, claims with multiple payments in a year are counted as one claim. Claims that are reported but not recognised are included in the claim count. Claims frequency information is not available for the group disability business in Continental Europe as reliable historical claims frequency information is not obtainable.

For Corporate Solutions, claims frequency is displayed for direct business only, as individual claims information is generally not available for assumed and ceded business. Claims are counted individually per contract to produce the claims frequency table. For some direct business, summary reports are received, and multiple claims are booked under a single claim code; this is usually done at a programme, policy year, state, country and/or line of business level of detail. This approach may be applied to business which has a high volume of claim counts, but with only minor claims dollars associated with each claim.

Property & Casualty Reinsurance – Property

Incurred claims and allocated claim adjustment expenses, net of reinsurance

USD millions	Reporting year										
Accident year	2013	2014	2015	2016	2017	2018	2019	2020	2021	**2022**	**thereof IBNR**
2013	*2 994*	*3 004*	*2 837*	*2 756*	*2 733*	*2 718*	*2 713*	*2 706*	*2 723*	2 724	0
2014		*2 605*	*2 443*	*2 269*	*2 237*	*2 233*	*2 220*	*2 232*	*2 219*	2 220	–1
2015			*2 717*	*2 649*	*2 480*	*2 450*	*2 410*	*2 393*	*2 401*	2 400	–3
2016				*3 732*	*3 477*	*3 191*	*3 182*	*3 157*	*3 180*	3 190	3
2017					*5 886*	*5 774*	*5 539*	*5 510*	*5 488*	5 495	27
2018						*4 313*	*4 682*	*4 448*	*4 374*	4 358	46
2019							*4 783*	*4 735*	*4 563*	4 537	58
2020								*7 010*	*6 695*	6 574	862
2021	*RSI* [1]								*5 804*	5 714	945
2022										6 877	3 944
Total										**44 089**	**5 881**

[1] Unaudited

Cumulative claims paid and allocated claim adjustment expenses, net of reinsurance

USD millions	Reporting year									
Accident year	2013	2014	2015	2016	2017	2018	2019	2020	2021	**2022**
2013	*528*	*1 909*	*2 391*	*2 576*	*2 633*	*2 654*	*2 668*	*2 681*	*2 693*	2 697
2014		*449*	*1 621*	*1 980*	*2 101*	*2 143*	*2 157*	*2 176*	*2 179*	2 185
2015			*457*	*1 585*	*2 076*	*2 234*	*2 309*	*2 331*	*2 350*	2 354
2016				*625*	*2 122*	*2 724*	*2 923*	*3 005*	*3 061*	3 078
2017					*961*	*3 578*	*4 622*	*4 950*	*5 102*	5 204
2018						*607*	*3 134*	*3 665*	*3 806*	3 919
2019							*891*	*2 981*	*3 656*	4 002
2020								*1 269*	*3 665*	4 684
2021	*RSI* [1]								*1 104*	3 145
2022										1 245
Total										**32 513**
All liabilities before 2013										228
Liabilities for claims and claim adjustment expenses, net of reinsurance										**11 804**

[1] Unaudited

Average annual percentage payout of incurred claims by age, net of reinsurance

Years	1	2	3	4	5	6	7	8	9	10
Property (RSI[1])	*18.6%*	*46.8%*	*16.8%*	*6.0%*	*2.5%*	*1.2%*	*0.7%*	*0.3%*	*0.4%*	*0.1%*

[1] Unaudited

The liability for unpaid claims and claim adjustment expenses for property in Property & Casualty Reinsurance shows positive development on most recent accident years. The 2017 - 2022 accident year claims incurred are higher due to natural catastrophes and 2020 was impacted by COVID-19. The reporting year includes inflation increases where appropriate.

Property & Casualty Reinsurance – Liability, proportional

Incurred claims and allocated claim adjustment expenses, net of reinsurance

USD millions	Reporting year										
Accident year	2013	2014	2015	2016	2017	2018	2019	2020	2021	**2022**	**thereof IBNR**
2013	720	743	751	745	750	741	739	742	750	750	59
2014		985	975	988	977	966	1 000	1 008	1 023	1 036	113
2015			1 251	1 299	1 391	1 462	1 535	1 521	1 554	1 570	172
2016				1 691	1 698	1 696	1 797	1 848	1 886	1 942	383
2017					1 946	2 053	2 193	2 373	2 433	2 513	570
2018						1 881	2 057	2 202	2 306	2 483	788
2019							2 627	2 978	3 050	3 213	1 375
2020								2 825	2 974	2 989	1 692
2021	RSI [1]								2 609	2 619	2 043
2022										2 219	2 031
Total										**21 334**	**9 226**

[1] Unaudited

Cumulative claims paid and allocated claim adjustment expenses, net of reinsurance

USD millions	Reporting year									
Accident year	2013	2014	2015	2016	2017	2018	2019	2020	2021	**2022**
2013	15	125	230	344	426	501	554	585	607	631
2014		24	155	288	426	561	655	736	795	835
2015			35	207	421	648	898	1 076	1 151	1 247
2016				47	103	395	660	894	1 074	1 251
2017					50	249	537	995	1 239	1 510
2018						52	306	568	844	1 201
2019							83	396	719	1 184
2020								112	328	701
2021	RSI [1]								84	286
2022										82
Total										**8 928**
All liabilities before 2013										983
Liabilities for claims and claim adjustment expenses, net of reinsurance										**13 389**

[1] Unaudited

Average annual percentage payout of incurred claims by age, net of reinsurance

Years	1	2	3	4	5	6	7	8	9	10
Liability, proportional (RSI[1])	2.6%	9.3%	12.5%	14.3%	12.7%	10.1%	7.2%	5.3%	3.4%	3.2%

[1] Unaudited

The increase in the incurred losses for accident years 2013 to 2021 is driven by volume increases of business being written. The increases in the incurred losses across accident years in reporting year 2022 are driven by US business and inflation increases where appropriate.

Property & Casualty Reinsurance – Liability, non-proportional

Incurred claims and allocated claim adjustment expenses, net of reinsurance

USD millions	Reporting year										
Accident year	2013	2014	2015	2016	2017	2018	2019	2020	2021	**2022**	**thereof IBNR**
2013	*400*	*382*	*347*	*293*	*268*	*248*	*249*	*244*	*239*	231	33
2014		*426*	*430*	*399*	*357*	*329*	*348*	*348*	*336*	332	64
2015			*1 674*	*1 711*	*1 683*	*1 700*	*1 724*	*1 702*	*1 510*	1 512	91
2016				*574*	*555*	*581*	*627*	*679*	*687*	716	126
2017					*482*	*500*	*581*	*631*	*728*	770	161
2018						*441*	*445*	*465*	*444*	497	168
2019							*2 393*	*2 369*	*2 340*	2 418	421
2020								*818*	*796*	774	569
2021	*RSI* [1]								*583*	671	509
2022										572	528
Total										**8 493**	**2 670**

[1] Unaudited

Cumulative claims paid and allocated claim adjustment expenses, net of reinsurance

USD millions	Reporting year									
Accident year	2013	2014	2015	2016	2017	2018	2019	2020	2021	**2022**
2013	*–2*	*11*	*36*	*59*	*82*	*107*	*131*	*142*	*160*	168
2014		*–2*	*8*	*39*	*70*	*98*	*139*	*164*	*186*	206
2015			*0*	*85*	*185*	*308*	*452*	*549*	*612*	684
2016				*13*	*201*	*227*	*279*	*339*	*385*	451
2017					*–2*	*18*	*47*	*122*	*216*	328
2018						*–1*	*21*	*71*	*124*	189
2019							*209*	*492*	*662*	905
2020								*10*	*28*	67
2021	*RSI* [1]								*4*	57
2022										0
Total										**3 055**
All liabilities before 2013										3 415
Liabilities for claims and claim adjustment expenses, net of reinsurance										**8 853**

[1] Unaudited

Average annual percentage payout of incurred claims by age, net of reinsurance

Years	1	2	3	4	5	6	7	8	9	10
Liability, non-proportional (RSI[1])	*1.0%*	*7.7%*	*7.0%*	*9.3%*	*10.3%*	*10.1%*	*7.8%*	*5.4%*	*6.9%*	*3.5%*

[1] Unaudited

The increase in incurred losses for accident year 2015 compared to other years is due to an increase in volume of business written in that year. Accident year 2019 includes an Adverse Development Cover and a Loss Portfolio Transfer written with Corporate Solutions. Liabilities before 2013 include reserves for historic US Asbestos and Environmental losses. The increases in the incurred losses across accident years in reporting year 2022 are driven by inflation increases where appropriate.

Property & Casualty Reinsurance – Accident & Health

Incurred claims and allocated claim adjustment expenses, net of reinsurance

USD millions	Reporting year										
Accident year	2013	2014	2015	2016	2017	2018	2019	2020	2021	**2022**	**thereof IBNR**
2013	*337*	*345*	*332*	*322*	*315*	*313*	*308*	*296*	*292*	291	23
2014		*296*	*328*	*321*	*310*	*299*	*298*	*283*	*281*	283	38
2015			*425*	*422*	*401*	*391*	*382*	*363*	*358*	354	33
2016				*583*	*617*	*613*	*578*	*573*	*554*	548	92
2017					*726*	*760*	*722*	*713*	*693*	687	122
2018						*717*	*804*	*800*	*772*	766	95
2019							*793*	*784*	*771*	746	108
2020								*882*	*874*	836	150
2021	*RSI* [1]								*797*	775	225
2022										938	516
Total										**6 224**	**1 402**

[1] Unaudited

Cumulative claims paid and allocated claim adjustment expenses, net of reinsurance

USD millions	Reporting year									
Accident year	2013	2014	2015	2016	2017	2018	2019	2020	2021	**2022**
2013	*53*	*135*	*175*	*198*	*211*	*219*	*225*	*230*	*235*	237
2014		*30*	*99*	*140*	*167*	*185*	*200*	*207*	*212*	216
2015			*59*	*131*	*183*	*215*	*234*	*247*	*258*	264
2016				*71*	*172*	*264*	*319*	*349*	*366*	382
2017					*94*	*229*	*329*	*387*	*422*	452
2018						*96*	*308*	*448*	*524*	566
2019							*110*	*323*	*450*	525
2020								*116*	*362*	482
2021	*RSI* [1]								*128*	341
2022										121
Total										**3 586**
All liabilities before 2013										2 428
Liabilities for claims and claim adjustment expenses, net of reinsurance										**5 066**

[1] Unaudited

Average annual percentage payout of incurred claims by age, net of reinsurance

Years	1	2	3	4	5	6	7	8	9	10
Accident & Health (RSI[1])	*14.3%*	*24.9%*	*15.5%*	*9.3%*	*5.4%*	*3.8%*	*2.6%*	*1.7%*	*1.6%*	*0.7%*

[1] Unaudited

The increase in incurred losses from accident year 2015 onwards is due to an increase in the volume of workers' compensation written on a proportional basis. The 2012 and prior accident years include the run-off of business written by entities acquired as part of the acquisition of General Electric Insurance Solutions during 2006. This business, which generally had a longer payment pattern, was not renewed. The reporting year 2022 has been adjusted for inflation increases where appropriate.

Property & Casualty Reinsurance – Motor, proportional

Incurred claims and allocated claim adjustment expenses, net of reinsurance

USD millions	Reporting year										
Accident year	2013	2014	2015	2016	2017	2018	2019	2020	2021	**2022**	**thereof IBNR**
2013	*1 500*	*1 477*	*1 482*	*1 457*	*1 451*	*1 446*	*1 446*	*1 447*	*1 448*	1 445	4
2014		*1 945*	*1 910*	*1 909*	*1 892*	*1 882*	*1 880*	*1 878*	*1 879*	1 880	–1
2015			*1 862*	*1 854*	*1 857*	*1 860*	*1 860*	*1 866*	*1 870*	1 870	15
2016				*2 384*	*2 498*	*2 543*	*2 545*	*2 549*	*2 559*	2 564	17
2017					*2 294*	*2 311*	*2 297*	*2 307*	*2 316*	2 328	46
2018						*1 978*	*2 011*	*1 988*	*1 983*	1 992	75
2019							*1 974*	*1 950*	*1 980*	1 984	145
2020								*1 804*	*1 851*	1 864	256
2021	*RSI* [1]								*1 858*	1 964	434
2022										1 891	939
Total										**19 782**	**1 930**

[1] Unaudited

Cumulative claims paid and allocated claim adjustment expenses, net of reinsurance

USD millions	Reporting year									
Accident year	2013	2014	2015	2016	2017	2018	2019	2020	2021	**2022**
2013	*559*	*1 132*	*1 307*	*1 352*	*1 381*	*1 396*	*1 405*	*1 413*	*1 418*	1 422
2014		*728*	*1 436*	*1 674*	*1 749*	*1 783*	*1 803*	*1 814*	*1 820*	1 823
2015			*777*	*1 393*	*1 627*	*1 726*	*1 769*	*1 793*	*1 808*	1 816
2016				*789*	*1 745*	*2 080*	*2 255*	*2 355*	*2 418*	2 454
2017					*731*	*1 463*	*1 787*	*1 956*	*2 069*	2 144
2018						*599*	*1 287*	*1 525*	*1 665*	1 764
2019							*638*	*1 246*	*1 491*	1 638
2020								*593*	*1 140*	1 379
2021	*RSI* [1]								*630*	1 233
2022										670
Total										**16 343**
All liabilities before 2013										287
Liabilities for claims and claim adjustment expenses, net of reinsurance										**3 726**

[1] Unaudited

Average annual percentage payout of incurred claims by age, net of reinsurance

Years	1	2	3	4	5	6	7	8	9	10
Motor, proportional (RSI[1])	*34.3%*	*33.8%*	*12.7%*	*5.8%*	*3.3%*	*1.8%*	*0.9%*	*0.4%*	*0.3%*	*0.3%*

[1] Unaudited

The increase in the incurred losses from accident years 2013 to 2016 is driven by new business volume across all regions. Proportional motor business includes both longer-tailed liability business and shorter-tailed hull business. The increases in the incurred losses in accident year 2021 in reporting year 2022 are driven by US business and inflation increases where appropriate.

Property & Casualty Reinsurance – Motor, non-proportional

Incurred claims and allocated claim adjustment expenses, net of reinsurance

USD millions	Reporting year										
Accident year	2013	2014	2015	2016	2017	2018	2019	2020	2021	**2022**	**thereof IBNR**
2013	*414*	*435*	*438*	*423*	*410*	*415*	*414*	*420*	*421*	424	58
2014		*392*	*424*	*420*	*418*	*412*	*393*	*390*	*385*	393	49
2015			*374*	*395*	*429*	*427*	*439*	*438*	*436*	445	64
2016				*452*	*563*	*529*	*524*	*513*	*498*	513	85
2017					*556*	*584*	*574*	*583*	*576*	593	115
2018						*470*	*508*	*515*	*506*	536	119
2019							*1 098*	*1 110*	*1 095*	1 096	161
2020								*496*	*501*	513	255
2021	*RSI* [1]								*518*	544	313
2022										558	429
Total										**5 615**	**1 648**

[1] Unaudited

Cumulative claims paid and allocated claim adjustment expenses, net of reinsurance

USD millions	Reporting year									
Accident year	2013	2014	2015	2016	2017	2018	2019	2020	2021	**2022**
2013	*6*	*81*	*143*	*188*	*213*	*239*	*255*	*269*	*275*	281
2014		*4*	*58*	*102*	*141*	*183*	*211*	*230*	*243*	254
2015			*-1*	*33*	*90*	*155*	*200*	*228*	*258*	280
2016				*8*	*63*	*124*	*177*	*236*	*266*	293
2017					*8*	*58*	*125*	*199*	*236*	286
2018						*4*	*35*	*95*	*141*	187
2019							*83*	*274*	*444*	566
2020								*3*	*41*	81
2021	*RSI* [1]								*9*	66
2022										2
Total										**2 296**
All liabilities before 2013										2 657
Liabilities for claims and claim adjustment expenses, net of reinsurance										**5 976**

[1] Unaudited

Average annual percentage payout of incurred claims by age, net of reinsurance

Years	1	2	3	4	5	6	7	8	9	10
Motor, non-proportional (RSI[1])	*1.6%*	*11.0%*	*12.0%*	*11.1%*	*8.8%*	*6.8%*	*5.2%*	*3.9%*	*2.1%*	*1.4%*

[1] Unaudited

The increase in incurred losses for accident year 2019 compared to other years is due to an increase in volume of business. Claims development in non-proportional motor business is considered long-tailed as it is dominated by liability exposures leading to bodily injury claims which pay out for the lifetime of the claimant. The increases in the incurred losses across accident years in reporting year 2022 are driven by inflation increases where appropriate.

Property & Casualty Reinsurance – Specialty

Incurred claims and allocated claim adjustment expenses, net of reinsurance

USD millions	Reporting year										
Accident year	2013	2014	2015	2016	2017	2018	2019	2020	2021	**2022**	**thereof IBNR**
2013	*1 046*	*974*	*937*	*903*	*894*	*872*	*860*	*864*	*863*	863	11
2014		*1 062*	*1 049*	*954*	*929*	*915*	*919*	*901*	*892*	903	14
2015			*1 200*	*1 175*	*1 159*	*1 150*	*1 148*	*1 169*	*1 170*	1 181	24
2016				*1 243*	*1 230*	*1 184*	*1 186*	*1 171*	*1 161*	1 178	42
2017					*1 573*	*1 491*	*1 362*	*1 330*	*1 345*	1 360	67
2018						*1 592*	*1 680*	*1 646*	*1 560*	1 605	100
2019							*1 761*	*1 930*	*2 037*	2 144	292
2020								*1 909*	*1 945*	1 868	463
2021	*RSI* [1]								*1 837*	1 821	825
2022										2 238	1 688
Total										**15 161**	**3 526**

[1] Unaudited

Cumulative claims paid and allocated claim adjustment expenses, net of reinsurance

USD millions	Reporting year									
Accident year	2013	2014	2015	2016	2017	2018	2019	2020	2021	**2022**
2013	*138*	*396*	*572*	*678*	*730*	*766*	*788*	*801*	*806*	812
2014		*165*	*389*	*561*	*656*	*712*	*749*	*771*	*780*	794
2015			*129*	*373*	*668*	*825*	*922*	*975*	*1 004*	1 029
2016				*137*	*460*	*698*	*861*	*947*	*992*	1 027
2017					*177*	*564*	*838*	*998*	*1 069*	1 127
2018						*178*	*623*	*926*	*1 077*	1 192
2019							*271*	*705*	*1 046*	1 293
2020								*306*	*707*	1 003
2021	*RSI* [1]								*205*	524
2022										191
Total										**8 992**
All liabilities before 2013										532
Liabilities for claims and claim adjustment expenses, net of reinsurance										**6 701**

[1] Unaudited

Average annual percentage payout of incurred claims by age, net of reinsurance

Years	1	2	3	4	5	6	7	8	9	10
Specialty (RSI[1])	*13.0%*	*24.2%*	*19.4%*	*11.8%*	*6.7%*	*4.2%*	*2.6%*	*1.5%*	*1.1%*	*0.7%*

[1] Unaudited

This category contains several individual large losses on marine, aviation and space lines. From 2017 to 2022 accident years, claims incurred is higher due to natural catastrophes. The increases in the incurred losses across accident years in reporting year 2022 are driven by inflation increases where appropriate.

Corporate Solutions

Incurred claims and allocated claim adjustment expenses, net of reinsurance

USD millions	Reporting year											
Accident year	2013	2014	2015	2016	2017	2018	2019	2020	2021	**2022**	**thereof IBNR**	**Cumulative number of reported claims (in nominals)**
2013	*1 583*	*1 562*	*1 493*	*1 408*	*1 406*	*1 396*	*1 369*	*1 382*	*1 409*	1 407	56	26 646
2014		*1 809*	*1 751*	*1 681*	*1 686*	*1 658*	*1 587*	*1 567*	*1 572*	1 557	104	21 912
2015			*1 865*	*2 035*	*2 100*	*2 071*	*1 888*	*1 852*	*1 884*	1 858	98	18 989
2016				*1 985*	*2 071*	*2 111*	*2 099*	*2 093*	*2 101*	2 130	172	18 332
2017					*2 981*	*3 207*	*2 958*	*2 980*	*2 943*	2 927	193	21 314
2018						*2 652*	*2 567*	*2 600*	*2 573*	2 601	294	27 044
2019							*2 746*	*2 593*	*2 579*	2 598	365	22 750
2020								*3 307*	*2 796*	2 708	622	18 106
2021	*RSI*[1]								*2 576*	2 473	610	14 369
2022										2 838	1 455	10 232
Total										**23 097**	**3 969**	**199 694**

[1] Unaudited

Cumulative claims paid and allocated claim adjustment expenses, net of reinsurance

USD millions	Reporting year									
Accident year	2013	2014	2015	2016	2017	2018	2019	2020	2021	**2022**
2013	*270*	*663*	*928*	*1 082*	*1 150*	*1 225*	*1 272*	*1 299*	*1 317*	1 321
2014		*268*	*817*	*1 104*	*1 245*	*1 335*	*1 432*	*1 451*	*1 481*	1 497
2015			*348*	*894*	*1 285*	*1 482*	*1 616*	*1 704*	*1 726*	1 734
2016				*366*	*1 123*	*1 371*	*1 636*	*1 709*	*1 819*	2 031
2017					*378*	*1 491*	*2 093*	*2 346*	*2 523*	2 604
2018						*409*	*1 398*	*1 866*	*2 056*	2 322
2019							*518*	*1 208*	*1 479*	1 698
2020								*568*	*1 244*	1 595
2021	*RSI*[1]								*325*	1 042
2022										362
Total										**16 206**
All liabilities before 2013										455
Liabilities for claims and claim adjustment expenses, net of reinsurance										**7 346**

[1] Unaudited

Average annual percentage payout of incurred claims by age, net of reinsurance

Years	1	2	3	4	5	6	7	8	9	10
Corporate Solutions (RSI[1])	*16.8%*	*31.6%*	*16.5%*	*9.6%*	*6.3%*	*4.8%*	*3.9%*	*1.4%*	*1.2%*	*0.3%*

[1] Unaudited

Reserves on the US liability line of business on accident years 2012-2019 were reduced by a Loss Portfolio Transfer to P&C Reinsurance of USD 1.2 billion in the financial year 2019. In addition, the impact of unfavourable development across all lines of business for accident years 2012-2018 was reduced by recoveries under an Adverse Development Cover with P&C Reinsurance in place since the second half of the financial year 2019. For the financial year 2022, there were movements under both the Loss Portfolio Transfer and the Adverse Development Cover mainly in casualty and other specialty lines of business.

P&C Reinsurance reports both the Adverse Development Cover and the Loss Portfolio Transfer under accident year 2019 (see ´´Property & Casualty Reinsurance – Liability, non-proportional´´ on page 42). There were immaterial movements under both the Loss Portfolio Transfer and the Adverse Development Cover.

Life & Health Reinsurance, long tail

Incurred claims and allocated claim adjustment expenses, net of reinsurance

USD millions	Reporting year											
Accident year	2013	2014	2015	2016	2017	2018	2019	2020	2021	**2022**	**thereof IBNR**	**Cumulative number of reported claims (in nominals)**
2013	*450*	*442*	*441*	*407*	*406*	*408*	*430*	*430*	*423*	428	11	13 519
2014		*441*	*402*	*383*	*384*	*406*	*428*	*435*	*432*	438	14	15 387
2015			*377*	*407*	*394*	*395*	*423*	*432*	*425*	432	13	17 855
2016				*395*	*409*	*396*	*424*	*438*	*429*	433	41	15 664
2017					*403*	*409*	*429*	*450*	*429*	429	46	18 793
2018						*374*	*405*	*419*	*414*	408	76	19 049
2019							*348*	*425*	*377*	369	92	16 723
2020								*162*	*130*	136	39	8 184
2021	*RSI*[1]								*177*	184	99	8 343
2022										1 302	629	2 036
Total										**4 559**	**1 060**	**135 553**

[1] Unaudited

Cumulative claims paid and allocated claim adjustment expenses, net of reinsurance

USD millions	Reporting year									
Accident year	2013	2014	2015	2016	2017	2018	2019	2020	2021	**2022**
2013	*34*	*113*	*172*	*228*	*265*	*290*	*310*	*329*	*343*	355
2014		*30*	*100*	*183*	*240*	*274*	*300*	*324*	*343*	356
2015			*33*	*98*	*174*	*220*	*255*	*288*	*310*	327
2016				*12*	*80*	*147*	*196*	*236*	*264*	285
2017					*11*	*69*	*150*	*216*	*254*	281
2018						*11*	*69*	*150*	*198*	226
2019							*11*	*73*	*138*	178
2020								*4*	*30*	68
2021	*RSI*[1]								*4*	35
2022										4
Total										**2 115**
All liabilities before 2013										321
Liabilities for claims and claim adjustment expenses, net of reinsurance										**2 765**

[1] Unaudited

Average annual percentage payout of incurred claims by age, net of reinsurance

Years	1	2	3	4	5	6	7	8	9	10
Life & Health Reinsurance, long tail (RSI[1])	*3.9%*	*16.2%*	*18.8%*	*12.3%*	*8.2%*	*6.4%*	*5.0%*	*4.2%*	*3.1%*	*2.8%*

[1] Unaudited

The decrease in incurred losses from accident year 2019 is due to decrease in volume of disability business written in Australia. The increase in incurred losses in accident year 2022 is due to acquisition of in-force group disability business in Continental Europe.

Reconciliation of gross liability for unpaid claims and claim adjustment expenses

The following table reconciles the Group's net outstanding liabilities to the gross liabilities for unpaid claims and claim adjustment expenses. For details on consolidation please refer to Note 2 "Information on business segments".

The net outstanding liabilities correspond to the total liabilities for unpaid claims and claim adjustment expenses, net of reinsurance for each disaggregation category.

Other short duration contract lines include reserves for business that is not material to the Group and where accident year information is not available. For Life & Health Reinsurance, in certain markets, cedents do not provide sufficient information to reinsurers to split claims incurred and claims paid by accident year. This is based on existing market practice. For these markets, an assessment of available information from other sources was made along with investigating approximations that could be used to provide claims development information by accident year. However, these alternate sources and estimates, based on currently available data and methods, could not be used to generate meaningful and representative accident year information and therefore have been excluded from disclosure. Other short duration contract lines also contain other treaties from Property & Casualty Reinsurance which could not be allocated on a consistent basis to disaggregation categories or specific accident years.

As of 31 December

USD millions	2022
Net outstanding liabilities	
Property & Casualty Reinsurance	
Property	11 804
Liability, proportional	13 389
Liability, non-proportional	8 853
Accident & Health	5 066
Motor, proportional	3 726
Motor, non-proportional	5 976
Specialty	6 701
Corporate Solutions	7 346
Life & Health Reinsurance, long tail	2 765
Total net undiscounted outstanding liabilities excluding other short duration contract lines and before unallocated reinsurance recoverable	65 626
Discounting impact on (Life & Health Reinsurance) short duration contracts	–266
Impact of acquisition accounting	–340
Total net discounted outstanding liabilities excluding other short duration contract lines and before unallocated reinsurance recoverable	65 020
Other short duration contract lines	3 456
Total net discounted outstanding short duration liabilities	**68 476**
Allocated reinsurance recoverables on unpaid claims:	
Property & Casualty Reinsurance	
Property	931
Liability, proportional	241
Liability, non-proportional	194
Accident & Health	203
Motor, proportional	54
Motor, non-proportional	183
Specialty	99
Corporate Solutions	4 928
Consolidation	–3 930
Impact of acquisition accounting	–56
Other short duration contract lines	554
Total short duration reinsurance recoverable on outstanding liabilities	**3 401**
Exclusions:	
Unallocated claim adjustment expenses	1 216
Long duration contracts	12 325
Total other reconciling items	**13 541**
Total unpaid claims and claim adjustment expenses	**85 418**

Discounting information

The following disclosure covers the discounting impact for the disaggregation categories included in the claims development information. Discounting information for Life & Health Reinsurance long tail as of 31 December was as follows:

USD millions	2021	**2022**
Carrying amount of discounted claims	1 103	1 562
Aggregate amount of the discount	–249	–266
Interest accretion[1]	29	27
Range of interest rates	3.1–3.2%	0.5–3.3%

[1] Interest accretion is shown as part of "Life and health benefits" in the income statement.

Please refer to Note 1 ''Organisation and summary of significant accounting policies'' for more details about the Group's discounting approach for unpaid claims and claim adjustment expenses.

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

As of 31 December 2021 and 31 December 2022, the DAC were as follows:

2021 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Corporate Solutions	Group Items	Total
Opening balance as of 1 January	2 576	4 901	426	327	8 230
Deferred	5 367	543	738	208	6 856
Effect of acquisitions/disposals and retrocessions		–38			–38
Amortisation	–5 359	–538	–679	–122	–6 698
Effect of foreign currency translation and other changes	–46	–150	–5	–7	–208
Closing balance	2 538	4 718	480	406	8 142

2022 USD millions	Property & Casualty Reinsurance	Life & Health Reinsurance	Corporate Solutions	Group Items	Total
Opening balance as of 1 January	2 538	4 718	480	406	8 142
Deferred	5 327	496	780	215	6 818
Effect of acquisitions/disposals and retrocessions		11	–17	6	0
Amortisation	–5 106	–459	–737	–174	–6 476
Effect of foreign currency translation and other changes	–84	–246	–17	–16	–363
Closing balance	**2 675**	**4 520**	**489**	**437**	**8 121**

Retroceded DAC arise on retrocession of reinsurance portfolios, including reinsurance undertaken as part of a securitisation.

As of 31 December 2021 and 31 December 2022, the PVFP for Life & Health Reinsurance was as follows:

USD millions	2021	**2022**
Opening balance as of 1 January	983	836
Effect of acquisitions/disposals and retrocessions	–7	0
Amortisation	–130	–100
Interest accrued on unamortised PVFP	42	38
Effect of change in unrealised gains/losses	–51	29
Effect of foreign currency translation	–1	–9
Closing balance	836	**794**

Retroceded PVFP arises on retrocession of reinsurance portfolios, including reinsurance undertaken as part of a securitisation.

The percentage of PVFP which is expected to be amortised in each of the next five years is 12%, 12%, 11%, 10% and 9%.

7 Investments

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

USD millions	2021	2022
Fixed income securities	1 768	1 937
Equity securities	133	57
Policy loans, mortgages and other loans	132	185
Investment real estate	246	251
Short-term investments	19	105
Other current investments	128	120
Share in earnings of equity-accounted investees	717	–65
Cash and cash equivalents	5	43
Net result from deposit-accounted contracts	20	102
Deposits with ceding companies	482	472
Gross investment income	3 650	**3 207**
Investment expenses	–368	–375
Interest charged for funds held	–2	–6
Net investment income – non-participating business	3 280	**2 826**

Dividends received from investments accounted for using the equity method were USD 196 million and USD 187 million for 2021 and 2022, respectively.

Share in earnings of equity-accounted investees included impairments of the carrying amount of equity-accounted investees of nil and USD 18 million for 2021 and 2022, respectively.

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

USD millions	2021	2022
Fixed income securities available-for-sale:		
Gross realised gains	573	182
Gross realised losses	–271	–220
Other-than-temporary impairments	–1	–60
Net realised investment gains/losses on equity securities	58	–347
Change in net unrealised investment gains/losses on equity securities	–35	–273
Net realised investment gains/losses on trading securities	–53	–208
Change in net unrealised investment gains/losses on trading securities	–102	–67
Net realised/unrealised gains/losses on other investments	276	724
Net realised/unrealised gains/losses on insurance-related activities	19	130
Foreign exchange gains/losses	4	98
Net realised investment gains/losses – non-participating business	468	**–41**

Net realised/unrealised gains/losses on insurance-related activities included impairments of USD 9 million and USD 10 million for 2021 and 2022, respectively.

Investment result – unit-linked business
For unit-linked contracts, the investment risk is borne by the policyholder.

The net investment result on unit-linked business credited to policyholders amounted to gains of USD 63 million and to losses of USD 43 million for 31 December 2021 and 2022, 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 was as follows:

USD millions	2021	**2022**
Balance as of 1 January	46	44
Credit losses for which an other-than-temporary impairment was not previously recognised	5	54
Reductions for securities sold during the period	–10	–46
Increase of credit losses for which an other-than-temporary impairment has been recognised previously, when the Group does not intend to sell, or more likely than not will not be required to sell before recovery	5	10
Impact of increase in cash flows expected to be collected	–1	–1
Impact of foreign exchange movements	–1	–1
Balance as of 31 December	44	**60**

Investments available-for-sale

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

2021 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	15 005	325	–99		15 231
US Agency securitised products	2 981	46	–25		3 002
States of the United States and political subdivisions of the states	1 311	198			1 509
Canada	2 874	120	–12		2 982
United Kingdom	4 169	356	–62		4 463
Germany	2 758	275	–23		3 010
France	2 403	205	–49		2 559
China	2 286	26			2 312
Other	10 613	372	–120		10 865
Total	44 400	1 923	–390		45 933
Corporate debt securities	34 055	1 916	–220	–1	35 750
Mortgage- and asset-backed securities	3 943	90	–24	–7	4 002
Fixed income securities available-for-sale	82 398	3 929	–634	–8	85 685

2022 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	15 422	3	–1 231		14 194
US Agency securitised products	3 870	4	–380		3 494
States of the United States and political subdivisions of the states	1 336	3	–112		1 227
Canada	2 443	17	–129		2 331
United Kingdom	3 451	4	–1 149		2 306
Germany	2 173	18	–437		1 754
France	2 243	10	–692		1 561
China	1 453	8	–7		1 454
Other	10 128	9	–1 197		8 940
Total	42 519	76	–5 334		37 261
Corporate debt securities	35 930	108	–3 186	–6	32 846
Mortgage- and asset-backed securities	4 286	11	–311	–4	3 982
Fixed income securities available-for-sale	**82 735**	**195**	**–8 831**	**–10**	**74 089**

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:

2021 USD millions	Less than 12 months Fair value	 Unrealised losses	12 months or more Fair value	 Unrealised losses	Total Fair value	 Unrealised losses
Debt securities issued by governments and government agencies:						
US Treasury and other US government corporations and agencies	9 635	75	582	24	10 217	99
US Agency securitised products	1 325	24	36	1	1 361	25
States of the United States and political subdivisions of the states	20	0			20	0
Canada	1 633	10	40	2	1 673	12
United Kingdom	830	24	388	38	1 218	62
Germany	766	21	39	2	805	23
France	1 130	45	48	4	1 178	49
China	20	0	39	0	59	0
Other	4 608	72	637	48	5 245	120
Total	19 967	271	1 809	119	21 776	390
Corporate debt securities	12 166	188	702	33	12 868	221
Mortgage- and asset-backed securities	1 349	16	86	15	1 435	31
Total	33 482	475	2 597	167	36 079	642

2022 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	4 927	282	9 118	949	14 045	1 231
US Agency securitised products	2 267	179	1 069	201	3 336	380
States of the United States and political subdivisions of the states	1 010	99	48	13	1 058	112
Canada	734	32	1 481	97	2 215	129
United Kingdom	1 171	462	1 128	687	2 299	1 149
Germany	1 018	227	416	210	1 434	437
France	678	233	632	459	1 310	692
China	198	3	45	4	243	7
Other	4 916	531	3 496	666	8 412	1 197
Total	16 919	2 048	17 433	3 286	34 352	5 334
Corporate debt securities	17 559	1 405	12 187	1 787	29 746	3 192
Mortgage- and asset-backed securities	2 860	192	1 014	123	3 874	315
Total	**37 338**	**3 645**	**30 634**	**5 196**	**67 972**	**8 841**

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 2021 and 2022, USD 25 004 million and USD 25 231 million, respectively, of fixed income securities available-for-sale were callable.

USD millions	2021 Amortised cost or cost	2021 Estimated fair value	2022 Amortised cost or cost	2022 Estimated fair value
Due in one year or less	6 120	6 143	13 325	13 079
Due after one year through five years	34 790	35 028	28 628	26 979
Due after five years through ten years	13 660	14 171	13 721	12 195
Due after ten years	24 765	27 215	23 777	18 769
Mortgage- and asset-backed securities with no fixed maturity	3 063	3 128	3 284	3 067
Total fixed income securities available-for-sale	82 398	85 685	**82 735**	**74 089**

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 were as follows:

USD millions	2021	**2022**
Debt securities issued by governments and government agencies	1 272	462
Mortgage- and asset-backed securities	28	22
Fixed income securities trading – non-participating business	1 300	**484**
Equity securities at fair value through earnings – non-participating business	3 973	**2 108**

Investments held for unit-linked business

As of 31 December 2021 and 2022, the carrying amounts of investments held for unit-linked business consist of equity securities at fair value through earnings of USD 468 million and USD 330 million, respectively.

Mortgage, policy and other loans and investment real estate

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

USD millions	2021 Carrying value	2021 Fair value	2022 Carrying value	2022 Fair value
Policy loans	34	34	32	32
Mortgage loans	1 645	1 672	1 712	1 569
Other loans	2 324	2 362	2 659	2 502
Investment real estate	2 871	5 544	2 931	5 738

Depreciation expense related to investment real estate was USD 63 million and USD 79 million for 2021 and 2022, respectively. Accumulated depreciation on investment real estate totalled USD 786 million and USD 829 million as of 31 December 2021 and 2022, respectively. Investment real estate held by the Group includes residential and commercial investment real estate.

Substantially all mortgage, policy and other loan receivables are secured by buildings, land or the underlying policies. The loans are spread across numerous counterparties largely based in the US and UK with no specific high risk regarding credit concentration.

Maturity of lessor cash flows

As of 31 December 2022, the total undiscounted cash flows to be received from operating leases of investment real estate for the next five years and thereafter were as follows:

USD millions	Operating leases
Less than one year	214
Between one year and two years	194
Between two years and three years	166
Between three years and four years	138
Between four years and five years	115
After five years	436
Total cash flows	1 263

The Group manages risk associated with the residual value of its leased properties through careful property selection as well as diversification by geographical region and property type. Lease contracts for residential real estate in Switzerland and Germany are usually open-ended. Cash flows for such contracts have been projected taking into consideration the average turnover rate in the region. Lease contracts for residential real estate in the US with a lease term of one year or less have been excluded from the projected cash flows in the table above. Rental income for those leases for the year ended 31 December 2021 and 2022 was USD 25 million and USD 21 million, respectively.

Other financial assets and liabilities by measurement category

As of 31 December 2021 and 2022, "Other invested assets" and "Accrued expenses and other liabilities" by measurement category were as follows:

2021 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	296					296
Reverse repurchase agreements			2 336			2 336
Securities lending/borrowing	1 333		122			1 455
Equity-accounted investments	398			2 159		2 557
Other	368	1 325	976			2 669
Other invested assets	2 395	1 325	3 434	2 159	0	9 313
Accrued expenses and other liabilities						
Derivative financial instruments	496					496
Repurchase agreements			11			11
Securities lending	1 334		139			1 473
Securities sold short	980					980
Other			1 336		4 408	5 744
Accrued expenses and other liabilities	2 810	0	1 486	0	4 408	8 704

2022 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	596					596
Reverse repurchase agreements			2 005			2 005
Securities lending/borrowing	1 191					1 191
Equity-accounted investments	435			1 323		1 758
Other	368	1 665	931			2 964
Other invested assets	**2 590**	**1 665**	**2 936**	**1 323**	**0**	**8 514**
Accrued expenses and other liabilities						
Derivative financial instruments	608					608
Repurchase agreements			17			17
Securities lending	1 194		49			1 243
Securities sold short	381					381
Other			1 614		3 785	5 399
Accrued expenses and other liabilities	**2 183**	**0**	**1 680**	**0**	**3 785**	**7 648**

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

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

2021 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	1 503	–1 207	296	–45	251
Reverse repurchase agreements	4 398	–2 062	2 336	–2 336	0
Securities borrowing	260	–138	122	–122	0
Total	6 161	–3 407	2 754	–2 503	251

2021 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	–1 611	1 115	–496	181	–315
Repurchase agreements	–1 778	1 767	–11	11	0
Securities lending	–1 906	433	–1 473	1 298	–175
Total	–5 295	3 315	–1 980	1 490	–490

2022 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	1 440	–844	596	–16	**580**
Reverse repurchase agreements	3 657	–1 652	2 005	–2 005	**0**
Securities borrowing					**0**
Total	**5 097**	**–2 496**	**2 601**	**–2 021**	**580**

2022 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	–1 725	1 117	–608	319	**–289**
Repurchase agreements	–1 272	1 255	–17	17	**0**
Securities lending	–1 640	397	–1 243	1 144	**–99**
Total	**–4 637**	**2 769**	**–1 868**	**1 480**	**–388**

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

Assets pledged
As of 31 December 2021 and 2022, investments with a carrying value of USD 5 974 million and USD 4 492 million, respectively, were on deposit with regulatory agencies in accordance with local requirements, of which USD 244 million and USD 469 million, respectively, were cash and cash equivalents. As of 31 December 2021 and 2022, investments with a carrying value of USD 15 006 million and USD 14 361 million, respectively, were placed on deposit or pledged to secure certain reinsurance liabilities, including pledged investments in subsidiaries, of which USD 119 million and USD 50 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 2021 and 2022, investments with a carrying value of USD 407 million and USD 448 million, respectively, were placed on deposit or pledged to secure certain derivative and debt liabilities.

As of 31 December 2021 and 2022, securities of USD 16 774 million and USD 14 396 million, respectively, were transferred to third parties under securities lending transactions and repurchase agreements on a fully collateralised basis. Corresponding liabilities of USD 1 484 million and USD 1 260 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 2021 and 2022, a real estate portfolio with a carrying value of USD 190 million and USD 187 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 2021 and 2022, the fair value of the equity securities, government and corporate debt securities received as collateral was USD 5 496 million and USD 4 527 million, respectively. Of this, the amount that was sold or repledged as of 31 December 2021 and 2022 was USD 952 million and USD 1 281 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 2021 and 2022, 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.

2021 USD millions	Remaining contractual maturity of the agreements Overnight and continuous	Up to 30 days	30–90 days	Greater than 90 days	Total
Repurchase agreements					
Debt securities issued by governments and government agencies	2	1 614			1 616
Corporate debt securities	2	160			162
Total repurchase agreements	4	1 774	0	0	1 778
Securities lending					
Debt securities issued by governments and government agencies	794		445	402	1 641
Corporate debt securities	73	139			212
Equity securities	53				53
Total securities lending	920	139	445	402	1 906
Gross amount of recognised liabilities for repurchase agreements and securities lending					3 684

2022 USD millions	Remaining contractual maturity of the agreements Overnight and continuous	Up to 30 days	30–90 days	Greater than 90 days	Total
Repurchase agreements					
Debt securities issued by governments and government agencies	9	1 091		99	1 199
Corporate debt securities		73			73
Total repurchase agreements	**9**	**1 164**	**0**	**99**	**1 272**
Securities lending					
Debt securities issued by governments and government agencies	454		1 044		1 498
Corporate debt securities	142				142
Equity securities					0
Total securities lending	**596**	**0**	**1 044**	**0**	**1 640**
Gross amount of recognised liabilities for repurchase agreements and securities lending					**2 912**

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 2022, these adjustments were not material. Whenever the underlying assets or liabilities are reported in a specific business segment, the valuation adjustment is allocated accordingly. Valuation adjustments not attributable to any business segment are reported in Group items.

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

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

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

2021 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	14 998	70 675	1 312		86 985
Debt securities issued by US government and government agencies	14 998	1 939			16 937
US Agency securitised products		3 100			3 100
Debt securities issued by non-US governments and government agencies		27 168			27 168
Corporate debt securities		34 438	1 312		35 750
Mortgage- and asset-backed securities		4 030			4 030
Equity securities held for proprietary investment purposes	3 353	620			3 973
Equity securities backing unit-linked business	468				468
Short-term investments held for proprietary investment purposes	2 435	5 967			8 402
Derivative financial instruments	12	1 406	85	−1 207	296
Interest rate contracts	1	465			466
Foreign exchange contracts		379			379
Equity contracts	9	557	60		626
Credit contracts		5			5
Other contracts	2		25		27
Other invested assets	1 114	486	498		2 098
Funds held by ceding companies		172			172
Total assets at fair value	22 380	79 326	1 895	−1 207	102 394
Liabilities					
Derivative financial instruments	−2	−1 337	−272	1 115	−496
Interest rate contracts		−460	−2		−462
Foreign exchange contracts		−429			−429
Equity contracts	−1	−354	−9		−364
Credit contracts		−93			−93
Other contracts	−1	−1	−261		−263
Liabilities for life and health policy benefits			−83		−83
Accrued expenses and other liabilities	−1 029	−1 285			−2 314
Total liabilities at fair value	−1 031	−2 622	−355	1 115	−2 893

[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.

2022 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	14 137	59 231	1 205		74 573
Debt securities issued by US government and government agencies	14 137	1 392			15 529
US Agency securitised products		3 515			3 515
Debt securities issued by non-US governments and government agencies		18 679			18 679
Corporate debt securities		31 641	1 205		32 846
Mortgage- and asset-backed securities		4 004			4 004
Equity securities held for proprietary investment purposes	1 593	515			2 108
Equity securities backing unit-linked business	330				330
Short-term investments held for proprietary investment purposes	2 478	6 372			8 850
Derivative financial instruments	27	1 355	58	–844	596
Interest rate contracts	5	707	5		717
Foreign exchange contracts		489			489
Equity contracts	22	118			140
Credit contracts		8			8
Other contracts		33	53		86
Other invested assets	462	1 054	478		1 994
Funds held by ceding companies		164			164
Total assets at fair value	**19 027**	**68 691**	**1 741**	**–844**	**88 615**
Liabilities					
Derivative financial instruments	–5	–1 540	–180	1 117	–608
Interest rate contracts	–4	–909	–2		–915
Foreign exchange contracts		–398			–398
Equity contracts	–1	–183			–184
Credit contracts		–50			–50
Other contracts			–178		–178
Liabilities for life and health policy benefits			–69		–69
Accrued expenses and other liabilities	–218	–1 356			–1 574
Total liabilities at fair value	**–223**	**–2 896**	**–249**	**1 117**	**–2 251**

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

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

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

2021 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	1 183	232	433	1 848	–341	–98	–439
Realised/unrealised gains/losses:							
Included in net income[1]	1	–94	–6	–99	121	16	137
Included in other comprehensive income[2]	–42			–42		–1	–1
Purchases	202	3	81	286			0
Issuances				0	–86		–86
Sales	–2	–3		–5	1		1
Settlements	–20	–53		–73	33		33
Transfers into level 3				0			0
Transfers out of level 3			–8	–8			0
Impact of foreign exchange movements	–10		–2	–12			0
Closing balance as of 31 December	1 312	85	498	1 895	–272	–83	–355

[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".

2022 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	1 312	85	498	**1 895**	–272	–83	**–355**
Realised/unrealised gains/losses:							
Included in net income[1]	–1	5	–14	**–10**	240	14	**254**
Included in other comprehensive income[2]	–272			**–272**			**0**
Purchases	279	21	13	**313**	–128		**–128**
Issuances				**0**	–82		**–82**
Sales	–40	–4	–16	**–60**	4		**4**
Settlements	–58	–49		**–107**	58		**58**
Transfers into level 3				**0**			**0**
Transfers out of level 3				**0**			**0**
Impact of foreign exchange movements	–15		–3	**–18**			**0**
Closing balance as of 31 December	**1 205**	**58**	**478**	**1 741**	**–180**	**–69**	**–249**

[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 years ended 31 December were as follows:

USD millions	2021	**2022**
Gains/losses included in net income for the period	38	244
Whereof change in unrealised gains/losses relating to assets and liabilities still held at the reporting date	–13	112

Quantitative information about level 3 fair value measurements

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

USD millions	2021 Fair value	2022 Fair value	Valuation technique	Unobservable input	Range (weighted average[1])
Assets					
Corporate debt securities	1 312	**1 205**			
Infrastructure loans	779	802	Discounted cash flow model	Valuation spread	84—530 bps (220 bps)
Private placement corporate debt	491	367	Corporate spread matrix	Credit spread	54—289 bps (148 bps)
Private placement credit tenant leases	36	29	Discounted cash flow model	Illiquidity premium	125—150 bps (146 bps)
Derivative equity contracts	60	**0**			
OTC equity option referencing correlated equity indices	60				
Other derivative contracts	25	**53**			
Weather contracts	7	38	Proprietary option model	Risk margin	14–22% (16.9%)
				Correlation	–14 to –13% (–13.2%)
				Volatility (power/gas)	130–135% (130.6%)
				Volatility (temperature)	3–131 (26) HDD/CDD/CAT[2]
				Index value (temperature)	10–1 792 (274) HDD/CDD/CAT[2]
Liabilities					
Derivative equity contracts	–9	**0**			
OTC equity option referencing correlated equity indices	–9				
Other derivative contracts and liabilities for life and health policy benefits	–344	**–247**			
Variable annuity and fair valued GMDB contracts	–261	–187	Discounted cash flow model	Risk margin	4% (n/a)
				Volatility	16.1%–61.8%
				Lapse	1–10%
				Mortality improvement	0–1.5%
				Withdrawal rate (GMDB contracts)	20–97%
Weather contracts	–66	–41	Proprietary option model	Risk margin	6–22% (14.1%)
				Correlation	–39 to –7% (–11.6%)
				Volatility (power/gas)	77–140% (127.2%)
				Volatility (temperature)	0–247 (59) HDD/CDD/CAT[2]
				Index value (temperature)	1–3 093 (902) HDD/CDD/CAT[2]

[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.
[2] Heating Degree Days (HDD); Cooling Degree Days (CDD); Cumulative Average Temperature (CAT).

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 weather contracts are risk margin, correlation, volatility and index value. Where the Group has a long position, a significant increase (decrease) in the risk margin input in isolation would have resulted in a significantly higher (lower) fair value measurement. Where the Group has a long volatility or correlation position, a significant increase (decrease) in the correlation and volatility inputs would have resulted in a significantly higher (lower) fair value measurement. Where the Group has a long index position, an increase (decrease) in the index value input in isolation would have resulted in a significantly higher (lower) fair value measurement. Where the Group has a short position, a significant increase (decrease) in the risk margin input in isolation would have resulted in a significantly lower (higher) fair value measurement. Where the Group has a short volatility or correlation position, a significant increase (decrease) in the correlation and volatility inputs would have resulted in a significantly lower (higher) fair value measurement. Where the Group has a short index position, an increase (decrease) in the index value input in isolation would 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 were as follows:

USD millions	2021 Fair value	**2022** Fair value	Unfunded commitments	Redemption frequency (if currently eligible)	Redemption notice period
Private equity funds	1 208	1 414	588	non-redeemable	n/a
Real estate funds	2	1	15	non-redeemable	n/a
Private equity direct	114	249	90	non-redeemable	n/a
Hedge funds	1	1		redeemable[1]	90 days[2]
Total	1 325	**1 665**	**693**		

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

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 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.

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

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. 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.

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

Pursuant to the election of the fair value option for the items described, the balances as of 31 December were as follows:

USD millions	2021	2022
Assets		
Other invested assets	9 313	8 514
of which at fair value pursuant to the fair value option	398	435
Funds held by ceding companies	12 532	13 929
of which at fair value pursuant to the fair value option	172	164
Liabilities		
Liabilities for life and health policy benefits	–22 196	–20 925
of which at fair value pursuant to the fair value option	–83	–69

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

Gains/losses included in earnings for items measured at fair value pursuant to election of the fair value option including foreign exchange impact for the years ended 31 December were as follows:

USD millions	2021	2022
Other invested assets	54	54
Funds held by ceding companies		–8
Liabilities for life and health policy benefits	16	15
Total	70	**61**

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

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

2021 USD millions	Significant other observable inputs (level 2)	Significant unobservable inputs (level 3)	Total
Assets			
Policy loans		34	34
Mortgage loans		1 672	1 672
Other loans		2 362	2 362
Investment real estate		5 544	5 544
Total assets	0	9 612	9 612
Liabilities			
Debt	–7 395	–7 458	–14 853
Total liabilities	–7 395	–7 458	–14 853

2022 USD millions	Significant other observable inputs (level 2)	Significant unobservable inputs (level 3)	Total
Assets			
Policy loans		32	32
Mortgage loans		1 569	1 569
Other loans		2 502	2 502
Investment real estate		5 738	5 738
Total assets	**0**	**9 841**	**9 841**
Liabilities			
Debt	–5 708	–6 840	–12 548
Total liabilities	**–5 708**	**–6 840**	**–12 548**

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

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

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

9 Derivative financial instruments

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

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

Fair values and notional amounts of derivative financial instruments

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

2021 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	24 144	433	–409	24
Foreign exchange contracts	31 026	352	–225	127
Equity contracts	17 067	626	–364	262
Credit contracts	9 007	5	–93	–88
Other contracts	8 571	27	–263	–236
Total	89 815	1 443	–1 354	89
Derivatives designated as hedging instruments				
Interest rate contracts	5 491	33	–53	–20
Foreign exchange contracts	19 409	27	–204	–177
Total	24 900	60	–257	–197
Total derivative financial instruments	114 715	1 503	–1 611	–108
Amount offset				
Where a right of set-off exists		–788	788	
Due to cash collateral		–419	327	
Total net amount of derivative financial instruments		296	–496	–200

2022 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	15 937	481	–563	–82
Foreign exchange contracts	38 701	398	–231	167
Equity contracts	13 285	140	–184	–44
Credit contracts	10 974	8	–50	–42
Other contracts	9 449	86	–178	–92
Total	**88 346**	**1 113**	**–1 206**	**–93**
Derivatives designated as hedging instruments				
Interest rate contracts	4 645	236	–352	–116
Foreign exchange contracts	21 381	91	–167	–76
Total	**26 026**	**327**	**–519**	**–192**
Total derivative financial instruments	**114 372**	**1 440**	**–1 725**	**–285**
Amount offset				
Where a right of set-off exists		–669	669	
Due to cash collateral		–175	448	
Total net amount of derivative financial instruments		**596**	**–608**	**–12**

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 2021 and 2022.

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 years ended 31 December, the gains and losses of derivative financial instruments not designated as hedging instruments were as follows:

USD millions	2021	**2022**
Derivatives not designated as hedging instruments		
Interest rate contracts	50	–23
Foreign exchange contracts	–821	–1 007
Equity contracts	–209	71
Credit contracts	–123	15
Other contracts	161	218
Total gains/losses recognised in income	–942	**–726**

Hedging activities

The Group designates certain derivative financial instruments as hedging instruments. The designation of derivative financial instruments is primarily used for overall portfolio and risk management strategies. As of 31 December 2021 and 2022, 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 years ended 31 December, the gains and losses attributable to the hedged risks were as follows:

		2021		**2022**
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	468	–562	–41	–602
Foreign exchange contracts				
Gains/losses on derivatives	678		1 137	
Gains/losses on hedged items	–678		–1 137	
Interest rate contracts				
Gains/losses on derivatives		–17		–96
Gains/losses on hedged items		17		90

As of 31 December, 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:

		2021		**2022**
USD millions	Carrying value	Cumulative basis adjustment	Carrying value	Cumulative basis adjustment
Assets				
Fixed income securities available-for-sale	15 277		15 987	
Liabilities				
Short-term debt	–562	1		
Long-term debt	–1 366	20	–1 217	110

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

For the years ended 31 December 2021 and 2022, the Group recorded an accumulated net unrealised foreign currency remeasurement gain of USD 809 million and USD 1 493 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 2021 and 2022 was approximately USD 715 million and USD 771 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 63 million and USD 54 million as of 31 December 2021 and 2022, respectively. For derivative financial instruments containing credit risk-related contingent features, the Group posted collateral of USD 36 million and USD 34 million as of 31 December 2021 and 2022, respectively. In the event of a reduction of the Group's credit rating to below investment grade, a fair value of USD 19 million additional collateral would have had to be posted as of 31 December 2022. The total equals the amount needed to settle the instruments immediately as of 31 December 2022.

10 Disposals

Disposal of Elips Life AG
On 1 July 2022, the Group completed the sale of Elips Life AG ("elipsLife"), formerly part of Corporate Solutions business segment, to Swiss Life International, following the receipt of all required regulatory and anti-trust approvals. The agreement to sell the subsidiary was entered into in the fourth quarter of 2021.

The Group simultaneously entered into a long-term reinsurance partnership for elipsLife's inforce and new business which is part of the Reinsurance L&H and Group items business segment from 1 July 2022.

The sale of elipsLife excludes the medical business of Elips Versicherungen AG in Ireland, which remains in the Corporate Solutions business segment.

11 Debt and contingent capital instruments

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

The Group's debt as of 31 December was as follows:

USD millions	2021	2022
Senior financial debt	2 464	2 188
Senior operational debt		2
Subordinated financial debt	562	430
Total short-term debt	3 026	**2 620**
Senior financial debt	1 957	1 336
Senior operational debt	99	100
Subordinated financial debt	5 826	7 073
Subordinated operational debt	1 859	1 588
Total long-term debt	9 741	**10 097**
Total carrying value	12 767	**12 717**
Total fair value	14 853	**12 548**

Maturity of long-term debt

As of 31 December, long-term debt as reported above had the following maturities:

USD millions	2021	2022
Due in 2023	659	
Due in 2024	1 767	1 756
Due in 2025	1 083	1 675
Due in 2026	461	333
Due in 2027	271	1 046
Due after 2027	5 500	5 287
Total carrying value	9 741	**10 097**

Senior long-term debt

Maturity	Instrument	Issued in	Currency	Nominal in millions	Interest rate	Book value in USD millions
2024	EMTN	2014	CHF	250	1.00%	258
2026	Senior notes[1]	1996	USD	291	7.00%	321
2027	EMTN	2015	CHF	250	0.75%	246
2030	Senior notes[1]	2000	USD	156	7.75%	195
2042	Senior notes	2012	USD	322	4.25%	316
Various	Payment undertaking agreements	Various	USD	92	Various	100
Total senior long-term debt as of 31 December 2022						**1 436**
Total senior long-term debt as of 31 December 2021						2 056

[1] Assumed in the acquisition of GE Insurance Solutions.

Subordinated long-term debt

Maturity	Instrument	Issued in	Currency	Nominal in millions	Interest rate	First call in	Book value in USD millions
2035	Subordinated fixed spread callable loan[1]	2020	SGD	350	3.18%	2025	260
2044	Subordinated fixed rate resettable callable loan note	2014	USD	500	4.50%	2024	499
2049	Subordinated fixed rate reset step-up callable loan note	2019	USD	1 000	5.00%	2029	993
2050	Subordinated fixed rate reset step-up callable loan note	2019	EUR	750	2.53%	2030	796
2050	Subordinated fixed-to-floating rate non step-up callable loan[1]	2022	USD	700	5.80%	2025	700
2052	Subordinated fixed rate reset step-up callable loan[1]	2021	EUR	800	2.76%	2032	916
2052	Subordinated fixed-to-floating rate non step-up callable loan[1]	2022	USD	800	5.68%	2027	800
2056	Subordinated fixed rate non step-up callable loan[1]	2022	USD	400	6.10%	2031	400
2057	Subordinated private placement (amortising, limited recourse)	2007	GBP	1 320	6.39%		1 588
Perpetual	Perpetual subordinated fixed-to-floating rate callable loan note	2015	EUR	750	2.60%	2025	712
Perpetual	Subordinated fixed spread callable note	2019	USD	1 000	4.25%	2024	997
Total subordinated long-term debt as of 31 December 2022							**8 661**
Total subordinated long-term debt as of 31 December 2021							7 685

[1] From affiliated companies

Interest expense on long-term debt

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

USD millions	2021	**2022**
Senior financial debt	79	44[1]
Senior operational debt	3	3
Subordinated financial debt	242	270
Subordinated operational debt	119	105
Total	443	**422**

[1] Includes a gain on debt extinguishment of USD 22 million.

The Group hedges the interest rate risk on some of its long-term debt positions. The net impact of the change in the fair value of the debt and interest rate swap is reflected in the interest expense line in the income statement but not in the table above. For more details on the hedging, please refer to Note 9 "Derivative financial instruments".

Long-term debt issued in 2022

In May 2022, Swiss Re Ltd issued subordinated fixed-to-floating rate non step-up callable loan notes with an aggregate face value of USD 700 million by fully drawing on the subordinated debt facility established in November 2015. Swiss Re Ltd on-lent the issuance proceeds to Swiss Reinsurance Company Ltd effective 11 May 2022 under a subordinated loan agreement on substantially the same terms as the external issuance.

In May 2022, Swiss Re Ltd issued subordinated fixed rate non step-up callable loan notes with an aggregate face value of USD 400 million by fully drawing on the subordinated debt facility established in April 2016. Swiss Re Ltd on-lent the issuance proceeds to Swiss Reinsurance Company Ltd effective 11 May 2022 under a subordinated loan agreement on substantially the same terms as the external issuance.

In May 2022, Swiss Re Ltd issued subordinated fixed-to-floating rate non step-up callable notes with an aggregate face value of USD 800 million by fully drawing on the subordinated debt facility established in June 2016. Swiss Re Ltd on-lent the issuance proceeds to Swiss Reinsurance Company Ltd effective 11 May 2022 under a subordinated loan agreement on substantially the same terms as the external issuance.

12 Leases

As part of its normal business operations, the Group as a lessee enters into a number of lease agreements mainly for office space. Certain lease agreements include rental payments adjusted periodically for inflation. Renewal or termination options that are reasonably certain of exercise by the lessee are included in the lease term. The lease agreements do not contain any material residual value guarantees or material restrictive covenants.

Lease liabilities and right-of-use assets
Lease liabilities and right-of-use assets for operating leases as of 31 December were as follows:

USD millions	2021	**2022**
Operating lease right-of-use assets	257	233
Operating lease liabilities	283	255

Operating lease right-of-use assets are included in "Other assets" and operating lease liabilities are included in "Accrued expenses and other liabilities" on the balance sheet.

Maturity of lease liabilities
As of 31 December, the total undiscounted cash flows due to operating leases for the next five years and thereafter were as follows:

USD millions	2021	**2022**
Less than one year	47	42
Between one year and two years	44	38
Between two years and three years	37	33
Between three years and four years	31	31
Between four years and five years	27	29
After five years	140	128
Total undiscounted cash flows	326	**301**
Less imputed interest	–43	–46
Total lease liability	283	**255**

As of 31 December 2022, undiscounted sublease cash flows over the next nine years were USD 45 million.

The discount rates used to determine the lease liability reflect the collateralised borrowing rates for the Group, where the underlying collateral is assumed to be real estate.

The weighted average discount rate for operating leases as of 31 December 2021 and 2022 was 2.1% and 2.6%, respectively. The weighted average remaining lease term for operating leases as of 31 December 2021 and 2022 was 11.3 years and 11.4 years, respectively.

Lease cost
The composition of total lease cost for all operating leases for the year ended 31 December was as follows:

USD millions	2021	**2022**
Fixed operating lease cost	46	**44**
Other lease cost[1]	3	**3**
Total operating lease cost	49	**47**
Less sublease income from operating leases	–6	**–4**
Total lease cost	43	**43**

[1] "Other lease cost" includes variable lease cost.

Other information
For the year ended 31 December 2021 and 2022, cash paid for amounts included in the measurement of operating lease liabilities was USD 48 million and USD 44 million, respectively. Right-of-use assets obtained in exchange for new operating lease liabilities in 2021 and 2022 were USD 13 million and USD 41 million, respectively.

13 Income taxes

The Group is generally subject to corporate income taxes based on the taxable net income in various jurisdictions in which it operates. The components of the income tax expense were:

USD millions	2021	2022
Current taxes	197	320
Deferred taxes	129	−237
Income tax expense	326	**83**

Tax rate reconciliation

The following table reconciles the expected tax expense at the Swiss statutory tax rate to the actual tax expense in the accompanying income statement:

USD millions	2021	2022
Income tax at the Swiss statutory tax rate of 19.7%	284	51
Increase (decrease) in the income tax charge resulting from:		
Foreign income taxed at different rates	80	25
Impact of foreign exchange movements	−70	−59
Tax exempt income/dividends received deduction	47	7
Non-deductible expenses	31	1
Change in valuation allowance	−13	72
Change in statutory rate	−13	−13
Basis difference in subsidiaries	−25	13
Intra-entity transfers	5	−2
Change in liability for unrecognised tax benefits including interest and penalties	−5	18
Other income based taxes	9	26
Other, net[1]	−4	−56
Total	326	**83**

[1] Other, net includes tax return to tax provision and other prior year adjustments from various jurisdictions in 2021 and 2022 of USD −10 million and USD −76 million, respectively.

For the year ended 31 December 2022, the Group reported a tax expense of USD 83 million on a pre-tax income of USD 261 million, compared to an expense of USD 326 million on a pre-tax income of USD 1 444 million for 2021. This translates into an effective tax rate in the current and prior-year reporting periods of 31.8% and 22.6%, respectively.

For the year ended 31 December 2022, the tax rate was driven by profits earned in higher tax jurisdictions, tax charges from other income based taxes, increases on valuation allowance on deferred tax assets and increases in unrecognised tax benefits liabilities, partially offset by tax benefits from foreign currency translation differences and prior year adjustments. The tax rate in the year ended 31 December 2021 was largely driven by profits earned in higher tax jurisdictions, tax charges from non-deductible expenses and tax-exempt losses, partially offset by tax benefits from the release of valuation allowance on deferred tax assets and foreign currency translation differences between statutory and US GAAP accounts.

Deferred and other non-current taxes
The components of deferred and other non-current taxes were as follows:

USD millions	2021	2022
Deferred tax assets		
Benefit on loss carryforwards	3 026	2 975
Technical provisions	1 003	1 283
Unearned premium reserves	375	378
Deferred acquisition costs	106	134
Present value of future profits	149	133
Investment valuations in income	247	468
Unrealised gains in income	121	
Unrealised gains on investments	15	1 825
Income accrued/deferred	147	178
Fixed assets	138	144
Pension provisions	221	182
Currency translation adjustments	416	438
Other	254	190
Gross deferred tax asset	6 218	8 328
Valuation allowance	–195	–232
Unrecognised tax benefits offsetting benefits on loss carryforwards	–27	–6
Total deferred tax assets	5 996	**8 090**
Deferred tax liabilities		
Technical provisions	–2 031	–1 367
Unearned premium reserves	–164	–143
Deferred acquisition costs	–1 115	–1 155
Present value of future profits	–146	–140
Investment valuations in income	–437	–982
Unrealised gains in income	–12	–340
Unrealised gains on investments	–710	12
Income accrued/deferred	–206	–201
Pension provisions	–179	–191
Foreign exchange provisions	–625	–617
Currency translation adjustments	–212	–256
Other	–305	–294
Total deferred tax liabilities	–6 142	**–5 674**
Liability for unrecognised tax benefits including interest and penalties	–137	–159
Total deferred and other non-current tax liabilities	–6 279	**–5 833**

The Group has not recognised deferred tax liabilities or additional foreign withholding tax liabilities for undistributed earnings of its foreign subsidiaries that arose in 2022 and prior where there are current plans to indefinitely reinvest those earnings. The Group has the intent and ability to control all distributions from foreign subsidiaries in a tax efficient manner. Deferred tax liabilities or additional foreign withholding tax liabilities will be recognised if the Group can no longer demonstrate that it plans to indefinitely reinvest the undistributed earnings. As of 31 December 2022, the US GAAP undistributed earnings of these subsidiaries was USD 5.3 billion. Due to the differences in US GAAP and local tax basis of undistributed earnings, it is not practicable to estimate the amount of additional tax liability if these earnings were not indefinitely reinvested.

In 2022, USD 2 million was distributed from subsidiaries where the earnings were planned to be permanently reinvested. No foreign tax withholding liability arose from this distribution and minimal shareholder tax liability resulted due to the participation tax exemption rules.

As of 31 December 2022, the Group had USD 14 684 million net operating tax loss carryforwards, expiring as follows: USD 6 million in 2023, USD 796 million in 2024, USD 377 million in 2025, USD 726 million in 2026, USD 7 836 million in 2027 and beyond and USD 4 943 million never expire.

As of 31 December 2022, the Group also had capital loss carryforwards of USD 154 million expiring as follows: USD 12 million in 2025, USD 2 million in 2027 and USD 140 million never expire.

For the year ended 31 December 2022, net operating tax losses of USD 3 138 million and net capital tax losses of USD 45 million were utilised.

The valuation allowance for deferred tax assets as of 31 December 2021 and 2022 was USD 195 million and USD 232 million, respectively. The net change in the valuation allowance for year ended 31 December 2022 was an increase of USD 37 million, with a USD 4 million decrease driven by balance sheet translation recorded in equity, a USD 72 million net increase included as tax charge in income from operations and a USD 31 million decrease from entities disposed in 2022 and included in net assets sold.

The valuation allowance as of 31 December 2022 was primarily related to loss carryforwards and intangible assets that, in the judgment of management, are not more likely than not to be realised. In assessing the realisability of deferred tax assets, management considers whether it is more likely than not that some or all of the deferred tax assets will not be realised. The ultimate realisation of deferred tax assets depends on the generation of future taxable income during the periods in which those temporary differences are deductible.

Management considers projections of future taxable income and tax planning strategies in making this assessment. Based on the level of historical taxable income and projections of future taxable income over the periods for which the deferred tax assets are deductible, management believes that it is more likely than not that the Group will realise the benefits of these deductible differences, net of the existing valuation allowance as of 31 December 2022. The amount of the deferred tax asset considered realisable, however, could be reduced in the near term if estimates of future taxable income during the carryforward periods are reduced.

Subsequently recognised tax benefits related to the valuation allowance for deferred tax assets as of 31 December 2022 will be allocated entirely to income tax from operations.

Income taxes paid in 2021 and 2022 were USD 210 million and USD 378 million, respectively.

Unrecognised tax benefits
A reconciliation of the opening and closing amount of gross unrecognised tax benefits (excluding interest and penalties) is as follows:

USD millions	2021	2022
Balance as of 1 January	137	128
Additions based on tax positions related to current year	9	9
Additions based on tax positions related to prior years	11	12
Reductions for tax positions of current year		–1
Reductions for tax positions of prior years	–20	–5
Statute expiration	–2	–
Settlements	–1	–7
Other (including foreign currency translation)	–6	–6
Balance as of 31 December	128	**130**

As of 31 December 2021 and 2022, the amount of gross unrecognised tax benefits within the tabular reconciliation that, if recognised, would affect the effective tax rate were approximately USD 128 million and USD 130 million, respectively.

Interest and penalties related to unrecognised tax benefits are recorded in income tax expense/benefit. For the years ended 31 December 2021 and 2022, such expenses were nil and USD 4 million respectively, offset with a USD 5 million payment in 2022. As of 31 December 2021 and 2022, USD 36 million and USD 35 million, respectively, were accrued for the payment of interest (net of tax benefits) and penalties. The accrued interest balance as of 31 December 2022 is included within the deferred and other non-current taxes section reflected above and in the balance sheet.

The balance of gross unrecognised tax benefits as of 31 December 2022 presented in the table above excludes accrued interest and penalties (USD 35 million).

During the year, certain tax positions and audits in Canada, Malaysia, Singapore and Switzerland were effectively settled.

The Group continually evaluates proposed adjustments by taxing authorities. The Group believes that it is reasonably possible (more than remote and less than likely) that the balance of unrecognised tax benefits could decrease by USD 84 million over the next 12 months due to settlements or expiration of statutes. It is also reasonably possible that balance could increase as a result of proposed adjustments by taxing authorities. Quantification of an estimated range of increases cannot be made at this time.

The following table summarises jurisdictions and tax years that remain subject to examination:

Australia	2017–2022
Brazil	2014; 2017–2022
Canada	2016–2022
China	2012–2022
Colombia	2017–2022
Denmark	2018–2022
France	2019–2022
Germany	2017–2022
Hong Kong	2016–2022
India	2004; 2010–2022
Ireland	2016–2022
Israel	2017–2022
Italy	2017–2022
Japan	2016–2022
Korea	2017–2022
Luxembourg	2017–2022
Malaysia	2021–2022
Mexico	2017–2022
Netherlands	2016–2022
New Zealand	2016–2022
Nigeria	2020–2022
Singapore	2017–2022
Slovakia	2017–2022
South Africa	2016–2022
Spain	2018–2022
Switzerland	2017–2022
United Kingdom	2020–2022
United States	2017–2022

14 Benefit plans

Defined benefit pension plans and post-retirement benefits
The Group sponsors various funded defined benefit pension plans. Employers contributions to the plans are charged to income on a basis which recognises the costs of pensions over the expected service lives of employees covered by the plans. The Group's funding policy for these plans is to contribute annually at a rate that is intended to maintain a level percentage of compensation for the employees covered. A full valuation is prepared at least every three years.

The Group also provides certain healthcare and life insurance benefits for retired employees and their dependants. Generally employees become eligible for these benefits when they become eligible for pension benefits.

The measurement date of these plans is 31 December for each year presented.

2021 USD millions	Swiss plan	Foreign plans	Other benefits	Total
Benefit obligation as of 1 January	4 750	2 234	360	7 344
Service cost	136	7	4	147
Interest cost		35	4	39
Amendments				0
Actuarial gains/losses	2	–76	–20	–94
Benefits paid	–40	–79	–17	–136
Employee contribution	38			38
Effect of settlement, curtailment and termination	–146			–146
Effect of foreign currency translation	–142	–49	–6	–197
Benefit obligation as of 31 December	4 598	2 072	325	6 995
Fair value of plan assets as of 1 January	4 702	2 316	0	7 018
Actual return on plan assets	346	–31		315
Company contribution	112	15	17	144
Benefits paid	–40	–79	–17	–136
Employee contribution	38			38
Effect of settlement, curtailment and termination	–146			–146
Effect of foreign currency translation	–140	–40		–180
Fair value of plan assets as of 31 December	4 872	2 181	0	7 053
Funded status	274	109	–325	58

2022 USD millions	Swiss plan	Foreign plans	Other benefits	Total
Benefit obligation as of 1 January	4 598	2 072	325	6 995
Service cost	122	6	3	131
Interest cost	9	41	5	55
Amendments	4			4
Actuarial gains/losses	–706	–528	–65	–1 299
Benefits paid	–172	–73	–16	–261
Employee contribution	38			38
Effect of settlement, curtailment and termination	1	–77		–76
Effect of foreign currency translation	–93	–115	–5	–213
Benefit obligation as of 31 December	**3 801**	**1 326**	**247**	**5 374**
Fair value of plan assets as of 1 January	4 872	2 181	0	7 053
Actual return on plan assets	–461	–570		–1 031
Company contribution	112	14	16	142
Benefits paid	–172	–73	–16	–261
Employee contribution	38			38
Effect of settlement, curtailment and termination	1	–77		–76
Effect of foreign currency translation	–90	–131		–221
Fair value of plan assets as of 31 December	**4 300**	**1 344**	**0**	**5 644**
Funded status	**499**	**18**	**–247**	**270**

Amounts recognised in "Other assets" and "Accrued expenses and other liabilities" in the Group's balance sheet as of 31 December were as follows:

2021 USD millions	Swiss plan	Foreign plans	Other benefits	Total
Non-current assets	274	263		537
Current liabilities		−2	−18	−20
Non-current liabilities		−152	−307	−459
Net amount recognised	274	109	−325	58

2022 USD millions	Swiss plan	Foreign plans	Other benefits	Total
Non-current assets	499	164		663
Current liabilities		−3	−18	−21
Non-current liabilities		−143	−229	−372
Net amount recognised	**499**	**18**	**−247**	**270**

Amounts recognised in accumulated other comprehensive income, gross of tax, as of 31 December were as follows:

2021 USD millions	Swiss plan	Foreign plans	Other benefits	Total
Net gain/loss	528	263	2	793
Prior service cost/credit	−55	2	−20	−73
Total	473	265	−18	720

2022 USD millions	Swiss plan	Foreign plans	Other benefits	Total
Net gain/loss	366	316	−64	618
Prior service cost/credit	−38	2	−5	−41
Total	**328**	**318**	**−69**	**577**

Components of net periodic benefit cost

The components of pension and post-retirement cost for the years ended 31 December were as follows:

2021 USD millions	Swiss plan	Foreign plans	Other benefits	Total
Service cost (net of participant contributions)	136	7	4	147
Interest cost		35	4	39
Expected return on assets	−118	−47		−165
Amortisation of:				
Net gain/loss	65	20	1	86
Prior service cost	−15		−15	−30
Effect of settlement, curtailment and termination	14			14
Net periodic benefit cost	82	15	−6	91

2022 USD millions	Swiss plan	Foreign plans	Other benefits	Total
Service cost (net of participant contributions)	122	6	3	131
Interest cost	9	41	5	55
Expected return on assets	−109	−54		−163
Amortisation of:				
Net gain/loss	26	9	1	36
Prior service cost	−13		−15	−28
Effect of settlement, curtailment and termination		17		17
Net periodic benefit cost	**35**	**19**	**−6**	**48**

Other changes in plan assets and benefit obligations recognised in other comprehensive income for the years ended 31 December were as follows:

2021 USD millions	Swiss plan	Foreign plans	Other benefits	Total
Net gain/loss	−226	2	−20	−244
Prior service cost/credit				0
Amortisation of:				
Net gain/loss	−65	−20	−1	−86
Prior service cost	15		15	30
Effect of settlement, curtailment and termination	−13			-13
Exchange rate gain/loss recognised during the year		−16		−16
Total recognised in other comprehensive income, gross of tax	−289	−34	−6	−329
Total recognised in net periodic benefit cost and other comprehensive income, gross of tax	−207	−19	−12	−238

2022 USD millions	Swiss plan	Foreign plans	Other benefits	Total
Net gain/loss	−136	96	−65	−105
Prior service cost/credit	4			4
Amortisation of:				
Net gain/loss	−26	−9	−1	−36
Prior service cost	13		15	28
Effect of settlement, curtailment and termination		−17		−17
Exchange rate gain/loss recognised during the year		−17		−17
Total recognised in other comprehensive income, gross of tax	**−145**	**53**	**−51**	**−143**
Total recognised in net periodic benefit cost and other comprehensive income, gross of tax	**−110**	**72**	**−57**	**−95**

The accumulated benefit obligation (the current value of accrued benefits excluding future salary increases) for pension benefits was USD 6 631 million and USD 5 108 million as of 31 December 2021 and 2022, respectively.

Pension plans with a projected benefit obligation and an accumulated benefit obligation in excess of plan assets as of 31 December were as follows:

USD millions	2021	**2022**
Projected benefit obligation	523	805
Fair value of plan assets	368	659

USD millions	2021	**2022**
Accumulated benefit obligation	517	798
Fair value of plan assets	367	656

Principal actuarial assumptions

	Swiss plan		Foreign plans weighted average		Other benefits weighted average	
	2021	**2022**	2021	**2022**	2021	**2022**
Assumptions used to determine obligations at the end of the year						
Discount rate	0.2%	2.1%	2.1%	4.7%	1.5%	3.5%
Rate of compensation increase	1.8%	2.0%	2.9%	3.1%	2.1%	3.0%
Interest crediting rate	1.5%	2.8%				
Assumptions used to determine net periodic pension costs for the year ended						
Discount rate	0.0%	0.2%	1.6%	2.1%	1.1%	1.5%
Expected long-term return on plan assets	2.8%	2.5%	2.2%	2.6%		
Rate of compensation increase	1.8%	1.8%	2.6%	2.9%	2.1%	2.1%
Interest crediting rate	1.8%	1.5%				
Assumed medical trend rates at year end						
Medical trend – initial rate					4.4%	4.8%
Medical trend – ultimate rate					3.7%	3.7%
Year that the rate reaches the ultimate trend rate					2024	2025

The expected long-term rates of return on plan assets are based on long-term expected inflation, interest rates, risk premiums and targeted asset category allocations. The estimates take into consideration historical asset category returns.

Plan asset allocation by asset category
The actual asset allocation by major asset category for defined benefit pension plans as of the respective measurement dates in 2021 and 2022 was as follows:

	Swiss plan allocation			Foreign plans allocation		
	2021	**2022**	**Target allocation**	2021	**2022**	**Target allocation**
Asset category						
Equity securities	28%	25%	23%	5%	5%	5%
Fixed income securities	36%	36%	45%	68%	64%	85%
Real estate	18%	22%	24%	0%	1%	1%
Other	18%	17%	8%	27%	30%	9%
Total	100%	**100%**	**100%**	100%	**100%**	**100%**

Actual asset allocation is determined by a variety of current economic and market conditions and considers specific asset class risks.

Equity securities include Swiss Re shares of USD 3 million (0.04% of total plan assets) and USD 2 million (0.04% of total plan assets) as of 31 December 2021 and 2022, respectively.

The Group’s pension plan investment strategy is to match the maturity profiles of the assets and liabilities in order to reduce the future volatility of pension expense and funding status of the plans. Tactical allocation decisions that reflect this strategy are made on a quarterly basis, including balancing the investment portfolios between equity and fixed income securities.

Assets measured at fair value
For a description of the different fair value levels and valuation techniques see Note 8 "Fair value disclosures".

Certain items reported as pension plan assets at fair value in the following table are not within the scope of Note 8, namely two positions: real estate and an insurance contract.

Real estate positions classified as level 1 and level 2 are exchange-traded real estate funds where a market valuation is readily available. Real estate reported on level 3 is property owned by the pension funds. These positions are accounted for at the capitalised income value. The capitalisation based on sustainable recoverable earnings is conducted at interest rates that are determined individually for each property, based on the property's location, age and condition. If properties are intended for disposal, the estimated selling costs and taxes are recognised in provisions. Sales gains or losses are allocated to income from real estate when the contract is concluded.

The fair value of the insurance contract is based on the fair value of the assets backing the contract.

As of 31 December, the fair values of pension plan assets by level of input were as follows:

2021 USD millions	Fair value Quoted prices in active markets for identical assets (level 1)	Significant other observable inputs (level 2)	Significant unobservable inputs (level 3)	Investments measured at net asset value as practical expedient	Total
Assets					
Fixed income securities:					
Government debt securities	93	1 346			1 439
Corporate debt securities		1 635	9		1 644
RMBS/CMBS/ABS		132			132
Equity securities	1 347	111			1 458
Real estate	25		882		907
Other assets		106		1 248	1 354
Cash and cash equivalents	119				119
Total plan assets	1 584	3 330	891	1 248	7 053

2022 USD millions	Fair value Quoted prices in active markets for identical assets (level 1)	Significant other observable inputs (level 2)	Significant unobservable inputs (level 3)	Investments measured at net asset value as practical expedient	Total
Assets					
Fixed income securities:					
Government debt securities	119	833			952
Corporate debt securities		1 478	6		1 484
RMBS/CMBS/ABS		6			6
Equity securities	1 076	73			1 149
Real estate	11	9	919		939
Other assets		71		965	1 036
Cash and cash equivalents	78				78
Total plan assets	**1 284**	**2 470**	**925**	**965**	**5 644**

Assets measured at fair value using significant unobservable inputs (level 3)

For the years ended 31 December, the reconciliation of fair value of pension plan assets using significant unobservable inputs were as follows:

2021 USD millions	Real estate	Other assets	Total
Balance as of 1 January	861	11	872
Realised/unrealised gains/losses:			
Relating to assets still held at the reporting date	33	–1	32
Relating to assets sold during the period			0
Purchases, issuances and settlements	13		13
Transfers in and/or out of level 3			0
Impact of foreign exchange movements	–25	–1	–26
Closing balance as of 31 December	882	9	891

2022 USD millions	Real estate	Other assets	Total
Balance as of 1 January	882	9	891
Realised/unrealised gains/losses:			
Relating to assets still held at the reporting date	6	–2	4
Relating to assets sold during the period			0
Purchases, issuances and settlements	6		6
Transfers in and/or out of level 3			0
Impact of foreign exchange movements	25	–1	24
Closing balance as of 31 December	**919**	**6**	**925**

Expected contributions and estimated future benefit payments

The employer contributions expected to be made in 2023 to the defined benefit pension plans are USD 133 million and to the post-retirement benefit plans are USD 17 million.

As of 31 December 2022, the projected benefit payments, which reflect expected future service, not adjusted for transfers in and for employees' voluntary contributions, are as follows:

USD millions	Swiss plan	Foreign plans	Other benefits	Total
2023	297	88	17	402
2024	282	79	18	379
2025	276	81	18	375
2026	268	82	18	368
2027	256	83	17	356
Years 2028–2032	1 162	424	84	1 670

Defined contribution pension plans

The Group sponsors a number of defined contribution plans to which employees and the Group make contributions. The accumulated balances are paid as a lump sum at the earlier of retirement, termination, disability or death. The amount expensed in 2021 and 2022 was USD 87 million and USD 88 million, respectively.

15 Related parties

The Group conducts various investing activities, including loans, funding agreements and derivatives, with affiliated companies in the Swiss Re Group, but outside the Group. The Group also enters into various financing activities where it borrows funds from affiliated companies in the Swiss Re Group. In addition, the Group enters into various arrangements with affiliated companies in the Swiss Re Group for the provision of services. These activities result in the following related party transactions on the income statement and balance sheet:

USD millions	2021	2022
Revenues		
Net premiums written		1
Premiums earned	0	1
Net investment income – non-participating business	5	3
Net realised investment gains/losses – non-participating business	–90	22
Other revenues	2	1
Total revenues	–83	**27**
Expenses		
Operating expenses	–2 074	–1 924
Interest expenses	–104	–41
Total expenses	–2 178	**–1 965**

USD millions	2021	2022
Assets		
Policy loans, mortgages and other loans	60	60
Other invested assets	94	294
Other assets	92	30
Total assets	246	**384**
Liabilities		
Short-term debt	2 164	2 617
Long-term debt	1 898	3 075
Accrued expenses and other liabilities	2 659	2 423
Total liabilities	6 721	**8 115**

Share in earnings and dividends received from equity-accounted investees for the years ended 31 December, were as follows:

USD millions	2021	2022
Share in earnings of equity-accounted investees	717	–65
Dividends received from equity-accounted investees	196	187

An overview of the short-term financing activities between the Group and affiliated companies is shown below:

	Instrument	Issued in	Currency	Nominal in millions	Interest rate	Book value in USD millions
Short-term debt[1]						
	Senior loan	2022	USD	500	ARR SOFR + 0.71%	500
	Subordinated loan	2018	USD	430	5.75%	430
	Senior loan	2022	USD	3 000	3mLIBOR + 0.35%	1 500
	Senior loan	2022	USD	132	4.28%	132
	Senior loan	2019	USD	56	4.28%	56
Total short-term debt						**2 618**

[1] For subordinated debt positions, maturity is defined as the first optional redemption date.

Long-term financing activities between the Group and affiliated companies are disclosed in Note 11 "Debt and contingent capital instruments".

In 2015 and 2016, SRZ has entered into subordinated funding facilities with its parent company Swiss Re Ltd under which SRZ has the right, among others, to issue subordinated notes to Swiss Re Ltd at any time.

Until 10 May 2022 the facilities were undrawn and for its various rights, SRZ owed Swiss Re Ltd an unconditional fixed commitment fee on the total facility amount, payable in annual instalments. Annually, SRZ received a partial reimbursement of the commitment fee on the undrawn facility amount.

On 11 May 2022 the facilities were fully drawn and turned into subordinated notes. Therefore, the commitments fee and the related reimbursement ceased on the drawdown date and in return Swiss Re Ltd receives an annual interest payment from SRZ. The subordinated notes are disclosed in Note 11 "Debt and contingent capital instruments".

None of the members of the Board of Directors and the Group EC has any significant business connection with the Group or any of its Group companies. The Board member Susan L. Wagner is also a board member of BlackRock, Inc., which provides technology and asset management services to the Group. The Board member Joachim Oechslin served on an interim basis as a member of the Executive Board of Credit Suisse Group AG in 2021 and continues to serve as a Senior Advisor to Credit Suisse Group AG. The Group has a business relationship with Credit Suisse. It is also a credit provider, and a named dealer under the Group's Debt Issuance Programme. The Board member Philip K. Ryan was a member of the Smithsonian National Board until October 2022 and is currently a member of the Advisory Board at the Smithsonian Tropical Research Institute. In November 2022, Swiss Re has made a donation of USD 1 million to the Smithsonian American Women's History Museum. The Smithsonian National Board, the Smithsonian Tropical Research Institute and the Smithsonian American Women's History Museum are part of the Smithsonian Institution, a museum, education and research complex.

16 Commitments and contingent liabilities

As a participant in limited and other investment partnerships, the Group commits itself to making available certain amounts of investment funding, callable by the partnerships for periods of up to ten years. The total commitments remaining uncalled as of 31 December 2022 were USD 1 914 million.

The Group has entered into various real estate construction contracts. The commitments under the contracts amount to USD 61 million over the next six years.

The Group enters into a number of contracts in the ordinary course of re/insurance and financial services business which, if the Group's credit rating and/or defined statutory measures decline to certain levels, would require the Group to post collateral or obtain guarantees. The contracts typically provide alternatives for recapture of the associated business.

Legal proceedings
In the normal course of business operations, the Group is involved in various claims, lawsuits and regulatory matters. In the opinion of management, the resolution of these matters is not expected to have a material adverse effect on the Group's business, consolidated financial position, results of operations or cash flows.

17 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.

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 did not provide financial or other support to any VIEs during 2022 that it was not previously contractually required to provide.

Consolidated VIEs

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

USD millions	2021	2022
Fixed income securities available-for-sale	3 362	2 006
Short-term investments	42	130
Cash and cash equivalents	76	84
Accrued investment income	29	26
Premiums and other receivables	22	64
Funds held by ceding companies	4	11
Deferred acquisition costs	7	8
Deferred tax assets	121	249
Other assets	19	20
Total assets	3 682	**2 598**
Unpaid claims and claim adjustment expenses	89	139
Unearned premiums	25	25
Funds held under reinsurance treaties	4	14
Reinsurance balances payable	24	21
Deferred and other non-current tax liabilities	104	248
Accrued expenses and other liabilities	7	6
Long-term debt	1 859	1 587
Total liabilities	2 112	**2 040**

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

Non-consolidated VIEs

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

USD millions	2021	**2022**
Fixed income securities available-for-sale	1 465	1 671
Equity securities at fair value through earnings	114	64
Policy loans, mortgages and other loans	1 774	1 726
Other invested assets	2 805	2 772
Investments for unit-linked business	142	104
Total assets	6 300	**6 337**
Accrued expenses and other liabilities	35	35
Total liabilities	35	**35**

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:

			2021			**2022**
USD millions	Total assets	Total liabilities	Maximum exposure to loss[1]	Total assets	Total liabilities	Maximum exposure to loss[1]
Insurance-linked securitisations	837		855	893		987
Life and health funding vehicles	16		2 392	15		2 212
Swaps in trusts	60	35	–[2]	82	35	–[2]
Investment vehicles	2 859		2 859	2 739		2 739
Investment vehicles for unit-linked business	142			104		
Senior commercial mortgage and infrastructure loans	2 386		2 386	2 504		2 504
Total	6 300	35	–[2]	**6 337**	**35**	**–[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.

KPMG

Statutory Auditor's Report

To the General Meeting of Swiss Reinsurance Company Ltd, Zurich

Report on the Audit of the Consolidated Financial Statements

Opinion

We have audited the consolidated financial statements of Swiss Reinsurance Company Ltd and its subsidiaries (the Group), which comprise the consolidated balance sheet as at 31 December 2022, and the related consolidated income statement, statement of comprehensive income, statement of shareholders' equity, and statement of cash flows for the year then ended, and related notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements (pages 2 to 95) present fairly, in all material respects, the financial position of the Group as of 31 December 2022, and the results of its operations and its cash flows for the year then ended in accordance with U.S. generally accepted accounting principles and comply with Swiss law.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS) and in accordance with Swiss law and Swiss Auditing Standards (SA-CH). Our responsibilities under those provisions and standards are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements" section of our report. We are independent of the Group, and have fulfilled our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit, which include relevant ethical requirements in the United States of America, with the provisions of Swiss law and the requirements of the Swiss audit profession.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Key Audit Matters

VALUATION OF FIXED INCOME SECURITIES

VALUATION OF LIFE AND HEALTH RESERVES

VALUATION OF PROPERTY AND CASUALTY RESERVES

VALUATION OF DEFERRED TAX ASSETS ON LOSS CARRYFORWARDS

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

KPMG

VALUATION OF FIXED INCOME SECURITIES

Key Audit Matter

The Group has recorded $74,573 million of fixed income securities as of 31 December 2022. This balance is comprised of debt securities issued by governments and government agencies, corporations, and mortgage- and asset-backed securities. This amount is included in the fixed income securities line item on the consolidated balance sheet.

The determination of the fair value of these investments is based on assumptions, including credit and valuation spreads. The determination of assumptions requires subjectivity and judgment as the assumptions are based on internal estimates. The valuation of fixed income securities has been designated as a key audit matter given changes in the estimate could have a material impact on consolidated balance sheet. Auditing this balance involved an increased extent of audit effort, including the involvement of specialized skills and knowledge, due to the estimate uncertainty associated with the assumptions.

Our response

As part of our audit, we gained an understanding of the process related to the valuation of fixed income securities.

We tested the completeness, and accuracy of the data used in the fair value estimation by reconciling to source information.

We involved our valuation specialists with specialized skills and knowledge, as applicable, who assisted the audit team in:

- Assessing the pricing methodologies with reference to relevant accounting standards, and industry practice.
- Developing an independent estimate for a selection of securities, and comparison of the independent estimate to the Group's fair value estimate.

For further information on the Valuation of Fixed Income Securities refer to the following:

- Note 1
- Note 7
- Note 8

VALUATION OF LIFE AND HEALTH RESERVES

Key Audit Matter

The Group has recorded life and health reserves of $42,903 million as of 31 December 2022. Life, and health reserves are included in the life and health related unpaid claims and claim adjustment expenses, liabilities for life and health policy benefits, and policyholder account balances line items on the consolidated balance sheet (collectively, life and health reserves).

The determination or revision of assumptions requires subjectivity and judgment as these assumptions are generally not based on observable market inputs. These assumptions include mortality, morbidity, withdrawals, persistency (lapse), benefit termination rates and lag factors. Additional uncertainties related to the mortality assumption have arisen due to the on-going Coronavirus pandemic.

The valuation of life and health reserves has been designated as a key audit matter given the material nature of the balance and the significant estimation uncertainty and complexity of the mortality, morbidity,

Our response

As part of our audit, we gained an understanding of the process related to the valuation of life and health reserves. Further, we tested the design and implementation of certain key controls within the process, including the independent actuarial peer review and reserving committee level reviews.

We tested the completeness, and accuracy of the underlying policyholder contract data by reconciling to source information.

We involved our actuarial specialists with specialized skills, and knowledge, as applicable, who assisted the audit team in:

- Evaluating the methods applied to select the mortality, morbidity, persistency (lapse), benefit termination rates and lag factor assumptions by comparing them to generally accepted actuarial techniques;

withdrawals, persistency (lapse), benefit termination rates and lag factors. Auditing the estimate involved a high degree of auditor judgment and increased extent of audit effort, including the involvement of specialists with specialized skills and knowledge.

- Challenging the selected mortality, morbidity, persistency (lapse), benefit termination rates and lag factor assumptions where deviations from Group or industry experience were observed;
- Recalculating the liabilities for a risk-based sample and comparing the results of the recalculations to the Group's estimates.

For further information on the Valuation of Life and Health Reserves refer to the following:

- Note 1
- Note 5

VALUATION OF PROPERTY AND CASUALTY RESERVES

Key Audit Matter

The Group has recorded property and casualty reserves of $68,290 million as of 31 December 2022. Property and casualty reserves is included in the property and casualty related unpaid claims and claim adjustment expenses line item on the consolidated balance sheet.

The determination of assumptions used to develop the estimate requires subjectivity and judgment as these assumptions are generally not based on observable market inputs. Among the most significant assumptions are the initial estimates of loss ratios, which are used to estimate liabilities in the most recent accident years. Other assumptions include but are not limited to changes in exposure, inflation trends, claims emergence trends, and other legal or regulatory decisions. Additional uncertainties related to these assumptions have arisen due to the on-going Coronavirus pandemic. This includes legal interpretations of event aggregation clauses as well as terms and conditions, risks related to claims reporting, and social inflation.

Property and casualty reserves associated with long-tail lines of business, such as Liability, Asbestos and Environmental and Motor, generally require more subjectivity, and judgment due to the length of the claim reporting period resulting in increased volatility of claims frequency, and severity trends.

The valuation of property and casualty reserves has been designated as a key audit matter given the material nature of the balance and the significant estimation uncertainty and complexity of the actuarial assumptions. Auditing the estimate involved a high degree of auditor judgment and increased extent of audit effort, including the involvement of specialists with specialized skills and knowledge.

Our response:

As part of our audit, we gained an understanding of the process related to the valuation of property and casualty reserves. Further, we tested the design, and implementation of certain key controls within the process, including the independent peer review and committee level reviews.

We tested the completeness, and accuracy of the underlying data by reconciling to source information, and validating the appropriateness of claims triangles.

We involved our actuarial specialists with specialized skills, and knowledge, as applicable, who assisted the audit team in:

- Evaluating the methods applied to select the actuarial assumptions by comparing them to generally accepted actuarial techniques;
- Evaluating the Group's estimates by performing independent calculations of property and casualty reserves for certain lines of business;
- For certain lines of business where we performed independent calculations, developing a range of reserve estimates, and assessing the position of the Group's recorded reserve relative to the range;
- Assessing the Group's internally prepared actuarial analyses in comparison to internal experience, and related industry trends for certain lines of business.

For further information on the Valuation of Property and Casualty Reserves refer to the following:

- Note 1
- Note 5

VALUATION OF DEFERRED TAX ASSETS ON LOSS CARRYFORWARDS

Key Audit Matter

The Group has recorded deferred tax assets of $8,328 million (net of a valuation allowance of $232 million) as of 31 December 2022.

The recoverability of deferred tax assets, resulting from net operating losses, and temporary differences, is based on assumptions, including future profitability and tax planning measures. The determination of assumptions requires subjectivity and judgment as the assumptions are based on internal estimates.

The valuation of deferred tax assets has been designated as a key audit matter given changes in the estimate could have a material impact on net income (through income tax expense). Auditing the estimate involved an increased extent of audit effort, including the involvement of specialized skills and knowledge, due to the estimation uncertainty associated with the assumptions.

Our response:

As part of our audit, we gained an understanding of the process related to the valuation of deferred tax assets. Further, we tested the design, and implementation of certain key controls within the process, including independent review of items for valuation and recognition.

We tested the completeness, and accuracy of the underlying data by reconciling to source information.

We involved our tax specialists with specialized skills, and knowledge, as applicable, who assisted the audit team in:

- Assessing the future profitability assumption by performing sensitivity analyses, and the feasibility of the tax planning measures.

For further information on the Valuation of Deferred Tax Assets on Loss Carryforwards refer to the following:

- Note 1
- Note 13

Board of Directors' Responsibilities for the Consolidated Financial Statements

The Board of Directors is responsible for the preparation and the fair presentation of the consolidated financial statements in accordance with U.S. generally accepted accounting principles and the provisions of Swiss law, and for the design, implementation, and maintenance of internal control as the Board of Directors determines is necessary to enable the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the Board of Directors is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Group's ability to continue as a going concern for one year after the date that the consolidated financial statements are available to be issued; to disclose, as applicable, matters related to going concern; and to use the going concern basis of accounting unless the Board of Directors either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS, Swiss Law and SA-CH will always detect a material misstatement when it exists. Misstatements can arise from fraud or error, and the risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment or economic decisions made by a reasonable user based on these consolidated financial statements.

In performing an audit in accordance with GAAS, Swiss Law and SA-CH, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

— Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements.

— Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control. Accordingly, no such opinion is expressed.

— Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

— Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Group's ability to continue as a going concern for a reasonable period of time.

— Conclude on the appropriateness of the Board of Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the entity's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the entity to cease to continue as a going concern.

— Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

— Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities withing the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit of the Group. We remain solely responsible for our audit opinion.

We are required to communicate with the Board of Directors regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters, including any significant deficiencies, that we identified during our audit.

We also provide the Board of Directors or its relevant committee with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, actions taken to eliminate threats or safeguards applied.

From the matters communicated with the Board of Directors or its relevant committee, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report, unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Other Information in the Annual Report

The Board of Directors is responsible for the other information included in the annual report. The other information comprises the information included in the annual report, but does not include the consolidated financial statements, the stand-alone financial statements of the company and our auditor's report thereon. Our opinion on the consolidated financial statements does not cover the other information, and we do not express an opinion or any form of assurance thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information and, in doing so, consider whether a material inconsistency exists between the other information and the consolidated financial statements, or our knowledge obtained in the audit or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report. We have nothing to report in this regard.

Report on Other Legal and Regulatory Requirements

In accordance with article 728a para. 1 item 3 CO and PS-CH 890, we confirm that an internal control system exists, which has been designed for the preparation of the consolidated financial statements according to the instructions of the Board of Directors.

We recommend that the consolidated financial statements submitted to you be approved.

KPMG AG

Dr. Frank Pfaffenzeller
Licensed Audit Expert
Auditor in charge

Eric James Elman

Zurich, 15 March 2023

KPMG AG, Badenerstrasse 172, CH-8036 Zurich

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Annual Report
Swiss Reinsurance Company Ltd

The management report follows the regulations as outlined in article 961c of the Swiss Code of Obligations.

Reinsurance and sub-holding company
Swiss Reinsurance Company Ltd (the Company), domiciled in Zurich, Switzerland, performs a dual role within the Swiss Re Group as both a reinsurance company and a sub-holding company. The Company is a wholly owned subsidiary of Swiss Re Ltd, the ultimate parent company, domiciled in Zurich, Switzerland. In 2022, the Company employed a worldwide staff at an average of 1 628 full time equivalents.

Financial year 2022

The Company's net loss for 2022 amounted to CHF 581 million, mainly due to higher natural catastrophe losses, such as hurricane Ian in the US, losses related to the war in Ukraine and a strengthening of reserves due to inflation. The rising interest rate environment in 2022 resulted in significant releases of life and health reserves with a corresponding offsetting impact from value adjustments on shares in investment funds, as well as in higher net realised losses from fixed income securities.

Further, various assumption updates in the life and health business led to reserve increases, which were only partly offset by non-recurring gains from the restructuring of intragroup retrocession agreements in EMEA and Canada.

In addition, the financial year 2022 was characterised by significant foreign exchange impacts, affecting both the Company's income statement and balance sheet, mainly as a result of the strengthening of the US dollar and the weakening of major other currencies against the Swiss franc.

With CHF 11 771 million the total shareholder's equity of the Company remained strong as at 31 December 2022. The net decrease in 2022 of CHF 1 679 million was driven by the cash dividend payment for the financial year 2021 of CHF 1 107 million and the net loss for the financial year 2022 of CHF 581 million, partly offset by an increase in voluntary profit reserves from the merger with two direct subsidiaries of the Company, which resulted in a net gain of CHF 9 million.

Reinsurance result
Reinsurance result increased from CHF 44 million in 2021 to CHF 1 585 million in 2022.

Property & Casualty Reinsurance result decreased from a gain of CHF 1 393 million in 2021 to a loss of CHF 14 million in 2022, mainly due to higher natural catastrophe losses, including hurricane Ian in the US, flooding in South Africa and Australia, as well as hailstorms in France, compared to the prior year. In addition, the 2022 result was impacted by large losses related to the war in Ukraine and a strengthening of reserves due to inflation, which overshadowed the strong underwriting performance and favourable prior year developments.

Life & Health Reinsurance result increased from a loss of CHF 1 349 million in 2021 to a gain of CHF 1 599 million in 2022, reflecting significant reserve releases in 2022, following the rising interest rate environment, while the prior year suffered from large COVID-19 losses.

Premiums earned increased from CHF 22 615 million in 2021 to CHF 24 472 million in 2022. Premiums earned in property and casualty business increased, due to higher external business volume and retrocession agreements with affiliated companies in the US, including new business written with Swiss Re Corporate Solutions America Insurance Corporation, as well as to new business assumed from iptiQ EMEA P&C S.A. This was partly offset by higher business volume retroceded from the Company's Canadian branch to Swiss Re Nexus Reinsurance Company Ltd. Premiums earned in life and health business increased, mostly following new retrocession agreements with Lumico Life Insurance Company and iptiQ Life S.A. and new external retrocession agreements. In addition, the premiums earned were positively impacted by higher business volume with Swiss Re Life and Health America Inc. in 2022 and the inception of new business written in Asia, in the second half of 2021.

Claims incurred increased from CHF 16 202 million in 2021 to CHF 16 561 million in 2022, mostly related to higher natural catastrophe losses, partly offset by significant releases of life and health reserves, following the rising interest rate environment, and lower COVID-19 losses, compared to the prior year. The comparison of the individual claims line items is affected by the restructuring of several intragroup retrocession agreements, as well as by various large life and health transactions creating substantial changes year-over-year. In aggregate, these various movements fully offset each other.

Property and casualty claims paid and claim adjustment expenses net increased from CHF 8 776 million in 2021 to CHF 10 690 million in 2022, mainly due to higher external business volume and retrocession agreements with affiliated companies in the US. Property and casualty change in unpaid claims net increased from CHF 1 992 million in 2021 to CHF 2 666 million in 2022, primarily driven by higher natural catastrophe losses and a strengthening of reserves due to inflation in 2022, compared to the prior year. This was partly offset by reserve releases from natural catastrophes of prior years, mainly in property business in the US, and the reduction of COVID-19 reserves in casualty business.

Life and health claims paid and claim adjustment expenses net and change in unpaid claims net increased from CHF 4 755 million in 2021 to CHF 5 151 million in 2022, primarily impacted by the restructuring of retrocession agreements with Swiss Re Europe S.A., UK branch, and the inception of new business written in Asia, in the second half of 2021. These impacts were reflecting the change in reinsurance receivables and payables to cover the setup of the respective technical provisions and were fully offset in life and health benefits net.

Life and health benefits net increased from a loss of CHF 679 million in 2021 to a gain of CHF 1 946 million in 2022, reflecting significant reserve releases in 2022, following the rising interest rate environment, while the prior year suffered from large COVID-19 losses. The setup of technical provisions gross and reinsurance recoverable on technical provisions retroceded, respectively, related to the restructuring of retrocession agreements with Swiss Re Europe S.A., UK branch, as well as to the inception of new business written in Asia, in the second half of 2021, led to additional net income. These restructuring and large transactions were fully offset in life and health claims paid and claim adjustment expenses net and change in unpaid claims net.

Acquisition costs net increased from CHF 5 384 million in 2021 to CHF 5 635 million in 2022, mainly related to new intragroup retrocession agreements in life and health business in 2022. Acquisition costs in property and casualty business increased, due to higher external business volume in the US and retrocession agreements with Swiss Re Corporate Solutions America Insurance Corporation.

Investment result
Investment result decreased from a gain of CHF 635 million in 2021 to a loss of CHF 1 437 million in 2022. The decrease was driven by higher value adjustments on shares in investment funds, following the deterioration in market values, due to rising market yields in 2022. In the same context, the Company additionally incurred higher net realised losses from fixed income securities in 2022, compared to the prior year. In contrary to this, loans and fixed income securities generated higher income benefitting from rising market yields in 2022.

Other financial income and expenses
Other financial income and expenses increased from a net expense of CHF 471 million in 2021 to a net income of CHF 141 million in 2022. This increase was driven by a partial release of funds withheld liabilities with Swiss Re Nexus Reinsurance Company Ltd, following the rising interest rate environment in 2022. In addition, other financial income and expenses increased because of higher net gains from derivative financial instruments to cover foreign exchange, equity securities and credit risks.

Assets
Total assets decreased from CHF 134 137 million as of 31 December 2021 to CHF 133 912 million as of 31 December 2022.

Total investments decreased from CHF 79 464 million to CHF 79 381 million in 2022. Investments in subsidiaries and affiliated companies increased by CHF 468 million to CHF 26 245 million in 2022, due to various capital contributions of the Company to its subsidiaries and affiliated companies.

Fixed income securities increased by CHF 1 764 million to CHF 24 544 million in 2022, mainly related to reinvested proceeds from the reduction of securities lending and repurchase positions as well as cash, following the Company's strategic asset allocations to also take advantage of rising market yields.

Loans decreased by CHF 617 million to CHF 9 298 million in 2022, because of redemptions of loans with Swiss Re America Holding Corporation and Swiss Re International SE, partly offset by new infrastructure and commercial mortgage loans with external counterparties.

Shares in investment funds decreased by CHF 1 562 million to CHF 13 662 million in 2022, mainly reflecting value adjustments of CHF 2 099 million due to rising market yields. This was partially compensated by a new subscription of shares in an investment fund.

Funds held by ceding companies decreased from CHF 16 222 million to CHF 15 891 million in 2022. The property and casualty business increased, driven by higher external business volume of traditional business in the US. The decrease in life and health business was mainly due to lower funds held by external cedants in Americas, relating to modified coinsurance business.

Reinsurance recoverable on technical provisions retroceded decreased from CHF 13 628 million to CHF 13 022 million in 2022. The life and health business decreased, due to the rising interest rate environment and the restructuring of retrocession agreements with Swiss Re Europe S.A., UK branch, both resulting in a release of recoverable with Swiss Re Nexus Reinsurance Company Ltd. These impacts were partly offset by assumption updates for business retroceded from the Company's Beijing branch to Swiss Re Asia Pte. Ltd. The property and casualty business increased, mainly driven by retrocession agreements with Swiss Re Nexus Reinsurance Company Ltd and the Company's Canadian branch, as well as by external retrocession agreements, mainly in property business.

Premiums and other receivables from reinsurance increased from CHF 16 697 million to CHF 18 676 million in 2022. Both property and casualty as well as life and health business increased due to new retrocession agreements with affiliated companies. In addition, the increase in property and casualty business reflected higher business volume in Americas and EMEA, while the increase in life and health business was additionally related to new external retrocession agreements and higher business activity in Israel.

Other assets decreased by CHF 782 million to CHF 2 936 million in 2022, mainly due to lower positions related to securities lending and repurchase agreements.

Liabilities
Total liabilities increased from CHF 120 687 million as of 31 December 2021 to CHF 122 141 million as of 31 December 2022.

Technical provisions gross increased from CHF 83 462 million to CHF 83 567 million in 2022. The increase in property and casualty business was driven by higher external business volume in Americas and EMEA, as well as by new business assumed from affiliated companies in the US and from Swiss Re Europe S.A, UK branch. The increase was additionally due to higher natural catastrophe losses, such as hurricane Ian in the US, flooding in South Africa and Australia, hailstorms in France, as well as to losses related to the war in Ukraine and a strengthening of reserves due to inflation. The decrease in life and health liabilities was primarily driven by significant reserve releases, following the rising interest rate environment, particularly on retrocession agreements with affiliated companies in the US and with Swiss Re Europe S.A., UK branch, as well as in Australia and Canada. In addition, this decrease was driven by releases of COVID-19 reserves. These movements were partially offset by new external retrocession agreements and the assumption updates in the Company's Beijing branch.

Debt increased from CHF 3 051 million to CHF 4 548 million in 2022, mainly due to new loans with Swiss Re Finance Midco (Jersey) Ltd, Swiss Re Europe Holding S.A. and Swiss Re Asia Holding Pte. Ltd.

Funds held under reinsurance treaties decreased from CHF 7 866 million to CHF 6 256 million in 2022, mainly in life and health business, impacted by retrocession agreements with Swiss Re Nexus Reinsurance Company Ltd as a result of the termination of funds held in Canada and reserve adjustments, partly related to the restructuring of retrocession agreements with Swiss Re Europe S.A., UK branch.

Reinsurance balance payable increased from CHF 11 098 million to CHF 11 576 million in 2022, mostly in life and health business, impacted by higher payables to Swiss Re Nexus Reinsurance Company Ltd., partly related to the restructuring of retrocession agreements with Swiss Re Europe S.A., UK branch, and new retrocession agreements with Lumico Life Insurance Company and iptiQ Life S.A. The increase in property and casualty business was driven by the deposit accounting in Asia and external retrocession business in EMEA, as well as by retrocession agreements with Swiss Re International SE.

Subordinated liabilities increased from CHF 5 804 million to CHF 6 977 million in 2022, mainly related to the drawdown of funding facilities with Swiss Re Ltd of CHF 1 758 million, partly offset by the redemption of a public placed debenture with an external counterparty of CHF 518 million.

Shareholder's equity
Shareholder's equity decreased from CHF 13 450 million as of 31 December 2021 to CHF 11 771 million as of 31 December 2022.

The net decrease reflected the cash dividend payment for the financial year 2021 of CHF 1 107 million and the net loss for the financial year 2022 of CHF 581 million, partly offset by an increase in voluntary profit reserves from the merger with two direct subsidiaries of the Company, which resulted in a net gain of CHF 9 million.

Future prospects and business development

Property & Casualty Reinsurance business

Market environment

The global non-life reinsurance premiums grew by around 2% in real terms in 2022, driven by strength in commercial lines, which account for most of the demand from primary insurers. Demand from advanced markets grew by 1% year-over-year in real terms, while emerging markets expanded by 6%. Reinsurance price hardening continued and even gained momentum at the January to July 2022 renewals. Prices were higher year-over-year for both non-proportional and proportional reinsurance contracts in 2022, which supported premium growth and reinsurers' catastrophe-adjusted underwriting results.

Natural catastrophe losses were above average in 2022. This would make 2022 the fourth-costliest year on record for the insurance industry after 2005, 2011 and 2017. Hurricane Ian was the single largest loss event by far, which made landfall in western Florida in late September with extreme winds, torrential rain, and storm surge. A series of winter storms in Europe in February 2022 led to insured losses, putting this key peril back on the insurance industry radar. Australia experienced flooding in February and March that became the country's costliest-ever natural catastrophe. This was followed by numerous small to medium-sized hail- and thunderstorms in the US, and the most severe series of hailstorms ever observed in France.

Despite headwinds from elevated catastrophe losses, inflationary pressure on claims, and a challenging capital market environment, the sector's capital base remains very strong, allowing reinsurers to fulfil their role as the backbone of the insurance industry and to support societal resilience. With the successful January 2023 renewals exhibiting strong rate increases, higher retentions for primary insurers, and tighter terms and conditions, the profitability outlook for the reinsurance sector has significantly improved. Reinsurance industry premium income is forecast to grow by 7% in real terms in 2023, mainly driven by increased demand from property line of business.

Outlook

For property lines, natural catastrophe business has seen significant price increases in a hardening market. The Company will continue to leverage these attractive market conditions to improve its absolute margin, increase attachment points and grow in line with its risk appetite throughout 2023. Low-attaching structures are generally less attractive for the Company, due to the increased frequency of secondary perils. In specialty lines, there is positive momentum, and the Company continues to capitalise on its leading franchise in these lines with selected growth in engineering. In other lines, the Company will mainly focus on profitability, and will carefully manage accumulation to systemic risks such as war and recession.

The casualty reinsurance portfolio continues to focus on profitability and selective growth across all regions, while navigating a marketplace where demand and supply are in a fragile balance. Absolute margin has improved across the casualty portfolio, driven by disciplined growth, yield improvements, and prudent terms and conditions. In most sub-portfolios, loss trends are offset by rate improvements. Demand for transactions and solutions continues to provide a solid pipeline of new opportunities, which meet reinsurance's return requirements.

Life & Health Reinsurance business

Market environment

The global life and health reinsurance premiums declined by 5% in real terms in 2022. The underwriting of biometric and capital-light products continued to expand. Advanced markets grew in global reinsurance premiums, but growth in premiums was strongest in emerging markets, at 2% in 2022. This was largely driven by China where primary insurers' demand for reinsurance was high. In advanced markets, the life reinsurance market contracted by 3% in inflation-adjusted terms with the strongest decline in the advanced Asia-Pacific region.

In recent years life reinsurers have sought to increase revenues through large, individual risk transfer transactions that help primary insurers to stabilise their income and strengthen their balance sheets. The introduction of risk-based capital regimes has prompted much of this activity. In 2022, the high inflation, rising interest rate environment increased the capital cost associated with the risk of lapses, prompting new pockets of growth for reinsurance solutions. Longevity risk transfer is another growth area. The availability of longevity reinsurance has become key to the pricing of annuity transactions, as insurers offering the said transactions to pension funds typically look to simultaneously access reinsurance capacity to hedge at least part of the longevity risk inherent in these lines.

The Company forecasts global life reinsurance premiums to increase by 2% in 2023 and by 2% in 2024 in real terms, as the primary market gradually strengthens. Emerging Asia is expected to continue driving global growth, boosted by regulatory changes and government targets, particularly in India, but deceleration in China could slow its medium-term expansion. North America, advanced Europe and advanced Asia are expected to contract again in 2023, but to grow from 2024. The Company expects further seasonal COVID-19 waves, but operating margins should stabilise as COVID-19 related claims normalise. The uncertainty surrounding long COVID-19 poses downside risk.

Outlook
The increase in life and health treaty reinsurance new business continues to emerge, driven by increased customer awareness, with greater growth expected in emerging markets. Cession rates on normal core business are expected to remain broadly stable in major markets, while mortality premiums for new business or in-force transactions are increasing as a response to COVID-19 related losses.

Recent increases in interest rates benefit the business in the long term. The Company sees a continued strong focus from clients on capital, risk, and balance sheet optimisation in mature markets, leading to ongoing opportunities for large transactions. The Company also sees opportunities to respond to the expanding need for health protection, driven by ageing societies, and is applying its risk knowledge to help reduce the protection gap in all regions.

Corporate Solutions' business
Market environment
The global corporate solutions net premiums earned increased by 3%, benefitting from new business growth in selected focused portfolios along with continuous earn through of previously realised rate increases. Gross premiums written increased by 9%, driven by stable price momentum and new business growth in selected focus portfolios.

The continued profitability reflects a strong underwriting result and realised gains on insurance in derivative form. This enabled the Corporate Solutions' business unit to absorb lower income from investment results, reserves related to the war in Ukraine and significantly less favourable prior-year development compared with 2021.

Total large losses of 2022 were of a similar magnitude to 2021. Large man-made losses were higher than in the prior year, mostly related to the war in Ukraine, while large natural catastrophe losses were lower.

Outlook
Corporate Solutions' future path is centred around capturing profitable growth while leveraging distinctive competitive strengths with a focused portfolio strategy that will build resilience in all market cycles.

The significant risk-adjusted price gains experienced in the commercial insurance market in 2020 and 2021 continued at low levels during 2022. The Company expects rate hardening to regain momentum during 2023 as the global insurance industry faces multiple pressures. High inflation and large losses from both hurricane Ian and the war in Ukraine will continue to place upward pressure on rates to compensate for increased cost of capital. By contrast, as a result of declining market capacity, there is the possibility of an increase in retention layers, which together with a weakened macroeconomic outlook could reduce real premium growth.

Investments
Strategy and priorities
Financial investments are managed in accordance with the Company's Target Standard on Asset Management and the Company's investment guidelines, which are intended to ensure compliance with regulatory requirements. The general principle governing the management of investments in the Company is the creation of economic value based on returns relative to the liability benchmark, while adhering to the investment guidelines and the general prudence principle. The liability benchmark is determined by approximating an investable benchmark from projected liability cash flows. A cash benchmark is used for the economic surplus.

Outlook
The Company expects another challenging year for the global economy and financial markets in 2023. Global economic growth is forecast to slow from last year, while inflation is expected to stay above historic averages even though price increases have continued to decline in recent months. The Company thus entered the year with a cautious outlook for global financial markets.

The Company's investment portfolio continues to remain well-diversified across asset classes and regions, with a strong focus on quality. Subject to market developments, the Company aims to gradually increase credit exposure to lock in attractive spreads and yields. Private markets will remain an important pillar of the portfolio strategy and positioning, with deployment to occur as opportunities arise. The Company will also continue its strong focus on environmental, social and governance (ESG) considerations across the entire investment process to help reach its ambitious Group-wide net-zero emissions target for 2050. Finally, the expected market volatility will again require the Company to stay nimble and flexible in its investment positioning throughout the year.

Risk assessment

The Company's Board of Directors has issued a mandate to establish a Risk Management function to provide independent risk taking oversight for the Company and its subsidiaries. In executing this task, the Risk Management function is supported by the Swiss Re Group Risk Management organisation. Significant parts of risk exposure identification, assessment, control and reporting for Swiss Reinsurance Company Ltd (the Company) on a stand-alone basis are integrated in Group Risk Management processes.

The Board of Directors of Swiss Reinsurance Company Ltd sets the Company's risk tolerance. In this role, it is advised by the Board of Directors of the Swiss Re Group (Swiss Re), which approves the Group's risk strategy and Group Risk Policy. It also defines Group's risk appetite and tolerance, key principles for risk-taking and control and key capital structuring principles. The Board of Directors of Swiss Re Ltd (the Group Board) mainly performs risk oversight and governance through three committees:
- Finance and Risk Committee – annually reviews the Group Risk Policy and proposes it for approval to the Group Board, reviews risk and capacity limits approved by the Group Executive Committee as well as their usage across Swiss Re, and reviews the risk control framework.
- Investment Committee – reviews the risk analysis methodology and valuation methodology related to each asset class, and ensures that the relevant management processes and controlling mechanisms in Asset Management are in place.
- Audit Committee – assists the Board in fulfilling its oversight responsibilities relating to the integrity of financial statements and compliance with legal and regulatory requirements; it serves as an independent monitor of the Group's financial reporting process and internal controls.

The Group Board has delegated various risk management responsibilities to the Group Chief Risk Officer (the Group CRO). The Group CRO is responsible for providing the Board and Group Executive Committee with independent assurance that all of Swiss Re's risks are being appropriately modelled, governed and managed and that adequate controls are in place. As part of executing these responsibilities, the Group CRO is charged with establishing the Group's risk management framework for all risk categories.

The Group CRO is a member of the Group Executive Committee and reports directly to the Group CEO. He also advises the Chairman and the Group Board, including its respective committees, in particular the Finance and Risk Committee on significant matters arising in his area of responsibility. In addition, the Group CRO is also an Executive Committee member and the CRO of the Company, which is the main operating carrier for Swiss Re. The Group CRO leads the independent Risk Management function, which is responsible for risk oversight and control across Swiss Re. It provides assurance to executive management and boards of directors at all levels of Swiss Re that risk-taking is well controlled, in line with risk appetite, and complies with all internal and external regulations.The Risk Management function thus forms an integral part of Swiss Re's business model and risk management framework.

Swiss Re's Risk Management function comprises central departments that provide specialised risk expertise and oversight, as well as business level risk departments for Reinsurance, Corporate Solutions and iptiQ. The central risk management departments oversee Group liquidity and capital adequacy and maintain the Group frameworks for controlling these risks throughout Swiss Re. They also support CROs at Group and legal entity level in discharging their oversight responsibilities. They do so by providing services, such as:
- Financial risk management
- Specialised risk category expertise and accumulation control
- Risk modelling and analytics
- Regulatory relations management
- Maintaining the central risk governance framework.

The Risk Management function is also in charge of actuarial reserving and monitoring of reserve holdings for property and casualty business, while for life and health business the setting of the reserves is performed by valuation actuaries within L&H Business Management.

While the Risk Management organisation is closely aligned to Swiss Re's business structure, in order to ensure effective risk oversight, all embedded teams and CROs remain part of the Group Risk Management function under the Group CRO, thus ensuring their independence as well as a consistent Group-wide approach to overseeing and controlling risks.

Risk management activities are complemented by Swiss Re's Group Internal Audit and Compliance units:
- Group Internal Audit performs independent, objective assessments of the adequacy and effectiveness of internal control systems. It evaluates the execution of processes within Swiss Re, including those within Risk Management.
- The Compliance function oversees Swiss Re's compliance with applicable laws, regulations, and rules, as well as the Code of Conduct. It also assists the Group Board, Executive Committee and other management bodies in identifying, mitigating and managing compliance risks.

Income statement
Swiss Reinsurance Company Ltd

For the years ended 31 December

Income statement

CHF millions	Note	2021	2022
Reinsurance			
Premiums written gross		27 998	30 575
Premiums written retroceded		–4 950	–5 511
Premiums written net		23 048	**25 064**
Change in unearned premiums gross		–378	–679
Change in unearned premiums retroceded		–55	87
Change in unearned premiums net		–433	**–592**
Premiums earned		22 615	**24 472**
Other reinsurance revenues		961	**927**
Total revenues from reinsurance business		23 576	**25 399**
Claims paid and claim adjustment expenses gross		–15 669	–18 587
Claims paid and claim adjustment expenses retroceded		3 599	3 747
Claims paid and claim adjustment expenses net		–12 070	**–14 840**
Change in unpaid claims gross		–3 612	–4 029
Change in unpaid claims retroceded		159	362
Change in unpaid claims net		–3 453	**–3 667**
Life and health benefits gross		–1 166	2 652
Life and health benefits retroceded		487	–706
Life and health benefits net		–679	**1 946**
Claims and claim adjustment expenses and life and health benefits		–16 202	**–16 561**
Claims incurred		–16 202	**–16 561**
Acquisition costs gross		–6 268	–6 497
Acquisition costs retroceded		884	862
Acquisition costs net		–5 384	**–5 635**
Operating costs		–1 138	**–1 098**
Acquisition and operating costs		–6 522	**–6 733**
Other reinsurance expenses		–808	**–520**
Total expenses from reinsurance business		–23 532	**–23 814**
Reinsurance result		44	**1 585**

CHF millions	Note	2021	2022
Investments	2		
Investment income[1]		1 255	**1 367**
Investment expenses[1]		–620	**–2 804**
Investment result		635	**–1 437**
Other financial income and expenses			
Other financial income[1]		1 665	**3 057**
Other financial expenses[1]		–2 136	**–2 916**
Operating result		208	**289**
Interest expenses on debt and subordinated liabilities		–319	**–437**
Other income and expenses			
Other income		242	**132**
Other expenses		–450	**–541**
Loss before income tax expense		–319	**–557**
Income tax expense		–20	**–24**
Net loss		–339	**–581**

[1] In 2021, intracompany balances related to cash pooling and securities lending and repurchase agreements were presented in the balance sheet and income statement on a gross basis. For comparison purposes, the previously reported figures in 2021 have been changed to a net presentation in line with the figures in 2022. Details are disclosed in note 1 "Significant accounting principles" on page 117.

The accompanying notes are an integral part of Swiss Reinsurance Company Ltd's financial statements.

Balance sheet Swiss Reinsurance Company Ltd

As of 31 December

Assets

CHF millions	Note	2021	2022
Investments			
Investments in subsidiaries and affiliated companies		25 777	**26 245**
Fixed income securities		22 780	**24 544**
Loans		9 915	**9 298**
Equity securities		599	**470**
Shares in investment funds		*15 224*	*13 662*
Short-term investments		*4 345*	*4 241*
Alternative investments		*824*	*921*
Other investments		20 393	**18 824**
Total investments		79 464	**79 381**
Financial and reinsurance assets			
Assets in derivative financial instruments	18	937	**591**
Funds held by ceding companies		16 222	**15 891**
Cash and cash equivalents		563	**329**
Reinsurance recoverable from unpaid claims	3	*5 546*	*5 661*
Reinsurance recoverable from liabilities for life and health policy benefits	3	*7 216*	*6 329*
Reinsurance recoverable from unearned premiums	3	*793*	*961*
Reinsurance recoverable from provisions for profit commissions	3	*73*	*71*
Reinsurance recoverable on technical provisions retroceded		13 628	**13 022**
Tangible assets		9	**7**
Deferred acquisition costs	3	2 189	**2 312**
Intangible assets		127	**128**
Premiums and other receivables from reinsurance	3	16 697	**18 676**
Other receivables[1]		333	**375**
Other assets[1]		3 718	**2 936**
Accrued income		250	**264**
Total financial and reinsurance assets		54 673	**54 531**
Total assets		134 137	**133 912**

[1] In 2021, intracompany balances related to cash pooling and securities lending and repurchase agreements were presented in the balance sheet and income statement on a gross basis. For comparison purposes, the previously reported figures in 2021 have been changed to a net presentation in line with the figures in 2022. Details are disclosed in note 1 "Significant accounting principles" on page 117.

The accompanying notes are an integral part of Swiss Reinsurance Company Ltd's financial statements.

Liabilities and shareholder's equity

CHF millions	Note	2021	2022
Liabilities			
Technical provisions gross			
Unpaid claims	3	56 627	59 368
Liabilities for life and health policy benefits	3	17 458	14 371
Unearned premiums	3	8 842	9 319
Provisions for profit commissions	3	535	509
Total technical provisions gross		83 462	**83 567**
Non-technical provisions			
Tax provisions		43	61
Provision for currency fluctuation		1 573	1 621
Other provisions		287	169
Total non-technical provisions		1 903	**1 851**
Debt	11	3 051	**4 548**
Liabilities from derivative financial instruments		1 152	**736**
Funds held under reinsurance treaties		7 866	**6 256**
Reinsurance balances payable	3	11 098	**11 576**
Other liabilities[1]		6 158	**6 347**
Accrued expenses		193	**283**
Subordinated liabilities	11	5 804	**6 977**
Total liabilities		120 687	**122 141**
Shareholder's equity	4		
Share capital		34	34
Legal reserves from capital contributions		*6 437*	*5 330*
Legal capital reserves		6 437	5 330
Legal profit reserves		650	650
Voluntary profit reserves		6 637	6 646
Retained earnings/loss brought forward		31	–308
Net loss for the financial year		–339	–581
Total shareholder's equity		13 450	**11 771**
Total liabilities and shareholder's equity		134 137	**133 912**

[1] In 2021, intracompany balances related to cash pooling and securities lending and repurchase agreements were presented in the balance sheet and income statement on a gross basis. For comparison purposes, the previously reported figures in 2021 have been changed to a net presentation in line with the figures in 2022. Details are disclosed in note 1 "Significant accounting principles" on page 117.

The accompanying notes are an integral part of Swiss Reinsurance Company Ltd's financial statements.

Notes
Swiss Reinsurance Company Ltd

Reinsurance and sub-holding company
Swiss Reinsurance Company Ltd (the Company), domiciled in Zurich, Switzerland, performs a dual role within the Swiss Re Group as both a reinsurance company and a sub-holding company. The Company is a wholly owned subsidiary of Swiss Re Ltd, the ultimate parent company domiciled in Zurich, Switzerland.

1 Significant accounting principles

Basis of presentation
In general, the financial statements are prepared in accordance with Swiss Company Law. As a reinsurance company and based on Art. 111b of the Ordinance on the supervision of private insurance companies (ISO), the Company is also required to follow the Insurance Supervisory Ordinance-FINMA (ISO-FINMA). The ISO-FINMA contains specific guidance for presentation of the balance sheet, the income statement and the notes of insurance companies and overrides the general guidance of the Swiss Code of Obligations (SCO).

Time period
The 2022 financial year comprises the accounting period from 1 January 2022 to 31 December 2022.

Use of estimates in the preparation of annual accounts
The preparation of the annual accounts requires management to make significant estimates and assumptions that affect the reported amounts of assets, liabilities, income, and expenses as well as the related disclosures. Actual results could differ significantly from these estimates.

The COVID-19 pandemic has continued to add some degree of uncertainty during 2022, both in respect of estimation of claims across the insurance and reinsurance industry and assessments of the wider potential global health and economic impacts. The Company has recorded its best estimate of claims and claim adjustment expenses incurred as a result of the pandemic as of 31 December 2022, with the best estimate reflecting the Company's expectations based on current facts and circumstances.

Foreign currency translation
Assets and liabilities denominated in foreign currencies are converted into Swiss franc at year-end exchange rates except for participations and tangible assets, which are maintained in Swiss franc at historical exchange rates. Income and expenses in foreign currencies are converted into Swiss franc at average exchange rates for the reporting year.

Investments
Investments in subsidiaries and affiliated companies are carried at cost, less necessary and legally permissible value adjustments.

The Company's investments in subsidiaries and affiliated companies are summarised as a group for valuation purposes, when a close business link exists and a similarity in nature is given.

Fixed income securities are carried at their amortised cost, less necessary value adjustments to address other than temporary market value decreases.

The following assets are carried at cost or lower market value:
- Equity securities
- Shares in investment funds
- Alternative investments

Loans are carried at nominal value. Value adjustments are recorded where the expected recovery value is lower than the nominal value. Infrastructure and commercial mortgage loans are carried at their amortised cost, less necessary value adjustments to address other than temporary market value decreases.

Short-term investments contain investments with an original duration between three months and one year. Such investments are generally held until maturity and are measured at their amortised cost.

Subsequent recoveries of previously recorded downward value adjustments may be recognised up to the lower of cost or market value at the balance sheet date. The valuation rules prescribed by the Swiss Financial Market Supervisory Authority FINMA are observed.

Assets in derivative financial instruments

Assets in derivative financial instruments include reinsurance contract or features embedded in reinsurance contracts that fulfil the characteristics of derivative financial instruments and are generally accounted based on the lower of cost or market principle under Swiss Company Law. Derivative deals where the Company enters into two identical, but opposite directed derivatives are recorded at market value. In addition, assets in derivative financial instruments which have an observable market price and are traded in an active and liquid market are recorded at market value.

Funds held by ceding companies

Funds held by ceding companies consist mainly of assets that belong to the Company but are withheld by the cedent due to regulatory or legal requirements, or to retain control over investments and reduce a potential credit risk. Assets are initially measured based on the consideration received. Subsequently the funds held by ceding companies are measured at the consideration received or market value of the underlying assets.

Cash and cash equivalents

Cash and cash equivalents include cash at bank, short-term deposits, and certain investments in money-market funds with an original maturity of three months or less. Such current assets are held at nominal value.

Reinsurance recoverable on technical provisions retroceded

Reinsurance recoverable on technical provisions represents the retroceded part of the technical provisions. The respective accounting principle per technical provision category is described further under "Technical provisions gross".

Reinsurance business written by branches of the Company that is retroceded to affiliated companies, which is then retroceded back to the Company is presented on a gross basis.

Tangible assets

Tangible assets are carried at cost, less individually scheduled straight-line depreciation over their useful lives. Items of minor value are not capitalised.

Deferred acquisition costs

Deferred acquisition costs consist principally of commissions and are related to the generation of new reinsurance business. Property and casualty deferred acquisition costs are generally amortised in proportion to premiums earned. Life and health deferred acquisition costs will run-off on a prudent basis, typically linearly in a shorter term than the liabilities. The amortisation schedule can also be determined to be in line with the expected profits of the business, so no statutory profits are shown until the deferred acquisition costs are fully amortised.

Intangible assets

Intangible assets, consisting of capitalised development costs for software for internal use, are measured at cost less straight-line amortisation over the estimated useful life of software.

Premiums and other receivables from reinsurance

Premiums and other receivables from reinsurance are carried at nominal value after deduction of known credit risks if applicable. The position mainly consists of receivables from insurance companies and brokers.

Other assets

Other assets include deferred expenses on retroactive reinsurance policies, which are amortised through earnings over the expected claims-paying period, as well as rights in connection with securities lending collateral and reverse repurchase transactions, which are carried at nominal value.

The financial and operational leases are recorded on-balance-sheet. The lease assets and the lease liabilities for both, financial and operational leases, are carried at cost less corresponding amortisation of the assets and release of the liabilities over the useful life of the lease or rental goods.

Technical provisions gross

Unpaid claims are recognised based on information provided by clients and own estimates of expected claims experience, which are drawn from empirical statistics. These include provisions for claims incurred but not reported. Unpaid insurance obligations are set aside at the full expected amount of future payment.

Liabilities for life and health policy benefits are determined on the basis of actuarially calculated present values taking experience into account. Generally, a prospective gross premium valuation is applied. The method is prospective as it takes into account expected future cash flows inherent in the reinsurance contract from the valuation date until expiry of the contract obligations. The assumptions used in the valuation are based on estimates drawn from experience studies. Cash flows include primarily premiums, claims, commissions, profit commissions and expenses, with provisions for adverse deviations added for prudence to reflect the uncertainties of the underlying best estimates. The gross premium valuation approach may result in a negative liability provision, which is typically set to zero, in accordance with the Company's reserving policy. Under certain circumstances, a prudent allowance for deferred acquisition costs on financing treaties can be established. A loss ratio approach can be taken, mainly for Group business, and for individual risk premium lump sum business, where either information is limited, or a gross premium valuation is not possible due to practical constraints.

Modified coinsurance arrangements are treated on a gross basis with the separate recognition of the funds withheld, as well as the liabilities for life and health policy benefits.

Premiums written relating to future periods are stated as unearned premiums and are normally calculated by statistical methods. The accrual of commissions is determined proportionally and is reported under "Deferred acquisition costs".

Provisions for profit commissions are based on contractual agreements with clients and depend on the results of reinsurance treaties.

The equalisation provision for property and casualty business is established to achieve a protection of the balance sheet and to break peaks of incurred claims in individual financial years with an exceptionally high claims burden by releasing appropriate amounts from the provision.

The shares of technical provisions pertaining to retroceded business are determined or estimated according to the contractual agreement and the underlying gross business data per treaty.

Liabilities and consideration in connection with portfolio transfers are established through the respective lines in the income statement. Outstanding claims and liabilities are recorded as change in unpaid claims and life and health benefits, with the consideration being recognised as claims paid. The impact on unearned premiums is established through the change in unearned premiums, with the respective consideration accounted as premiums written. Any profit or loss on the portfolio transfer is reflected in other reinsurance revenues or other reinsurance expenses, respectively.

For property and casualty transfers of retroactive treaties, the initial set up of assets and liabilities is accounted as a balance sheet transaction.

Reinsurance business written by branches of the Company that is retroceded to affiliated companies, which is then retroceded back to the Company is presented on a gross basis.

Non-technical provisions

The provision for currency fluctuation comprises the net effect of foreign exchange gains and losses arising from revaluation of the balance sheet at year-end. This net effect is recognised in the income statement over a time period of up to nine years, based on the average duration of the technical provisions. Where the provision for currency fluctuation is insufficient to absorb net foreign exchange losses for the financial year, the provision for currency fluctuation is reduced to zero and the excess foreign exchange loss is recognised in the income statement.

Other provisions are determined according to business principles and are based on estimated needs and the tax provision in accordance with tax regulations.

Debt

Debt is held at redemption value.

Liabilities from derivative financial instruments

Derivative deals where the Company enters into two identical, but opposite directed derivatives are recorded at market value. In addition, liabilities in derivative financial instruments which have an observable market price and are traded in an active and liquid market are recorded at market value. All other liabilities from derivative financial instruments are generally maintained at the highest commitment amount per a balance sheet date during the life of the underlying contract. For such derivatives premiums received are generally not realised until expiration or settlement and deferred respectively.

Included in this position are reinsurance contracts or features embedded in reinsurance contracts that fulfil the characteristics of derivative financial instruments. For such contracts, premiums received may be recognised as income prior to contract expiration or settlement, in cases where the recorded commitment has already reached the maximum liability amount potentially payable under the terms of the respective contracts. Decreases in the liability amounts prior to expiration or settlement are only recognised as income for contracts for which hedging instruments are in place.

Funds held under reinsurance treaties
Funds held under reinsurance treaties mainly contain cash deposits withheld from retrocessionaires, which are stated at redemption value.

Reinsurance balances payable
Reinsurance balances payable are held at redemption value. The position mainly consists of payables to insurance companies and brokers.

Other liabilities
Other liabilities include rights in connection with repurchase agreements and securities lending transactions, which are held at redemption value.

Subordinated liabilities
Subordinated liabilities are held at redemption value.

Deposit arrangements
Contracts which do not meet risk transfer requirements, defined as transferring a reasonable probability of a significant loss to the reinsurer, are accounted as deposit arrangements. Deposit amounts are adjusted for payments received and made, as well as for amortisation or accretion of interest.

Other financial income and expenses
Other financial income and expenses mainly consist of gains and losses from derivative financial instruments to cover foreign exchange, equity securities, credit, and interest rate risks. In addition, this position comprises trademark license fees, interest income and expenses on current accounts and bank deposits, interests from cash pooling as well as from securities lending and repurchase agreements, and letters of credit fees.

Management expenses
Overall management expenses are allocated to the reinsurance business, the investment business and to other expenses on an imputed basis.

Foreign exchange transaction gains and losses
Foreign exchange gains and losses arising from foreign exchange transactions are recognised in the income statement and reported net in other expenses or other income, respectively.

Capital and indirect taxes
Capital and indirect taxes related to the financial year are included in other expenses. Value-added taxes are included in the respective expense lines in the income statement.

Income tax expense
The income tax expense relates to the financial year under report.

Income statement and balance sheet classification
In 2021, intracompany balances related to cash pooling and securities lending and repurchase agreements were presented in the balance sheet and income statement on a gross basis. For comparison purposes, the previously reported figures in 2021 have been changed to a net presentation in line with the figures in 2022. This changes the figures of 2021 in 2022 for the published line items: "Other receivables" by CHF –775 million to CHF 333 million (in 2021 reported: CHF 1 108 million), "Other assets" by CHF –31 million to CHF 3 718 million (in 2021: CHF 3 749 million), "Other liabilities" by CHF –806 million to CHF 6 158 million (in 2021: CHF 6 964 million), "Investment income" by CHF –4 million to CHF 1 255 million (in 2021: CHF 1 259 million), "Investment expenses" by CHF 4 million to CHF –620 million (in 2021: CHF –624 million), "Other financial income" by CHF –36 million to CHF 1 665 million (in 2021: CHF 1 701 million) and "Other financial expenses" by CHF 36 million to CHF –2 136 million (in 2021: CHF –2 172 million).

2 Investment result

CHF millions	Income	Value readjustments	Realised gains	**2022** Total
Investment income				
Investments in subsidiaries and affiliated companies	3			3
Fixed income securities	603		37	640
Loans	286			286
Equity securities	10	1	105	116
Shares in investment funds	*30*		*50*	*80*
Short-term investments	*43*		*0*	*43*
Alternative investments	*128*	*3*	*17*	*148*
Other investments	201	3	67	271
Income from investment services	51			51
Investment income	**1 154**	**4**	**209**	**1 367**

CHF millions	Expenses	Value adjustments	Realised losses	
Investment expenses				
Investments in subsidiaries and affiliated companies		–2		–2
Fixed income securities		–4	–364	–368
Loans			0	0
Equity securities		–25	–40	–65
Shares in investment funds		*–2099*	*–53*	*–2 152*
Short-term investments			*–58*	*–58*
Alternative investments		*–49*	*0*	*–49*
Other investments		–2 148	–111	–2 259
Investment management expenses	–110			–110
Investment expenses	**–110**	**–2 179**	**–515**	**–2 804**
Investment result				**–1 437**

CHF millions	Income	Value readjustments	Realised gains	2021 Total
Investment income				
Investments in subsidiaries and affiliated companies	102			102
Fixed income securities	474		144	618
Loans	170			170
Mortgages	0			0
Equity securities	18	7	169	194
Shares in investment funds	*4*		*14*	*18*
Short-term investments	*–4*		*4*	*0*
Alternative investments	*110*	*6*	*0*	*116*
Other investments	110	6	18	134
Income from investment services	37			37
Investment income	911	13	331	1 255

CHF millions	Expenses	Value adjustments	Realised losses	
Investment expenses				
Investments in subsidiaries and affiliated companies		–251		–251
Fixed income securities		0	–93	–93
Equity securities		–16	–18	–34
Shares in investment funds		*–104*		*–104*
Short-term investments			*–1*	*–1*
Alternative investments		*–20*		*–20*
Other investments		–124	–1	–125
Investment management expenses	–117			–117
Investment expenses	–117	–391	–112	–620
Investment result				635

3 Assets and liabilities from reinsurance

CHF millions	Gross	Retro	2021 Net / Total	Gross	Retro	2022 Net / Total
Deferred acquisition costs	2 378	−189	2 189	**2 504**	**−192**	**2 312**
Premiums and other receivables from reinsurance	14 725	1 972	16 697	**16 183**	**2 493**	**18 676**
Deferred expenses on retroactive reinsurance policies[2]	156	5	161	**118**	**5**	**123**
Unpaid claims	56 627	−5 546[1]	51 081	**59 368**	**−5 661[1]**	**53 707**
Liabilities for life and health policy benefits	17 458	−7 216[1]	10 242	**14 371**	**−6 329[1]**	**8 042**
Unearned premiums	8 842	−793[1]	8 049	**9 319**	**−961[1]**	**8 358**
Provisions for profit commissions	535	−73[1]	462	**509**	**−71[1]**	**438**
Reinsurance balances payable	7 673	3 425	11 098	**7 853**	**3 723**	**11 576**

[1] Reported under "Reinsurance recoverable on technical provisions retroceded" on page 112.
[2] Reported under "Other assets" on page 112.

4 Change in shareholder's equity

CHF millions	Share capital	Legal capital reserves	Legal profit reserves	Voluntary profit reserves	Retained earnings/ loss brought forward	Net income/ loss for the financial year	Total shareholder's equity
Shareholder's equity 1.1.2021	34	5 761	650	3 727	45	1 586	11 803
Allocations		−469		2 069	−14	−1 586	0
Dividend for the financial year 2020				−469			−469
Swiss Re Corporate Solutions Ltd merger[1, 2]		515					515
Swiss Re Life Capital Ltd merger[1, 3]		630		1 310			1 940
Net loss for the financial year						−339	−339
Shareholder's equity 31.12.2021	34	6 437	650	6 637	31	−339	13 450
Shareholder's equity 1.1.2022	34	6 437	650	6 637	31	−339	13 450
Allocations		−1 107		1 107	−339	339	0
Dividend for the financial year 2021				−1 107			−1 107
From mergers in 2022[4]				9			9
Net loss for the financial year						−581	−581
Shareholder's equity 31.12.2022	**34**	**5 330**	**650**	**6 646**	**−308**	**−581**	**11 771**

[1] Allocation of the merger gains to legal capital reserves, following the acceptance from Swiss Federal Tax Administration to qualify as legal capital reserves from capital contributions. The remaining merger gain was allocated to voluntary profit reserves. These allocations were reflected in the Company's books with an accounting effective date 1 January 2021.
[2] Swiss Re Corporate Solutions Ltd transferred total assets of CHF 11 521 million and total liabilities of CHF 11 006 million to the Company in the form of a merger with an accounting effective date 1 January 2021. The merger gain of CHF 515 million was reflected in the Company's books in legal capital reserves as shown in the table above.
[3] Swiss Re Life Capital Ltd transferred total assets of CHF 2 012 million and total liabilities of CHF 72 million to the Company in the form of a merger with an accounting effective date 1 January 2021. The merger gain of CHF 1 940 million was reflected in the Company's books in legal capital reserves and voluntary profit reserves, respectively, as shown in the table above.
[4] The merger with two direct subsidiaries resulted in a net gain of CHF 9 million. This merger gain was reflected in the Company's books in voluntary profit reserves with an accounting effective date 1 April 2022 and 1 October 2022, respectively, as shown in the table above.

5 Share capital and major shareholder

The share capital of the Company amounted to CHF 34 million. It is divided into 344 052 565 registered shares, each with a nominal value of CHF 0.10. The shares were fully paid-in and held directly by Swiss Re Ltd. As of 31 December 2022 and 2021, the Company was a wholly owned subsidiary of Swiss Re Ltd.

6 Contingent liabilities

Swiss Reinsurance Company Ltd has issued a number of guarantees to several of its subsidiaries and affiliated companies in support of their business activities by securing either their overall capital positions or specific transactions. These guarantees are generally not limited by a nominal amount but rather by the exposure of the underlying business.

The Company is part of the Swiss Re value added tax (VAT) group and is therefore jointly liable for existing and future VAT claims from the Swiss Federal Tax Administration.

In addition, as a component of the Swiss Re Group's financing structure, the Company has guaranteed CHF 3 119 million (2021: CHF 3 509 million) of debt issued by certain affiliated companies and letter of credit facilities benefiting various subsidiaries and affiliated companies of which no amount was utilised as of 31 December 2022 and 2021, respectively.

7 Securities lending and repurchase agreements

To enhance the performance of its investment portfolio, the Company enters into securities lending and repurchase transactions. In the context of such transactions, securities are transferred to the counterparty.

Further, the Company performs the role of the collateral clearer for the Swiss Re Group, centrally managing collateral for the Swiss Re Group, providing funding diversification, enabling secured cash investment and yield enhancement. As such the Company acts as principal in collateral transactions, borrowing securities from its affiliated companies and entering into lending and borrowing as well as repurchase and reverse repurchase agreements with third parties. As a matter of policy, the Company requires that collateral, consisting of cash or securities, is provided to cover the assumed counterparty risk associated with such transactions.

An overview of the fair value of securities transferred under securities lending and repurchase agreements is provided in the following table as of 31 December:

CHF millions	2021	**2022**
Fair value of securities transferred to third parties	15 320	**13 803**
Fair value of securities transferred to affiliated companies	14 576	**13 358**
Total	29 896	**27 161**

8 Security deposits

To secure the technical provisions at the 2022 balance sheet date, securities with a book value of CHF 11 564 million (2021: CHF 12 629 million) were deposited in favour of ceding companies, of which CHF 2 603 million (2021: CHF 3 049 million) referred to affiliated companies.

9 Commitments

As a participant in limited investment partnerships, the Company commits itself to making available certain amounts of investment funding, callable by the partnerships in general for periods of up to 10 years. As of 31 December 2022, total commitments remaining uncalled were CHF 609 million (2021: CHF 249 million).

In 2015 and 2016, the Company entered into subordinated funding facilities with its parent company Swiss Re Ltd under which the Company has the right, among others, to issue subordinated notes to Swiss Re Ltd at any time.

Until 10 May 2022, the facilities were undrawn and for its various rights, the Company owed Swiss Re Ltd an unconditional fixed commitment fee on the total facility amount, payable in annual instalments. Annually, the Company received from Swiss Re Ltd a partial reimbursement of the commitment fee on the undrawn facility amount.

On 11 May 2022, the facilities were fully drawn and turned into subordinated notes. Therefore, the commitment fee and the related reimbursement ceased on the drawdown date and in return Swiss Re Ltd receives from the Company an annual interest payment.

As of 31 December 2022 and 2021, Swiss Reinsurance Company Ltd held the following subordinated funding facilities:

As of 31 December 2022	Lender	Issued in	Maturity	Currency	Nominal value in millions	Nominal value in millions drawn[1]	Commitment fee (on total facility amount)	Partial reimbursement of commitment fee (on undrawn amount)
Subordinated funding facility	Swiss Re Ltd	2015	2030	USD	700	700	5.80%	2.22%
Subordinated funding facility	Swiss Re Ltd	2016	2036	USD	400	400	6.10%	2.13%
Subordinated funding facility	Swiss Re Ltd	2016	2032	USD	800	800	5.68%	1.95%

[1] The subordinated funding facilities were drawn on 11 May 2022 (reference to note 11 "Debt and subordinated liabilities" on page 124).

As of 31 December 2021	Lender	Issued in	Maturity	Currency	Nominal value in millions	Nominal value in millions drawn[1]	Commitment fee (on total facility amount)	Partial reimbursement of commitment fee (on undrawn amount)
Subordinated funding facility	Swiss Re Ltd	2015	2030	USD	700		5.80%	2.22%
Subordinated funding facility	Swiss Re Ltd	2016	2036	USD	400		6.10%	2.13%
Subordinated funding facility	Swiss Re Ltd	2016	2032	USD	800		5.68%	1.95%

[1] The subordinated funding facilities were fully undrawn as of 31 December 2021.

10 Investments in subsidiaries and affiliated companies

As of 31 December 2022 and 2021, Swiss Reinsurance Company Ltd held the following direct and material indirect investments in subsidiaries and affiliated companies:

As of 31 December 2022	Country	City	% Equity interest	% Voting interest
Swiss Brokers México, Intermediario de Reaseguro, S.A. de C.V.	Mexico	Mexico City	100%	100%
Swiss Re Brasil Resseguros S.A.	Brazil	São Paulo	99%	99%
Swiss Re Investments Holding Company Ltd	Switzerland	Zurich	100%	100%
Swiss Re Investments Company Ltd	Switzerland	Zurich	100%	100%
Swiss Re Investments Ltd	Switzerland	Zurich	100%	100%
Swiss Re Africa Limited	South Africa	Cape Town	100%	100%
Swiss Re Mexico Servicios, S. de R.L. de C.V.	Mexico	Mexico City	91%	91%
Swiss Re Reinsurance Holding Company Ltd	Switzerland	Zurich	100%	100%
Swiss Pillar Investments Ltd	Switzerland	Zurich	100%	100%
Swiss Re America Holding Corporation	United States (USA)	Wilmington	100%	100%
Swiss Re Capital Markets Corporation	United States (USA)	New York	100%	100%
Swiss Re Financial Markets Corporation	United States (USA)	Wilmington	100%	100%
Swiss Re Financial Products Corporation	United States (USA)	Wilmington	100%	100%
Swiss Re Life & Health America Holding Company	United States (USA)	Wilmington	100%	100%
Swiss Re Treasury (US) Corporation	United States (USA)	Wilmington	100%	100%
Swiss Reinsurance America Corporation	United States (USA)	Armonk	100%	100%
Swiss Re Asia Holding Pte. Ltd.	Singapore	Singapore	100%	100%
Swiss Re Asia Pte. Ltd.	Singapore	Singapore	100%	100%
Swiss Re Australia Ltd	Australia	Sydney	100%	100%
Swiss Re Life & Health Australia Limited	Australia	Sydney	100%	100%
Swiss Re Europe Holdings S.A.	Luxembourg	Luxembourg	100%	100%
Swiss Re Europe S.A.	Luxembourg	Luxembourg	100%	100%
Swiss Re Germany GmbH	Germany	Munich	100%	100%
Swiss Re Finance (Luxembourg) S.A.	Luxembourg	Luxembourg	100%	100%
Swiss Re Services Limited	United Kingdom (UK)	London	100%	100%
Swiss Re Nexus Reinsurance Company Ltd	Switzerland	Zurich	100%	100%
Swiss Re Services India Private Ltd	India	Mumbai	100%	100%
Swiss Reinsurance America Corporation - Escritório de Representação no Brasil Ltda	Brazil	São Paulo	20%	20%
Swiss Reinsurance Company Ltd - Escritório de Representação no Brasil Ltda	Brazil	São Paulo	100%	100%
Swiss Re Finance Limited	Cayman Islands	George Town	100%	100%
Vietnam National Reinsurance Corporation	Vietnam	Hanoi	25%	25%
Swiss Re Finance Holdings (Jersey) Limited	Jersey	Saint Helier	100%	100%
IptiQ Group Holding Ltd	Switzerland	Zurich	100%	100%
iptiQ Americas Inc.	United States (USA)	Wilmington	100%	100%
iptiQ Asia Holding Limited	Hong Kong SAR	Hong Kong	100%	100%
Swiss Re Life Capital EMEA Holding B.V.	Netherlands	Hoofddorp	100%	100%
Swiss Re Corporate Solutions Holding Company Ltd	Switzerland	Zurich	100%	100%
Swiss Re International SE	Luxembourg	Luxembourg	100%	100%
SR Corporate Solutions America Holding Corporation	United States (USA)	Wilmington	100%	100%
Westport Insurance Corporation	United States (USA)	Jefferson City	100%	100%
Swiss Re Corporate Solutions Africa Ltd	South Africa	Johannesburg	100%	100%
Swiss Re Corporate Solutions Brasil Holding Ltda	Brazil	São Paulo	100%	100%
Compañía Aseguradora de Fianzas S.A. Confianza	Colombia	Bogotá	51%	51%
Swiss Re Corporate Solutions Investment Holding Company Ltd	Switzerland	Zurich	100%	100%
Swiss Re Corporate Solutions México Seguros, S.A. de C.V.	Mexico	Mexico City	100%	100%
Swiss Re Corporate Solutions México Servicios, S. de R.L. de C.V.	Mexico	Mexico City	100%	100%

As of 31 December 2021	Country	City	% Equity interest	% Voting interest
Swiss Brokers México, Intermediario de Reaseguro, S.A. de C.V.	Mexico	Mexico City	100%	100%
Swiss Re Brasil Resseguros S.A.	Brazil	São Paulo	99%	99%
Swiss Re Investments Holding Company Ltd	Switzerland	Zurich	100%	100%
Swiss Re Investments Company Ltd	Switzerland	Zurich	100%	100%
Swiss Re Investments Ltd	Switzerland	Zurich	100%	100%
Swiss Re Africa Limited	South Africa	Cape Town	100%	100%
Swiss Re Mexico Servicios, S. de R.L. de C.V.	Mexico	Mexico City	91%	91%
Swiss Re Reinsurance Holding Company Ltd	Switzerland	Zurich	100%	100%
Swiss Pillar Investments Ltd	Switzerland	Zurich	100%	100%
Swiss Re America Holding Corporation	United States (USA)	Wilmington	100%	100%
Swiss Re Capital Markets Corporation	United States (USA)	New York	100%	100%
Swiss Re Financial Markets Corporation	United States (USA)	Wilmington	100%	100%
Swiss Re Financial Products Corporation	United States (USA)	Wilmington	100%	100%
Swiss Re Life & Health America Holding Company	United States (USA)	Wilmington	100%	100%
Swiss Re Treasury (US) Corporation	United States (USA)	Wilmington	100%	100%
Swiss Reinsurance America Corporation	United States (USA)	Armonk	100%	100%
Swiss Re Asia Holding Pte. Ltd.	Singapore	Singapore	100%	100%
Swiss Re Asia Pte. Ltd.	Singapore	Singapore	100%	100%
Swiss Re Australia Ltd	Australia	Sydney	100%	100%
Swiss Re Life & Health Australia Limited	Australia	Sydney	100%	100%
Swiss Re Europe Holdings S.A.	Luxembourg	Luxembourg	100%	100%
Swiss Re Europe S.A.	Luxembourg	Luxembourg	100%	100%
Swiss Re Germany GmbH	Germany	Munich	100%	100%
Swiss Re Finance (Luxembourg) S.A.	Luxembourg	Luxembourg	100%	100%
Swiss Re Services Limited	United Kingdom (UK)	London	100%	100%
Swiss Re Nexus Reinsurance Company Ltd	Switzerland	Zurich	100%	100%
Swiss Re Services India Private Ltd	India	Mumbai	100%	100%
Swiss Reinsurance America Corporation - Escritório de Representação no Brasil Ltda	Brazil	São Paulo	20%	20%
Swiss Reinsurance Company Ltd - Escritório de Representação no Brasil Ltda	Brazil	São Paulo	93%	93%
Swiss Re Finance Limited	Cayman Islands	George Town	100%	100%
Vietnam National Reinsurance Corporation	Vietnam	Hanoi	25%	25%
Champlain Reinsurance Company AG[1]	Switzerland	Zurich	100%	100%
Swiss Re Finance Holdings (Jersey) Limited	Jersey	Saint Helier	100%	100%
IptiQ Group Holding Ltd	Switzerland	Zurich	100%	100%
iptiQ Americas Inc.	United States (USA)	Wilmington	100%	100%
iptiQ Asia Holding Limited	Hong Kong SAR	Hong Kong	100%	100%
Swiss Re Life Capital EMEA Holding B.V.	Netherlands	Hoofddorp	100%	100%
Swiss Re Corporate Solutions Holding Company Ltd	Switzerland	Zurich	100%	100%
Swiss Re International SE	Luxembourg	Luxembourg	100%	100%
SR Corporate Solutions America Holding Corporation	United States (USA)	Wilmington	100%	100%
Westport Insurance Corporation	United States (USA)	Jefferson City	100%	100%
Swiss Re Corporate Solutions Africa Ltd	South Africa	Johannesburg	100%	100%
Swiss Re Corporate Solutions Brasil Holding Ltda	Brazil	São Paulo	100%	100%
Compañía Aseguradora de Fianzas S.A. Confianza	Colombia	Bogotá	51%	51%
Swiss Re Corporate Solutions Investment Holding Company Ltd	Switzerland	Zurich	100%	100%
Swiss Re Corporate Solutions México Seguros, S.A. de C.V.	Mexico	Mexico City	100%	100%
Swiss Re Corporate Solutions México Servicios, S. de R.L. de C.V.	Mexico	Mexico City	100%	100%

[1] Merger with Swiss Reinsurance Company Ltd with an accounting effective date 1 April 2022.

11 Debt and subordinated liabilities

The Company had outstanding debt and subordinated liabilities at the 2022 balance sheet date of CHF 11 526 million[1] (2021: CHF 8 855 million). Thereof CHF 8 702 million[1] (2021: CHF 6 089 million) were due within one to five years and CHF 2 824 million[1] (2021: CHF 2 766 million) were due after five years.

As of 31 December 2022, the following public placed debentures were outstanding:

Instrument	Issued in	Currency	Nominal in millions	Interest rate	Maturity/ First call in	Book value CHF millions
Senior bond	2014	CHF	250	1.000%	2024	250
Subordinated bond	2014	USD	500	4.500%	2024	463
Subordinated bond	2015	EUR	750	2.600%	2025	740
Senior bond	2015	CHF	250	0.750%	2027	250

[1] Thereof internal subordinated funding facilities with Swiss Re Ltd were drawn on 11 May 2022 in the amount of CHF 1 758 million (reference to note 9 "Commitments" on page 121). Thereof CHF 1 388 million were due within one to five years and CHF 370 million were due after five years.

12 Deposit arrangements

The following balances were related to deposit accounted reinsurance contracts:

CHF millions	2021	**2022**
Other reinsurance revenues	84	**143**
Claims paid and claim adjustment expenses gross	–27	**17**
Claims paid and claim adjustment expenses retroceded	24	**3**
Operating costs	–1	**0**
Other reinsurance expenses	–245	**24**
Funds held by ceding companies	116	**235**
Premiums and other receivables from reinsurance	2 826	**2 993**
Funds held under reinsurance treaties	52	**71**
Reinsurance balances payable	5 142	**5 097**

13 Claims on and obligations towards affiliated companies

CHF millions	2021	**2022**
Loans	9 027	**8 153**
Funds held by ceding companies	8 875	**8 418**
Premiums and other receivables from reinsurance	10 304	**11 773**
Other receivables	103	**109**
Other assets	830[1]	**332**[1]
Debt	2 551[2]	**4 048**[2]
Liabilities from derivative financial instruments	106	**68**
Funds held under reinsurance treaties	7 557	**5 816**
Reinsurance balances payable	8 125	**8 273**
Other liabilities	5 120[3]	**5 647**[3]
Subordinated liabilities	4 055[4]	**5 775**[4]

[1] Thereof at the 2022 balance sheet date CHF 52 million (2021: CHF 12 million) were on the parent company Swiss Re Ltd.
[2] Thereof at the 2022 balance sheet date CHF 2 024 million (2021: CHF 1 965 million) were towards the parent company Swiss Re Ltd.
[3] Thereof at the 2022 balance sheet date CHF 1 160 million (2021: CHF 1 425 million) were towards the parent company Swiss Re Ltd.
[4] Thereof at the 2022 balance sheet date CHF 2 155 million (2021: CHF 392 million) were towards the parent company Swiss Re Ltd.

14 Release of undisclosed reserves

In 2022, no net release of undisclosed reserves (2021: net release of CHF 29 million).

15 Obligations towards employee pension fund

As of 31 December 2022, there was no payable due to the employee pension fund. As of 31 December 2021, other liabilities included a payable to the emplyee pension fund of CHF 8 million.

16 Personnel information

As of 31 December 2022, the Company employed a worldwide staff at an average of 1 628 (2021: 1 402) full time equivalents. Personnel expenses for the 2022 financial year amounted to CHF 380 million (2021: CHF 407 million).

17 Auditor's fees

In 2022, the Swiss Re Group incurred total auditor's fees of CHF 26 million (2021: CHF 19 million) and additional fees of CHF 6 million (2021: CHF 1 million), of which CHF 13 million (2021: CHF 9 million) and CHF 0 million (2021: CHF 1 million), respectively, incurred for the Company.

18 Market value of assets in derivative financial instruments

As of 31 December 2022, the Company's book value of assets in derivative financial instruments which are measured at market value was CHF 591 million (2021: CHF 937million).

Proposal for allocation of disposable loss

The Board of Directors proposes to the Annual General Meeting of the Company, to be held on 22 March 2023, to approve the following allocations and payment of a cash dividend of USD 1 200 million, which must not exceed CHF 1 225 million, translated into CHF at spot rate on the settlement date. The cash dividend is paid to its sole shareholder, Swiss Re Ltd, out of voluntary profit reserves on 29 March 2023.

In order to comply with the Swiss Code of Obligations, dividends paid in foreign currencies must meet the capital protection requirements in CHF. In addition, maximum amounts in CHF must be approved by the Annual General Meeting. The Board of Directors proposes to set this maximum amount to CHF 1 225 million, which shall be fully funded from the legal reserves from capital contributions as presented in the tables below.

As such the effective allocation from the legal reserves from capital contributions to the voluntary profit reserves and the effective cash dividend amount, translated into CHF at spot rate on the settlement date, must not exceed CHF 1 225 million. This threshold of CHF 1 225 million is presented in the below tables and reflects the maximum amount in CHF to be allocated and paid.

Retained earnings / loss

CHF millions	2021	2022
Retained earnings/loss brought forward	31	**–308**
Net loss for the financial year	–339	**–581**
Disposable loss	–308	**–889**
Proposed allocation from voluntary profit reserves		
Retained loss after proposed allocation	–308	**–889**

Legal reserves from capital contributions

CHF millions	2021	2022
Legal reserves from capital contributions brought forward	5 292	**5 330**
From Swiss Re Corporate Solutions Ltd merger[2]	515	
From Swiss Re Life Capital Ltd merger[2]	630	
Legal reserves from capital contributions before proposed allocation to voluntary profit reserves	6 437	**5 330**
Proposed allocation to voluntary profit reserves in connection with the cash dividend	–1 200[1]	**–1 225[1]**
Legal reserves from capital contributions after proposed allocation to voluntary profit reserves	5 237	**4 105**

[1] The translation into CHF at spot rate on the settlement date may result in a lower allocation to voluntary profit reserves by a respective amount on the settlement date.
[2] Allocation of the merger gains to legal capital reserves, following the acceptance from Swiss Federal Tax Administration to qualify as legal capital reserves from capital contributions. These allocations were reflected in the Company's books with an accounting effective date 1 January 2021.

Voluntary profit reserves

CHF millions	2021	2022
Voluntary profit reserves brought forward	5 327	**6 637**
Proposed allocation to retained loss		
From Swiss Re Life Capital Ltd merger[3]	1310	
From mergers in 2022[4]		**9**
Voluntary profit reserves before proposed allocation from legal reserves from capital contributions and cash dividend	6 637	**6 646**
Proposed allocation from legal reserves from capital contributions	1 200[1]	**1 225[2]**
Proposed cash dividend (maximal amount in CHF of the proposed dividend in USD translated into CHF)	–1 200[1]	**–1 225[2]**
Voluntary profit reserves after proposed allocation from legal reserves from capital contributions and cash dividend	6 637	**6 646**

[1] The 2021 figure was recalculated based on the final cash dividend converted into CHF at spot rate on the settlement date.
[2] The translation into CHF at spot rate on the settlement date may result in a lower allocation from legal reserves from capital contributions and a lower cash dividend by a respective amount on the settlement date.
[3] The remaining merger gain was allocated to voluntary profit reserves in the Company's books with an accounting effective date 1 January 2021.
[4] The merger with two direct subsidiaries resulted in a net gain of CHF 9 million. This merger gain was reflected in the Company's books in voluntary profit reserves with an accounting effective date 1 April 2022 and 1 October 2022, respectively.

Zurich, 15 March 2023

Statutory Auditor's Report

To the General Meeting of Swiss Reinsurance Company Ltd, Zurich

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of Swiss Reinsurance Company Ltd (the Company), which comprise the balance sheet as at 31 December 2022, and the income statement for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the financial statements (pages 110 to 126) comply with Swiss law and the Company's articles of incorporation.

Basis for Opinion

We conducted our audit in accordance with Swiss law and Swiss Standards on Auditing (SA-CH). Our responsibilities under those provisions and standards are further described in the "Auditor's Responsibilities for the Audit of the Financial Statements" section of our report. We are independent of the Company in accordance with the provisions of Swiss law, together with the requirements of the Swiss audit profession and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

VALUATION OF CERTAIN HARDER TO VALUE INVESTMENTS

VALUATION OF LIFE AND HEALTH RESERVES

VALUATION OF PROPERTY AND CASUALTY RESERVES

IMPAIRMENT ASSESSMENT OF INVESTMENTS IN SUBSIDIARIES AND AFFIALIATED COMPANIES

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

VALUATION OF CERTAIN HARDER TO VALUE INVESTMENTS

Key Audit Matter

The Company generally carries its investments at cost or lower market value. In accordance with the Insurance Supervision Ordinance fixed income securities are carried at their amortised cost, less depreciation to address other than temporary market value decreases.

Certain harder to value, including fixed income securities (private placements), derivatives, and other invested assets, trade infrequently and therefore have little or no price transparency. The Company's estimation of fair value relies on unobservable assumptions, such as liquidity or credit considerations.

The determination of these unobservable assumptions requires subjectivity and judgment as these assumptions are generally not based on market activity. Unobservable assumptions, such as liquidity or credit considerations, among others, are based on internal estimates. The greater the number of unobservable assumptions used, the greater the amount of judgment used to determine the estimate.

The valuation of these investments has been designated as a key audit matter due to the increased extent of audit effort, including the involvement of specialists with specialized skills and knowledge. Auditing the unobservable inputs for these investments required a high degree of auditor judgment.

Our response

As part of our audit, we gained an understanding of the process related to the valuation of certain harder to value investments. Further, we tested the design and implementation of certain key controls within the process, including the independent price verification and impairment analyses.

We tested the completeness, and accuracy of the data used in the fair value estimation by reconciling to source information.

We involved our valuation specialists with specialized skills and knowledge, as applicable, who assisted the audit team in:

— Assessing the pricing methodologies with reference to relevant accounting standards, and industry practice;

— Developing an independent estimate for a selection of securities, and comparison of the independent estimate to the company's fair value estimate;

— Evaluating the assumptions used to determine the fair value of other investments by comparing to industry benchmarks.

For further information on the valuation of Certain Harder to Value Investments refer to the following:

— Note 1

VALUATION OF LIFE AND HEALTH RESERVES

Key Audit Matter

The Company has recorded liabilities for life and health reserves of CHF 14,371 million as of 31 December 2022. Liabilities for life and health policy benefits are in particular future policy reserves. Liabilities for life and health policy benefits are determined on the basis of actuarially calculated present values taking experience into account.

The determination or revision of best estimate assumptions requires subjectivity and judgment as these assumptions are generally not based on observable market inputs. These assumptions include mortality, morbidity, persistency (lapse), benefit termination rates and lag factors. Additional uncertainties related to the mortality assumption have arisen due to the on-going Coronavirus pandemic.

The valuation of liabilities for life and health policy benefits has been designated as a key audit matter given the material nature of the balance and the significant estimation uncertainty and complexity of the

Our response

As part of our audit, we gained an understanding of the process related to the valuation of life and health reserves. Further, we tested the design and implementation of certain key controls within the process, including the independent actuarial peer review and reserving committee level reviews.

We tested the completeness, and accuracy of the underlying policyholder contract data by reconciling to source information.

We involved our actuarial specialists with specialized skills, and knowledge, as applicable, who assisted the audit team in:

— Evaluating the methods applied to select the mortality, morbidity, persistency (lapse), benefit termination rates and lag factor assumptions by comparing them to generally accepted actuarial techniques;

mortality, morbidity, persistency (lapse), benefit termination rates and lag factors. Auditing the estimate involved a high degree of auditor judgment and increased extent of audit effort, including the involvement of specialists with specialized skills and knowledge.

— Challenging the selected mortality, morbidity, persistency (lapse), benefit termination rates and lag factor assumptions where deviations from Company or industry experience were observed;
— Recalculating the liabilities for a risk based sample and comparing the results of the recalculations to the Company's estimates;
— Reviewing the adequacy of PAD assumptions and assess the sufficient level of PAD margins.

For further information on the valuation of Life and Health Reserves refer to the following:

— Note 1
— Note 3

VALUATION OF PROPERTY AND CASUALTY RESERVES

Key Audit Matter

The Company has recorded property and casualty reserves of CHF 59,368 million as of 31 December 2022. Unpaid claims are determined on the basis of actuarially calculated present values taking experience into account.

The determination of assumptions used to develop the estimate requires subjectivity and judgment as these assumptions are generally not based on observable market inputs. Among the most significant assumptions are the initial estimates of loss ratios, which are used to estimate liabilities in the most recent underwriting years, and the loss development patterns. Other assumptions include but are not limited to changes in exposure, inflation trends, claims emergence trends, and other legal or regulatory decisions. Additional uncertainties related to these assumptions have arisen due to the on-going Coronavirus pandemic and inflation environment. This includes legal interpretations of event aggregation clauses as well as terms and conditions, risks related to claims reporting, and social inflation.

Unpaid claims associated with long-tail lines of business, such as Liability, Asbestos and Environmental and Motor, generally require more subjectivity, and judgment due to the length of the claim reporting period resulting in increased volatility of claims frequency, and severity trends.

The valuation of unpaid claims has been designated as a key audit matter given the material nature of the balance and the significant estimation uncertainty and complexity of the actuarial assumptions. Auditing the estimate involved a high degree of auditor judgment and increased extent of audit effort, including the involvement of specialists with specialized skills and knowledge.

Our response

As part of our audit, we gained an understanding of the process related to the valuation of property and casualty reserves. Further, we tested the design, and implementation of certain key controls within the process, including the independent peer review and committee level reviews.

We tested the completeness, and accuracy of the underlying data by reconciling to source information and validating the appropriateness of claims triangles.

We involved our actuarial specialists with specialized skills, and knowledge, as applicable, who assisted the audit team in:

— Evaluating the methods applied to select the actuarial assumptions by comparing them to generally accepted actuarial techniques;
— Evaluating the Company's estimates by performing independent calculations of unpaid claims for certain lines of business;
— For certain lines of business where we performed independent calculations, developing a range of reserve estimates and assessing the position of the Company's recorded unpaid claims relative to the range;
— Assessing the Company's internally prepared actuarial analyses in comparison to internal experience, and related industry trends for certain lines of business;
— Assessing the Company's internally prepared actuarial analyses and economic inflation assumptions in comparison to internal experience, and related industry trends for certain lines of business.

For further information on the valuation of Property and Casualty Reserves refer to the following:

- Note 1
- Note 3

IMPAIRMENT ASSESSMENT OF INVESTMENTS IN SUBSIDIARIES AND AFFILIATED COMPANIIES

Key Audit Matter

The Company has recorded investments in subsidiaries and affiliated companies of CHF 26,245 million as of 31 December 2022. Investments in subsidiaries and affiliated companies are recognised at acquisition cost or, in the case of expected permanent impairment, at the lower fair value. The investments in subsidiaries and affiliated companies are not listed on an active market. The company determines the fair value of investments in subsidiaries and affiliated companies, representing the difference between the fair value of assets and liabilities, using the internal established valuation method.

The recoverability of investments in subsidiaries and affiliated companies is supported by an impairment assessment by comparing the book value against the Company's determined fair value. Depending on the amount of the headroom between the book value and the determined fair value, the recoverability represents a higher risk.

The applied valuation method for the valuation of certain assets and liabilities uses assumptions which are partially based on internal estimate and therefore require subjectivity and judgment.

The impairment assessment for investments in subsidiaries and affiliated companies has been designated as a key audit matter given changes in the estimate could have a material impact on the recoverability. Auditing the impairment assessment involved a high degree of auditor judgment and increased extent of audit effort, due to the estimation uncertainty associated with the assumptions.

Our response

As part of our audit, we gained an understanding of the process related to the impairment assessment of investments in subsidiaries and affiliated companies. We performed a risk assessment to determine the amount of the headroom which would give us the scope of the investments in subsidiaries and affiliated companies with a higher risk on recoverability. For these investments in subsidiaries and affiliated companies we performed the following audit procedures:

- Assessing the appropriateness of the valuation method used against recognised accounting methods and Swiss Law;
- Assessing the client's fair value by using an alternative valuation method.

We involved our valuation specialists who supported the audit team in:

- Assessing the valuation methodologies in light of market knowledge and experience;
- Assessing the assumptions which have been used for the purpose of the impairment test.

For the investments in subsidiaries and affiliated companies with reinsurance or corporate solutions business, we involved our actuarial specialists who supported the audit team in:

- Performing a comparison of the used actuarial methods, models and assumptions across the liabilities for life and health policy benefits reserves between the internal valuation method and Swiss law;
- Challenging the applied discount rates for unpaid claims by comparing to external market information.

For further information on the Impairment Assessment of Investments in Subsidiaries and Affiliated Companies refer to the following:

- Note 1
- Note 2
- Note 10

Other Information

The Board of Directors is responsible for the other information. The other information comprises the information included in the annual report, but does not include consolidated financial statements, the stand-alone financial statements of the Company and our auditor's reports thereon.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Board of Directors' Responsibilities for the Financial Statements

The Board of Directors is responsible for the preparation of the financial statements in accordance with the provisions of Swiss law and the Company's articles of incorporation, and for such internal control as the Board of Directors determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Swiss law and SA-CH will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Swiss law and SA-CH, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made.
- Conclude on the appropriateness of the Board of Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company to cease to continue as a going concern.

We communicate with the Board of Directors or its relevant committee regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Board of Directors or its relevant committee with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, actions taken to eliminate threats or safeguards applied.

From the matters communicated with the Board of Directors or its relevant committee, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report, unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Report on Other Legal and Regulatory Requirements

In accordance with article 728a para. 1 item 3 CO and PS-CH 890, we confirm that an internal control system exists, which has been designed for the preparation of financial statements according to the instructions of the Board of Directors.

We further confirm that the proposed appropriation of available earnings complies with Swiss law and the Company's articles of incorporation. We recommend that the financial statements submitted to you be approved.

KPMG AG

Frank Pfaffenzeller

Dr. Frank Pfaffenzeller
Licensed Audit Expert
Auditor in Charge

Elina Monsch
Licensed Audit Expert

Zurich, 15 March 2023

KPMG AG, Badenerstrasse 172, CH-8036 Zurich

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", "target", "aim", "assume", "believe", "continue", "estimate", "expect", "foresee", "intend" and similar expressions, or by future or conditional verbs such as "will", "may", "should", "would" and "could". These forward-looking statements involve known and unknown risks, uncertainties and other factors, which may cause Swiss Re's (the "Group") actual results of operations, financial condition, solvency ratios, capital or liquidity positions or prospects to be materially different from any future results of operations, financial condition, solvency ratios, capital or liquidity positions or prospects expressed or implied by such statements or cause the Group to not achieve its published targets. Such factors include, among others:

- macro-economic events or developments including increased volatility of, and/or disruption in, global capital, credit, foreign exchange and other markets and their impact on the respective prices, interest and exchange rates and other benchmarks of such markets, and historically high inflation rates;
- the frequency, severity and development of, and losses associated with, insured claim events, particularly natural catastrophes, man-made disasters, pandemics, including the coronavirus ("COVID-19"), social inflation litigation, acts of terrorism or acts of war, including the ongoing war in Ukraine, and any associated governmental and other measures such as sanctions, expropriations and seizures of assets as well as the economic consequences of the foregoing;
- the Group's ability to comply with standards related to environmental, social and governance ("ESG"), sustainability and corporate social responsibility ("CSR") matters and to fully achieve goals, targets, or ambitions related to such matters;
- the Group's ability to achieve its strategic objectives;
- legal actions or regulatory investigations or actions, including in respect of industry requirements or business conduct rules of general applicability, the intensity and frequency of which may also increase as a result of social inflation;
- 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;
- mortality, morbidity and longevity experience;
- the cyclicality of the reinsurance sector;
- 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 realise 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;

- matters negatively affecting the reputation of the Group, its board of directors or its management;
- the lowering, loss or giving up 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;
- the outcome of tax audits, the ability to realise tax loss carryforwards and the ability to realise deferred tax assets (including by reason of the mix of earnings in a jurisdiction or deemed change of control), which could negatively impact future earnings, 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 as well as 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. Swiss Re undertakes no obligation to publicly revise or update any forward-looking statements, whether as a result of new information, future events or otherwise.

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

Note on risk factors

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

General impact of adverse market conditions
Swiss Re's operations as well as its investment returns are subject to conditions in the financial markets and macroeconomic factors. 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, including high inflation.

For example, higher replacement costs may lead to higher replacement costs than anticipated following a claim. In Property & Casualty Reinsurance, due to inflation and supply chain issues, costs to rebuild and repair structures have significantly increased and, as a result, there is a risk that Swiss Re's reserves may not be adequate to address such claims in the future.

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 a material adverse effect on the Group's investment and 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.

Impact of the military conflict in Ukraine and other geopolitical developments
The ongoing military conflict in Ukraine, sanctions, and other potential impacts on the global economic environment and currencies may cause demand for the Group's products to be volatile (particularly in Europe), cause abrupt changes in the Group's customers' buying patterns, result in higher than usual insurance claims (including in relation to aviation insurance claims), interrupt the Group's ability to supply products to this region or to fulfil contractual obligations or limit customers' access to financial resources, which may impact such customers' ability to satisfy obligations to the Group. In the event geopolitical tensions fail to abate or deteriorate further, additional sanctions may be enacted, which may adversely impact the global economy and supply chain, banking and monetary systems, markets or customers for Swiss Re's products. This could adversely affect Swiss Re's results or operations.

Sustainability and environmental, social and governance ("ESG") activities and disclosures
Swiss Re's investors, shareholders, business partners, customers and other third parties, including regulators and public authorities, are increasingly focused on environmental, social and governance ("ESG"), sustainability and corporate social responsibility ("CSR") endeavours and reporting. Swiss Re's statutory ESG reporting requirements will be due for the first time in 2024 with respect to the 2023 financial year. In addition, Swiss Re has a group sustainability strategy and a set of policies addressing ESG, sustainability, and CSR and is a founding member of the UN-convened Net-Zero Asset Owner Alliance and the UN-convened Net-Zero Insurance

Alliance (together, the "Alliances"). As a founding member of the Alliances, Swiss Re demonstrated its commitment to transition its investment and underwriting portfolios to net-zero greenhouse gas emissions by 2050 and Swiss Re played an instrumental role in the development of the methodology for insurance associated emissions and the development of the target setting protocols, which in turn will be used by members of the Alliances as a basis to set independently sustainability targets. Net-zero means that for every tonne of greenhouse gas emissions that cannot be avoided, an equivalent amount of CO_2 needs to be removed from the atmosphere and stored permanently.

Swiss Re may be subject to greater scrutiny when it comes to its own CSR, ESG and/or sustainability endeavours and reporting and commitment to transition its investment and underwriting portfolios to net-zero greenhouse gas emissions by 2050. If Swiss Re does not adapt to or comply with the evolving investor, shareholder, business partner or third party, including regulators and public authorities, expectations and CSR, ESG and/or sustainability recommendations, standards, norms, metrics or regulatory requirements and/or does not meet its CSR, ESG and/or sustainability targets, goals and/or ambitions, Swiss Re can be perceived to have not responded appropriately to CSR, ESG and/or sustainability recommendations, standards, norms, metrics or regulatory requirements. Furthermore, Swiss Re may suffer from reputational damage and/or litigation or regulatory proceedings, which could result in its financial condition, results of operations, business and prospects being materially and adversely affected. In addition, changes and uncertainty in relation to policies or regulations regarding sustainability, ESG or CSR matters as well as the fragmentation of ESG legislation globally, may result in potential litigation, higher regulatory and compliance costs and increased capital expenditures, which could result in Swiss Re's financial condition being materially and adversely affected.

In addition, Swiss Re's investors, shareholders, business partners and third parties look to ESG rating systems, or disclosure frameworks that have been developed by third party groups to allow comparisons between companies on ESG factors as they evaluate investment decisions as well as company disclosures. Swiss Re does not participate in all of the available rating systems, and would not necessarily score well in all of the available ratings systems. Further, the criteria used in these ratings systems change frequently, and Swiss Re cannot guarantee that it will be able to score well as criteria change. Failure to participate in certain third party ratings systems, failure to score well in those ratings systems or failure to provide certain ESG disclosures could result in reputational damage, which could result in Swiss Re's financial condition, results of operations, business and prospects being materially and adversely affected.

Risk of unexpected and unintended issues related to claims and coverage, including social inflation

As industry practices and legal, judicial, social and other environmental conditions change, unexpected and unintended issues related to risk of claims and coverage developing in an adversely different manner than originally anticipated may continue to emerge. Such issues have adversely affected, and may in the future adversely affect, the Group's business by either requiring it to extend coverage beyond its underwriting intent or by increasing the number or size of claims against the Group. For example, the trend of social inflation has increased liability claims against the Group in recent years. There has been an increase in severity of awards and settlements affecting excess and umbrella layers, particular in the US, as well as an increase in commercial automotive and general liability claims. The Group has continued to pro-actively strengthen its reserves and has considered the latest information and outlook related to such claims, including in relation to economic and social inflation when making its reserve decisions. In addition, the Group closely monitors the intersection between social inflation, economic inflation and loss trend and intends to adjust its pricing accordingly. The Group intends to continue to manage its exposure to large corporate risks in line with its cautious view on social inflation. Despite the Group's various measures to address these issues, there remains uncertainty on how these unintended issues related to claims and coverage may impact the Group's business. If the Group's reserving and pricing is not adequate to cover these issues, there could be an additional adverse effect for the Group's business, financial condition or results of operations.

Swiss Re's group structure continues to evolve

In February 2023, Swiss Re Ltd announced plans to streamline its organisational structure. The reorganisation, which aims to simplify structures, improve efficiency and client experience, will be effective 3 April 2023, subject to regulatory approval. The current Reinsurance Business Unit will be split into Property & Casualty Reinsurance and Life & Health Reinsurance, with each having full authority over the respective underwriting and claims management processes. Urs Baertschi, currently Chief Executive Officer Reinsurance EMEA, will lead Property & Casualty Reinsurance, while Paul Murray, currently CEO Reinsurance Asia Pacific, will lead Life & Health Reinsurance. Moses Ojeisekhoba, currently CEO Reinsurance, will take over leadership of Global Clients and Solutions. This Business Unit will contain the client management teams servicing Swiss Re's global reinsurance clients, Public Sector Solutions, iptiQ and Reinsurance Solutions. Corporate Solutions continues as a Business Unit under the leadership of Andreas Berger.

The reorganisation may present financial, managerial and operational risks, including an interruption of, or loss of momentum in the activities of one or more of Swiss Re's Business Units. In addition, it is not guaranteed that the reorganisation will simplify Swiss Re's structures, improve efficiency and client experience and the reorganisation process may prove to be more complex, time consuming and require substantially more resources than originally anticipated. Any delays or difficulties encountered in connection with the reorganisation, could result in Swiss Re's financial condition, results of operations, business and prospects being materially and adversely affected.

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 diseases, pandemics, epidemics and humanitarian crises) 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, such as Hurricane Ian, which made landfall in Florida in September 2022); 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, in particular, social inflation); 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.

Financial and capital market risk

Volatility and disruption in the global financial markets could expose the Group to significant financial and capital markets risk, including changes in interest rates, credit spreads, equity prices and foreign currency exchange rates, which may adversely impact the Group's financial condition, results of operations, liquidity and capital position. The Group's exposure to interest rate risk is primarily related to the market price and cash flow variability associated with changes in interest rates. In general, a higher interest rate environment is beneficial to the insurance and reinsurance industries, supporting earnings capacity via higher investment income. Additionally, an increase in interest rates results in an increase in the Group's Swiss Solvency Test ratio, while reducing US GAAP shareholders' equity. 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.

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. 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.

Legal, regulatory and tax 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 insurance, 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.

In the future, the Group could be involved in investigations and regulatory proceedings, which could result in adverse judgments, settlements, fines and other outcomes. These investigations and proceedings could relate to insurance or reinsurance matters, or could involve broader business conduct rules, including those in respect of market abuse, bribery, money laundering, sanctions, competition law, data protection and privacy or ESG, CSR and/or sustainability issues. 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.

Changes in the legal, regulatory or tax environment

Swiss Re and its subsidiaries operate 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, Luxembourg and Singapore. Swiss Re, as well as its Swiss-regulated entities, is subject to the Swiss Solvency Test and, through its legal entities and branches organised in the European Economic Area ("EEA"), Solvency II.

While certain regulatory processes are designed in part to foster convergence and achieve recognition of group supervisory schemes, the Group continues to face risks of extra-territorial application of regulations, particularly as to group supervision and group solvency requirements. In addition, regulators in jurisdictions beyond those where the Group has core operations increasingly are playing a far greater oversight role, requiring more localised resources and, despite a predominantly local focus, also raise issues of a cross border nature. Furthermore, evolving regulatory schemes and requirements may be inconsistent or may conflict with each other, thereby subjecting the Group, particularly in light of the increasing focus on legal entities in isolation, to higher compliance and legal costs, as well as the possibility of higher operational, capital and liquidity costs.

On the international level, certain large insurance companies were designated as global systemically important insurers ("G-SIIs") and reinsurance companies faced potential designation as G-SIIs. While the Financial Stability Board ("FSB") in consultation with the International Association of Insurance Supervisors ("IAIS") decided to discontinue the annual identification of G-SIIs, the IAIS will assess systemic risks through the holistic framework for systemic risk that entered into force in the beginning of 2020. The framework embraces an enhanced set of policy measures targeted at the exposures and activities that can lead to systemic risks from the insurance sector. The Group 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 is structured in any particular jurisdiction and how aspects of its business may be affected.

Current discussions on domestic systemically important insurers ("D-SIIs") are ongoing in certain jurisdictions.

Large internationally active insurance groups ("IAIGs"), which is a designation compiled by the IAIS as identified by group-wide supervisors, 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") – principles and standards on supervision of insurers which apply to insurance companies regardless of size and international exposures. ComFrame strengthens ICP requirements for IAIGs and, inter alia, proposes that the group-wide supervisor, in consultation with the host supervisors, should exercise discretion in requiring IAIGs to submit recovery plans. Swiss Re has been classified as an IAIG. The Group can neither predict which legislative and/or regulatory initiatives will be enacted or promulgated, nor their scope and content, their date of enactment or their implications for the industry, in general, and for the Group, in particular. The Group may be subject to changes in views of its supervisors 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. Notwithstanding the departure of the United Kingdom from the EU single market and customs union, continued uncertainty regarding the ways in which the future relationship between the United Kingdom and the European Union will evolve could also impact the legislative and/or regulatory regimes to which the Group is subject (including Solvency II), 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.

Risks relating to credit rating downgrades

Ratings are an important factor in establishing the competitive position of (re) insurance companies. Third party rating agencies assess and rate the financial strength of (re)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.

The Group's solicited ratings reflect the current opinion of the rating agencies with whom we maintain an interactive rating relationship for the purpose of solicited ratings. One or more of the Group's ratings could be downgraded or withdrawn in the future, or the Group may decide to give up such rating voluntarily. In addition, unsolicited ratings may also be downgraded or withdrawn, such as the 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, in their sole discretion, 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, changes in regulation, 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. In particular, it is possible that the Group's ratings could be negatively affected by a range of current challenges faced by the Group and the industry, such as the challenging market environment, the level of natural catastrophe losses, underwriting performance, changes in senior management, economic trends and financial market performance on the Group. Any of the foregoing, or a combination of the foregoing, could have a negative impact on the Group's business.

As financial strength ratings are a key factor in establishing the competitive position of (re)insurers, a decline in ratings of Swiss Re and/or the ratings of its key rated legal entities could make (re)insurance provided by the Group less attractive to clients relative to (re)insurance from competitors with similar or stronger ratings. A decline in ratings could also cause the loss of clients who are required by either policy or regulation to purchase (re)insurance only from (re)insurers with certain ratings, or whose confidence in the Group is otherwise diminished. Certain larger (re)insurance 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 both the Group's ability to rollover existing facilities and/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 and/or derivative arrangements. 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.

Coronavirus

The global spread of the coronavirus and the disease it causes ("COVID-19"), and the actions taken to slow the spread of the pandemic, have had an adverse impact on communities, social and business interactions, economic activity and economies across the globe. The global economy remains exposed to developments around the coronavirus. New developments, such as new strains of the virus which risk becoming vaccine-resistant, consequences brought by long-COVID 19, or recurring spreads of COVID-19, like the spread of COVID-19 that has taken place in China following the easing of strict lockdown measures in December 2022, could pose threats to the global economy. Nevertheless, the global insurance markets (as measured by premium growth) were less severely impacted by COVID-19 in 2022 than expected, attributed to digitalization, and increased consumers' risk awareness and so on. However, the global insurance industry remains exposed to adverse claims with regards to additional health care costs and higher mortality.

Legal challenges have been brought in a variety of jurisdictions, including, most notably, test cases brought in the United Kingdom by the Financial Conduct Authority, in respect of which the UK Supreme Court largely found on appeal in favour of holders of business interruption policies although certain issues remain to be decided and are pending in the UK courts. In Australia, a test case found largely in favour of insurance companies. Legal actions on a number of pandemic-related claims continue in a number of jurisdictions.

Many pandemic-related developments continue to interact with long-term trends on the insurance industry. It also remains to be seen how public-private partnership initiatives may evolve to address future pandemics.

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 catastrophic events, 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.

The Group includes in its annual report a separate section in respect of its results, including financial statements, prepared in accordance with the Group's proprietary economic value management ("EVM") principles ("EVM section"). Financial information included in the EVM section contains non-GAAP financial measures. The EVM principles differ significantly from US GAAP and, accordingly, the Group's results prepared in accordance with US GAAP will differ from its EVM results, and those differences could be material. The Group's annual EVM results can be more volatile than the US GAAP results because, among others, assets and liabilities are measured on a market consistent basis, profit recognition on new contracts is recognised at inception rather than over the lifetime of the contract, and life and health actuarial assumptions are on a best estimate basis as opposed to generally being locked-in. The Group's EVM financial statements should not be viewed as a substitute for the Group's US GAAP financial statements.

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. The Group is also subject to credit and other risks in its credit business, including reliance on banks that underwrite and monitor facilities in which the Group participates and potential default by borrowers under those facilities.

Liquidity risks

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

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

Unexpected liquidity needs (including to meet collateral calls) could require the Group to 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 intragroup 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, restructuring, regulatory intervention, 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 than government bonds.

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

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