Zurich Insurance Group

Risk review

Annual results 2016

Risk review

Message from our Group Chief Risk Officer

Taking risk is inherent to the insurance business, but such risk taking needs to be made in an informed and disciplined way, and within a pre-determined risk appetite and tolerance. This is the primary objective of Zurich's risk management.

Cecilia Reyes
Group Chief Risk Officer

Enterprise risk management

Our enterprise risk management framework supports achievement of the Group's strategy and helps protect capital, liquidity, earnings and reputation.

In 2016, we expanded our risk appetite statement to cover additional dimensions, enhanced our governance of model risk, and deepened our technical risk expertise. With that expertise, our risk function has improved its ability to independently challenge the business and to strengthen analyses of such topics as inflation risk and risk accumulations.

Also in 2016, Standard & Poor's upgraded its rating of Zurich's ERM from 'strong' to 'very strong,' noting a positive view of our risk management culture, risk controls, emerging risk management, risk models and strategic risk assessment.

External and internal challenges

The external environment continues to present challenges, including political uncertainty, market volatility and increasing cyber risk across all sectors. Our financial plan is primarily driven by internal efforts, relying on our staff's technical skills and capabilities, with a strong focus on cost discipline. The plan does not rely on factors Zurich does not control.

We use our Total Risk Profiling™ process to stay on top of both external and internal risks to our strategy and financial plan. Among the risks we identified in 2016 are the uncertainties regarding the path of Brexit, inflation risk, cyber risk, and risks to execution of our transformation.

"Understanding risks is a way to embrace change"

Own Risk and Solvency Assessment

In 2016, we produced our second Own Risk and Solvency Assessment, as required by the Swiss regulator, FINMA. We strengthened analysis of our risk profile and forward-looking scenarios, based on our extended risk appetite framework. Multi-year scenarios address causality across time, geography, products and risk. Our risk analysis shows that the main driver of capital-at-risk is market risk, while premium and reserve risks contribute most to volatility of earnings. These risks are recognized and closely managed as part of our enterprise risk management framework. Actions, both preventative and, if necessary, reactive, are in place at the level of the organization where they are most appropriate.

Financial condition tested under stressed perspective

Stress scenarios demonstrate the capital resilience of the Group. Zurich uses sensitivity and scenario analyses to assess the potential impact of conditions under stress.

The Group identifies plausible threat scenarios, and quantifies their potential impact on financial resources, or capital required, or both. Depending on the outcome, the Group then develops, implements and monitors appropriate actions.

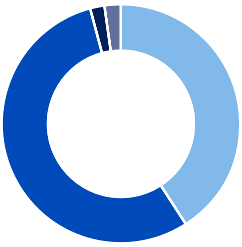
In this report, we present a Z-ECM ratio sensitivity analysis to seven market- and credit-risk scenarios, and three natural catastrophe scenarios. The Z-ECM ratio would remain within the 'AA' range for most scenarios. One market-risk sensitivity would cause the Z-ECM ratio to drop below the Group's risk tolerance under a capital perspective.

Economic risk profile

As of July 1, 2016, market risk, including investment credit risk, contributed 55% of the Z-ECM capital required, and insurance risk contributes 41%. Other credit risk and operational risk each contribute 2%. The increase in market risk from 49% in the previous year was the result of higher risk-taking in the first half of 2016 in light of market conditions. In the second half of the year, the Group adopted a strategy to reduce the market risk.

+ Pages 8 to 11 ›

Total Z-ECM capital required: USD 33.9 billion
%, as of July 1, 2016



Insurance risk	**41%**
Market risk, including investment credit risk	**55%**
Other credit risk	**2%**
Operational risk	**2%**

Highlights by risk type

→ **Insurance risk:** The Group diversifies its sources of revenue by geography, line of business, product and customer, and therefore is not exposed to concentrations of insurance risk beyond our risk appetite.

+ Pages 14 to 20 ›

→ **Market risk:** The Group began implementing a strategy to reduce market risk in order to reduce the risk of pro-cyclical behavior, mainly by reducing equity investments.

+ Pages 21 to 28 ›

→ **Other credit risk:** The high and stable credit quality of our reinsurance assets portfolio allows Z-ECM capital required for this risk type to remain stable, with little volatility.

+ Pages 29 to 31 ›

→ **Operational risk:** By mitigating and responding to cyber risks and threats to data security, we are better able to protect data and information in a rapidly evolving external environment.

+ Pages 32 to 34 ›

Risk review

Contents

The risk review is an integral part of the consolidated financial statements (only the information marked 'audited').

Audited

This 'audited' symbol indicates that the information contained within the shaded panel is audited and forms an integral part of the consolidated financial statements.

Audited

Risk and capital management

Objectives of risk management

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

The major risk management objectives at Zurich Insurance Group (Zurich, or the Group) are to:

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

Risk management framework

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

The Zurich Risk Policy is the Group's main risk governance document; it specifies the Group's risk tolerance, risk limits and authorities, reporting requirements, procedures to approve any exceptions and procedures for referring risk issues to senior management and the Board of Directors. Limits are specified per risk type. Ongoing assessments verify that requirements are met.

The Group regularly reports on its risk profile at local and Group levels. The Group has procedures to refer risk issues to senior management and the Board of Directors in a timely way. To foster transparency about risk, the Board receives quarterly risk reports and risk updates. In 2016, reporting was enhanced with in-depth risk insights into historical large losses and risk selection and pricing, and into the potential effects on Zurich of such topical issues as the Brexit vote in the UK, cyber risk, climate risk, and the Zika virus.

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

In 2016, S&P upgraded its rating of Zurich's enterprise risk management (ERM) from 'strong' to 'very strong', reflecting its positive view of Zurich's risk management culture, risk controls, emerging risk management and strategic risk assessment. The 'very strong' ERM assessment is also a result of the 'good' rating of the Group economic capital model (Z-ECM).

Risk review (continued)

Audited

In 2016, the Group extended its risk appetite statement with additional capital, liquidity, earnings volatility and non-financial metrics. The primary metric used to steer business remains the Z-ECM.

Group's Z-ECM overall risk appetite and tolerance

<90%	90–100%	100–120%	120–140%	>140%
Z-ECM ratio below Group risk tolerance level, requiring appropriate remedial actions	Position may be tolerated for a certain length of time depending on the risk environment	'AA' target range No action required as within stated objective and equivalent to 'AA' rating	Consider increased risk taking or remedial actions	Z-ECM ratio indicating over capitalization, requiring implementation of mitigating actions

Z-ECM ratio

The Group regularly measures and quantifies material risks to which it is exposed. Zurich's policy is to maintain capital consistent with an 'AA' financial strength rating for the Group. The Group translates that goal into a quantified risk tolerance. The Zurich Economic Capital Model (Z-ECM) provides a key input into the Group's strategic planning process as an assessment between the Group's risk profile and the Group's risk tolerance. The Z-ECM forms the basis for optimizing the Group's risk-return profile by providing consistent risk measurement across the Group.

Risk-based remuneration

Based on the Group's remuneration rules, the Board of Directors designs and structures remuneration arrangements to ensure they do not encourage inappropriate risk taking. The Group Chief Risk Officer (Group CRO) consults with the other assurance, control and governance functions to provide the CEO with a review of risk factors to consider in the annual variable-compensation process. In consultation with these functions, the Group CRO provides an individual assessment of Group key risk takers as part of their annual individual performance assessment. For more information on Zurich's remuneration system, see the 'remuneration report.'

Risk governance and risk management organization

For information on the Group's overall governance, including the Board of Directors and Group executive level, see the 'corporate governance report (unaudited).'

Risk management organization

The CRO leads the Group Risk Management function, which provides risk governance mechanisms to assess and manage risks effectively and efficiently with clear accountabilities, roles and responsibilities that enable disciplined risk taking throughout the Group. The Group CRO is responsible for oversight of risks across the Group, regularly reporting risk matters to the Group Chief Executive Officer, executive management committees and the Risk and Investment Committee of the Board.

The Group Risk Management function is a global function. It consists of teams at the Group, regional and business unit levels. Staff at Group level focus on model risk management; quantitative assessments of insurance, credit and operational risks; risk management frameworks, tools and methodologies; risk reporting; and risk governance. Chief Risk Officers at the business unit level focus on implementing Zurich's risk management framework locally, including early identification of risks with follow-up monitoring and mitigation actions. They report to the regional Heads of Risk, who in turn report to the Group's Chief Risk Officer. The CROs for the Group's largest business units report directly to the Group Chief Risk Officer.

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

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Objectives of capital management

The Group manages its capital to maximize long-term shareholder value while maintaining financial strength within its 'AA' target range, and meeting regulatory, solvency and rating agency requirements. In particular, the Group endeavors to manage its shareholders' equity under IFRS to balance maximization of shareholder value and constraints from its economic framework, rating agencies and regulators. Shareholders' equity of USD 30.7 billion and subordinated liabilities of USD 7.1 billion as of December 31, 2016 are part of the capital available in the Group's economic framework. Further adjustments usually include such items as intangible assets, deferred tax assets and liabilities, or allowing for discounting of liabilities and the value of in-force business. For more information, see 'analysis of the Group's Z-ECM available financial resources (unaudited).'

Zurich strives to simplify the Group's legal entity structure to reduce complexity and increase fungibility of capital. The Group pools risk, capital and liquidity centrally as much as possible.

Capital management framework

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

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

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

Capital management program

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

The Group seeks to maintain a balance between higher returns for shareholders on equity held, and the security a sound capital position provides. Dividends, share buy-backs, and issuances and redemption of debt have a significant influence on capital levels. In 2016, the Group paid a dividend out of the capital contribution reserve, and refinanced part of maturing senior debt and callable hybrid debt with new hybrid debt.

The Swiss Code of Obligations stipulates that dividends may only be paid out of freely distributable reserves or retained earnings. Apart from what is specified by the Swiss Code of Obligations, Zurich Insurance Group Ltd faces no legal restrictions on dividends it may pay to its shareholders. As of December 31, 2016, the amount of the general legal reserve exceeded 20 times the paid-in share capital.

The ability of the Group's subsidiaries to pay dividends may be restricted or indirectly influenced by minimum capital and solvency requirements imposed by insurance and other regulators in the countries in which the subsidiaries operate. Other limitations or considerations include foreign exchange control restrictions in some countries, and rating agencies' methodologies.

For details on issuances and redemptions of debt, see note 18 of the consolidated financial statements.

Risk review (continued)

Audited

Risk and solvency assessment

Economic capital adequacy

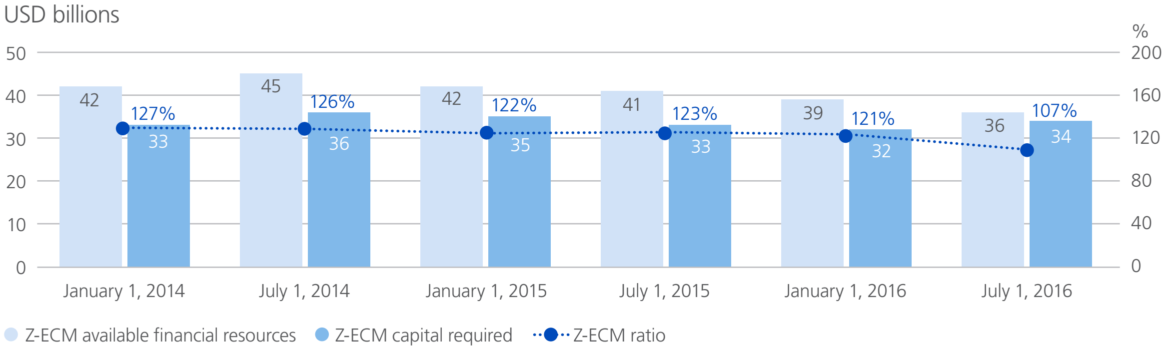
Internally, the Group uses its Zurich Economic Capital Model (Z-ECM), which also forms the basis of the Swiss Solvency Test (SST) model. Z-ECM targets a total capital level that is calibrated to an 'AA' financial strength. Zurich defines the Z-ECM capital required as being the capital required to protect the Group's policyholders in order to meet all of their claims with a confidence level of 99.95 percent over a one-year time horizon.

The Group uses Z-ECM to assess the economic capital consumption of its business on a one-balance-sheet approach. Z-ECM is an integral part of how the Group is managed. It is embedded in the Group's organization and decision-making processes, and is used in capital allocation, business performance management, pricing, reinsurance purchasing, transaction evaluation, risk optimization, and regulatory, investor, and rating agency communication. Z-ECM quantifies the capital required for insurance-related risk (including premium and reserve, natural catastrophe, business and life insurance), market risk, reinsurance, credit, and operational risks.

At the Group level, Zurich compares Z-ECM capital required to the Z-ECM available financial resources (Z-ECM AFR) to derive an Economic Solvency Ratio (Z-ECM ratio). Z-ECM AFR reflects financial resources available to cover policyholder liabilities in excess of their expected value. It is derived by adjusting the IFRS shareholders' equity to reflect the full economic capital base available to absorb any unexpected volatility in the Group's business activities.

The chart below shows the development of the Group's Z-ECM available financial resources, Z-ECM capital required and Z-ECM ratio over time. As of December 31, 2016, the Z-ECM ratio was estimated at 122%, with an error margin of +/–5 percentage points.

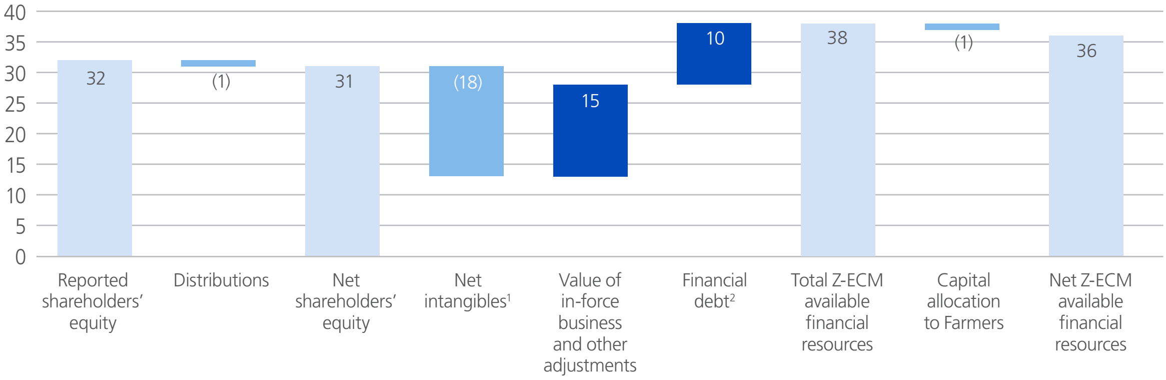
Analysis of the Group's Z-ECM available financial resources and Z-ECM capital required
USD billions



The chart below shows an analysis of the composition of the Group's Z-ECM available financial resources as of July 1, 2016.

Analysis of the Group's Z-ECM available financial resources

USD billions, as of July 1, 2016

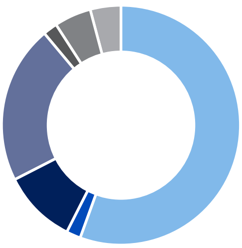


[1] Shareholders' intangible assets adjusted for taxes less deferred front-end fees and deferred tax liabilities.
[2] All debt issues (senior and subordinated) excluding those classified as operational debt or maturing within one year.

The chart below shows the Z-ECM capital required, split by risk, type as of July 1, 2016 and as of January 1, 2016 respectively. As of July 1, 2016, the largest proportion of Z-ECM capital required arose from market risk which comprised 55 percent of the total. Premium and reserve risk was the second-largest, comprising 21 percent.

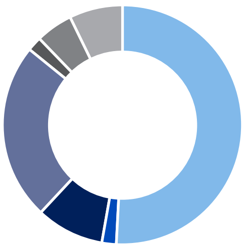
Z-ECM capital required split by risk type

July 1, 2016
Total Z-ECM capital required: USD 33.9 billion



Market risk	**55%**
Operational risk	**2%**
Business risk	**10%**
Premium & reserve risk	**21%**
Reinsurance credit risk	**2%**
Life insurance risk	**5%**
Natural catastrophe risk	**4%**

January 1, 2016
Total Z-ECM capital required: USD 32.3 billion



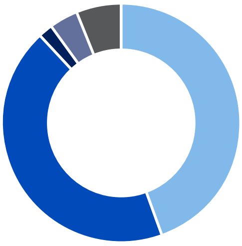
Market risk	**51%**
Operational risk	**2%**
Business risk	**9%**
Premium & reserve risk	**24%**
Reinsurance credit risk	**2%**
Life insurance risk	**5%**
Natural catastrophe risk	**7%**

Risk review (continued)

The following chart shows the Z-ECM capital required allocated to the segments as of July 1, 2016 and January 1, 2016. As of July 1, 2016 the largest proportions of Z-ECM capital required were allocated to General Insurance with 45 percent and to Global Life with 44 percent of the total. Total allocated capital as of July 1, 2016 equaled USD 33.9 billion Z-ECM capital required plus USD 1.2 billion allocation to Farmers.

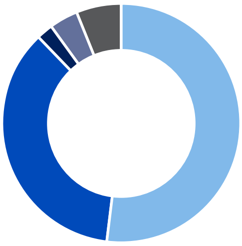
Total capital allocated, by segment

July 1, 2016
Total capital allocated: USD 35.1 billion



General insurance	45%
Life insurance	44%
Other Operating Businesses	2%
Farmers	4%
Non-Core Businesses	6%

January 1, 2016
Total capital allocated: USD 33.5 billion



General insurance	52%
Life insurance	36%
Other Operating Businesses	2%
Farmers	4%
Non-Core Businesses	6%

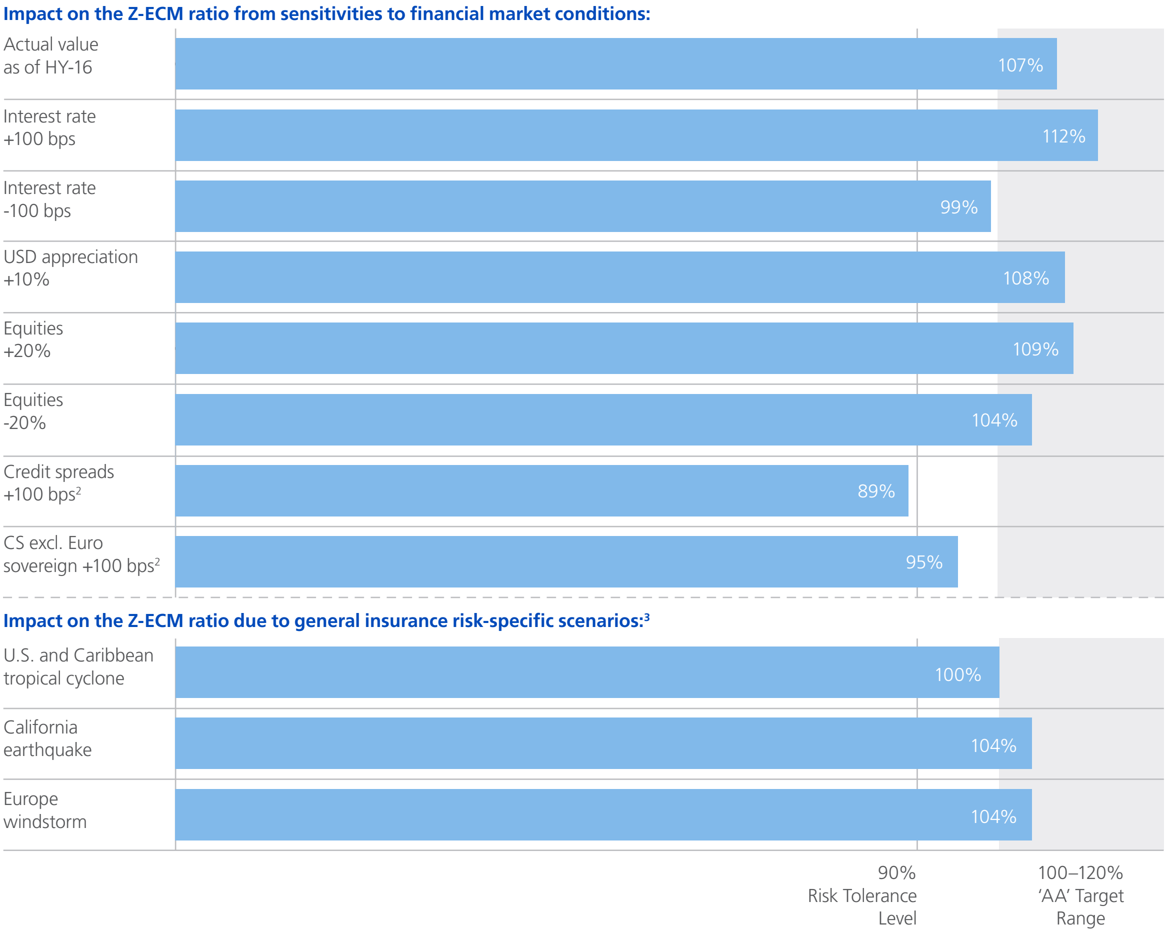
Sensitivity and scenario analysis

The Group evaluates sensitivities to, and stress scenarios on, the Z-ECM ratio, and presents results relative to our risk tolerance and appetite. The sensitivities and stress scenarios in the following chart capture two key risks to the Group: market and insurance risk. For insurance risk, the chart shows the three largest natural catastrophe events to which the Group is exposed.

Market risk sensitivities show the estimated impact on the Group's Z-ECM ratio of a one percentage point increase/decrease in yield curves, a 10 percent appreciation in the U.S. dollar, a 20 percent rise/decline in all stock markets, and a one percentage point change in credit spreads, with and without European sovereigns. The sensitivities are considered as separate but instantaneous scenarios. They are a best estimate and non-linear, i.e., will vary depending on prevailing market conditions at the time.

Scenarios are defined as events that have a very small probability of occurring but that could, if realized, negatively affect the Group's Z-ECM available financial resources. The impact of the changes to the required capital are not taken into account.

Z-ECM sensitivities and scenarios[1]
as of July 1, 2016



[1] Z-ECM is calibrated at 99.95% Value at Risk (equivalent to an 'AA' rating).
[2] Credit spreads (CS) include mortgages and incl./excl. Euro sovereign spreads. Sensitivity is net of profit sharing with policyholders.
[3] The insurance risk-specific scenarios relate to natural catastrophe events that are estimated on a modeled 250-year net aggregate loss (equivalent to a 99.6% probability of non-exceedance).

Risk review (continued)

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Insurance financial strength rating

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

The Group maintained its strong rating level in 2016. As of December 31, 2016, the IFSR of Zurich Insurance Company Ltd (ZIC), the main operating entity of the Group, was 'AA-' by Standard and Poor's, 'Aa3/stable' by Moody's, and 'A+/negative' by A.M. Best.

All three agencies left their outlook unchanged in 2016.

Regulatory capital adequacy

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

In each country in which the Group operates, the local regulator specifies the minimum amount and type of capital that each of the regulated entities must hold in addition to their liabilities. Besides the minimum capital required to comply with the solvency requirements, the Group aims to hold an adequate buffer to ensure regulated subsidiaries meet local capital requirements. The Group is subject to different capital requirements depending on the countries in which it operates.

Zurich pools risk and capital as much as possible at a Group level, realizing diversification benefits for the Group. This also allows the Group to take into account the benefits that arise in regions where these benefits are recognized under the capital adequacy regime, e.g., in the U.S., Ireland and Switzerland.

Regulatory requirements in Switzerland

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

FINMA approved the use of Zurich's internal model for 2016 on a provisional basis, without prejudicing the final approval. Zurich filed with FINMA an SST ratio of 189 percent (unaudited) as of January 1, 2016, which was approved accordingly.

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Regulatory requirements in other countries

Regulatory requirements in the European Economic Area

The directive on Solvency II was adopted on November 25, 2009. The complete framework was introduced on January 1, 2016. Solvency II is designed to be more risk-sensitive and sophisticated in its approach than Solvency I. Solvency II capital requirements also take into account all material risks and how these interact. Under Solvency II, every insurance and reinsurance entity is required to conduct its own risk and solvency assessment, including taking into account specific risk profiles. Under disclosure provisions, companies will have to publicly report their solvency and financial condition for the first time in 2017, based on 2016 figures.

Zurich Insurance plc (Ireland) applies the internal model, which aligns the Solvency II approach with that used for Z-ECM, and has received approval from the Central Bank of Ireland accordingly. Other EEA subsidiaries use the Solvency II standard formula.

Regulatory requirements in the U.S.

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

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

Every country has a capital standard for insurance companies. Some jurisdictions, including Japan, Mexico, Chile, and Brazil, are implementing, reviewing or will review their economic capital requirements, considering similar approaches to Solvency II.

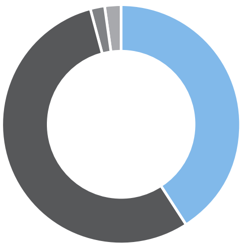
Risk review (continued)

Analysis by risk type

Insurance risk

Section highlights

Total Z-ECM capital required: USD 33.9 billion
%, as of July 1, 2016



Insurance risk	41%
Market risk, including investment credit risk	55%
Other credit risk	2%
Operational risk	2%

Key risk and capital indicators
Z-ECM, in USD billions

	Q2 2014	Q2 2015	Q2 2016
Business risk	3.0	2.6	3.4
Life liability risk	0.7	1.6	1.9
Premium & reserve risk	6.9	7.6	7.2
Natural catastrophe risk	5.4	3.5	1.5

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Insurance risk is the inherent uncertainty regarding the occurrence, amount or timing of insurance liabilities. The profitability of insurance business is also susceptible to business risk in the form of unexpected changes in expenses, policyholders' behavior, and fluctuations in new business volumes. The exposure is transferred to Zurich through the underwriting process. Zurich actively seeks to write those risks it understands and that provide a reasonable opportunity to earn an acceptable profit. Zurich manages the customer risks it assumes, and minimizes unintended underwriting risks, through such means as:

- → Establishing limits for underwriting authority
- → Requiring specific approvals for transactions above established limits or new products
- → Using a variety of reserving and modeling methods
- → Ceding insurance risk through external proportional or non-proportional reinsurance treaties and facultative single-risk placement. The Group centrally manages reinsurance treaties.

General insurance risk

General insurance risk comprises premium and reserve risk, and business risk. Premium and reserve risk covers uncertainties in the frequency of the occurrence of the insured events as well as in the severity of the resulting claims. Business risk for general insurance predominantly relates to unexpected increases in the expenses relating to claims handling, underwriting, and administration. The following provides an overview of the Group's main lines of business:

- → Motor includes automobile physical damage, loss of the insured vehicle and automobile third-party liability insurance.
- → Property includes fire risks (e.g., fire, explosion and business interruption), natural perils (e.g., earthquake, windstorm and flood), engineering lines (e.g., boiler explosion, machinery breakdown and construction) and marine (e.g., cargo and hull).
- → Liability includes general/public and product liability, excess and umbrella liability, professional liability including medical malpractice, and errors and omissions liability.
- → Special lines include directors and officers, credit and surety, crime and fidelity, accident and health, and crop.
- → Worker injury includes workers' compensation and employers liability.

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The Group's underwriting strategy takes advantage of the diversification of general insurance risks across lines of business and geographic regions. Zurich's underwriting governance is applicable throughout the Group.

Underwriting discipline is a fundamental part of managing insurance risk. The Group sets limits on underwriting capacity, and delegates authority to individuals based on their specific expertise. The Group sets appropriate underwriting guidelines. These guidelines generally include a technical price set in line with common standards to allow a return on risk-based capital in line with the Group's financial target. The ratio of actual premium to technical price is a key performance metric, which is monitored regularly. Technical reviews confirm whether underwriters perform within authorities and adhere to underwriting philosophies and policies. The Group has governance procedures to review and approve potential new products, to evaluate whether the risks are well understood and justified by the potential rewards.

Actual losses on claims provisions may be higher or lower than anticipated. General insurance reserves are therefore regularly estimated, reviewed and monitored. The total loss and loss adjustment expense reserves are based on work performed by qualified and experienced actuaries at local, regional and Group levels.

To arrive at their reserve estimates, the actuaries take into consideration, among other things, the latest available facts, historical trends and patterns of loss payments, exposure growth, court decisions, economic conditions, inflation, and public attitudes that may affect the ultimate cost of claim settlement. Inflation is monitored on a country basis; the monitoring process relies on both Zurich's economic view on inflation and specific claims activity, and feeds into actuarial models and Zurich's underwriting processes such as technical price reviews.

In most cases, these actuarial analyses are conducted at least twice a year for on-going business according to agreed timetables. Analyses are performed by product line, type and extent of coverage and year of occurrence. As with any projection, claim reserve estimates are inherently uncertain due to the fact that the ultimate liability for claims will be affected by trends as yet unknown, including future changes in the likelihood of claimants bringing suit, the size of court awards, and claimants' attitudes toward settlement of their claims.

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

In addition to the specific risks insured, the Group is exposed to losses that could arise from natural and man-made catastrophes. The main concentrations of risks arising from such potential catastrophes are regularly reported to executive management. The most important peril regions and natural catastrophes are U.S. and Caribbean tropical cyclone, Europe windstorm and California earthquake.

Tables 1.a and 1.b show the Group's concentration of risk within the General Insurance business by region and line of business based on direct written premiums before reinsurance. The increase in direct written premiums and policy fees for Special lines in North America is primarily the result of Zurich's acquisition of crop insurer Rural Community Insurance Services. General Insurance premiums ceded to reinsurers (including retrocessions) amounted to USD 7.0 billion and USD 5.6 billion for the years ended December 31, 2016 and 2015, respectively. Reinsurance programs are managed on a global basis, and therefore, net premium after reinsurance is monitored on an aggregated basis.

Table 1.a

General Insurance – Direct written premiums and policy fees by line of business – current period

in USD millions, for the year ended December 31, 2016	Motor	Property	Liability	Special lines	Worker injury	Total
North America	1,689	2,733	3,258	3,819	2,844	14,342
Europe, Middle East & Africa	4,715	4,045	2,026	1,955	361	13,102
Other regions	1,382	1,196	357	1,249	143	4,326
Total	**7,785**	**7,973**	**5,641**	**7,023**	**3,347**	**31,770**

Risk review (continued)

Audited

General Insurance – Direct written premiums and policy fees by line of business – prior period

Table 1.b

in USD millions, for the year ended December 31, 2015	Motor	Property	Liability	Special lines	Worker injury	Total
North America	1,618	3,214	3,740	1,912	2,918	13,402
Europe, Middle East & Africa	5,176	4,491	2,231	1,953	461	14,312
Other regions	1,640	1,272	370	1,142	137	4,561
Total	**8,434**	**8,977**	**6,341**	**5,007**	**3,515**	**32,274**

Analysis of sensitivities for general insurance risk

Tables 2.a and 2.b show the sensitivity of net income before tax and the sensitivity of net assets, using the Group effective income tax rate, as a result of adverse development in the net loss ratio by one percentage point. Such an increase could develop either due to the insured events happening more frequently or due to resulting claims becoming more severe, or from a combination of frequency and severity. The sensitivities do not indicate a probability of such an event and do not consider any non-linear effects of reinsurance. Based on the assumptions applied in the sensitivity analysis in tables 2.a and 2.b, each additional percentage point increase in the loss ratio would have a linear impact on net income before tax and net assets. The Group also monitors insurance risk by evaluating extreme scenarios, taking into account the non-linear effects of reinsurance contracts.

Insurance risk sensitivity for the General Insurance business – current period

Table 2.a

in USD millions, for the year ended December 31, 2016	**Global Corporate**	**North America Commercial**	**Europe, Middle East & Africa**	**International Markets**
+1% in net loss ratio				
Net income before tax	(50)	(81)	(100)	(32)
Net assets	(34)	(56)	(69)	(22)

Insurance risk sensitivity for the General Insurance business – prior period

Table 2.b

in USD millions, for the year ended December 31, 2015	Global Corporate	North America Commercial	Europe, Middle East & Africa	International Markets
+1% in net loss ratio				
Net income before tax	(60)	(80)	(107)	(34)
Net assets	(38)	(50)	(68)	(21)

Life insurance risk

The risks associated with life insurance include life liability risk (mortality, longevity, and morbidity), business risk (policyholder behavior, expense, and new business), market risk and credit risk.

- Mortality risk – when on average, the death incidence among the policyholders is higher than expected
- Longevity risk – when on average, annuitants live longer than expected
- Morbidity risk – when on average, the incidence of sickness or disability among the policyholders is higher or recovery rates from disability are lower than expected
- Policyholder behavior risk – on average, the policyholders discontinue or reduce contributions or withdraw benefits prior to the maturity of contracts at a rate that is different from expected
- Expense risk – expenses incurred in acquiring and administering policies are higher than expected
- New business risk – volumes of new business are lower than sufficient to cover fixed acquisition expenses
- Market risk – the risk associated with the Group's balance sheet positions where the value or cash flow depends on financial markets, which is analyzed in the 'market risk, including investment credit risk' section
- Credit risk – the risk associated with a loss or potential loss from counterparties failing to fulfill their financial obligations, which is analyzed in the 'market risk, including investment credit risk' and 'other credit risk' sections

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

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

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

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

In the life annuity business, medical advances and improved social conditions that lead to increased longevity are the most significant insurance risk. Annuitant (beneficiary) mortality assumptions include allowance for future mortality improvements.

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

The subsidiary Zurich American Life Insurance Company (ZALICO) wrote variable annuity contracts that provide policyholders with certain guarantees related to minimum death and income benefits. After 2001, ZALICO stopped issuing new policies with such features. The Group has a dynamic hedging strategy to manage its economic exposure and reduce the volatility associated with its closed book of variable annuity products within its U.S. life business. These exposures have been substantially reduced as a result of a policy buy-back program begun in 2015. The Group is also exposed to risks arising out of bank-owned life insurance contracts sold in the U.S. See heading 'other contracts' in note 7 of the consolidated financial statements for additional information.

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

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

Observing best-estimate assumptions on cash flows related to benefits of insurance contracts gives some indication of the size of the exposure to risks and the extent of risk concentration. Table 3 shows the Group's concentration of risk within the life business by region and line of business based on reserves for life insurance on a net basis. The Group's exposure to life insurance risks varies significantly by geographic region and line of business and may change over time. See note 8 of the consolidated financial statements for additional information on reserves for insurance contracts.

Risk review (continued)

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Table 3

Reserves, net of reinsurance, by region

in USD millions, as of December 31	Unit-linked insurance contracts		Other life insurance liabilities		Total reserves	
	2016	2015	**2016**	2015	**2016**	2015
Global Life						
North America	1,562	1,263	5,696	5,577	7,258	6,840
Latin America	11,961	8,036	4,653	3,863	16,614	11,899
Europe, Middle East & Africa	40,668	43,522	72,421	71,711	113,088	115,233
of which						
United Kingdom	17,359	20,778	2,610	3,054	19,968	23,832
Germany	14,183	13,530	35,338	36,418	49,521	49,948
Switzerland	718	726	17,494	18,015	18,212	18,741
Ireland	2,832	2,944	1,884	1,979	4,716	4,923
Spain	813	1,062	10,320	7,450	11,133	8,512
Italy	394	223	3,032	3,013	3,426	3,237
Rest of Europe	4,370	4,258	1,743	1,782	6,113	6,040
Asia Pacific	469	403	2,506	2,489	2,975	2,892
Other	–	–	279	272	279	272
Subtotal	**54,660**	**53,224**	**85,554**	**83,912**	**140,214**	**137,136**
Other segments	10,870	11,169	3,947	4,144	14,816	15,313
Total	**65,530**	**64,393**	**89,500**	**88,056**	**155,030**	**152,449**

Analysis of sensitivities for life insurance risk

The Group uses market-consistent embedded value reporting principles, which allow Zurich to increase its understanding of, and report on, the risk profile of its life products, and how these risks would change under different market conditions. Embedded value is a measure that markets use to value life businesses. For more information, see the 'embedded value report 2016' at www.zurich.com/investor-relations/results-and-reports.

Modeling natural catastrophes

While specific catastrophes are unpredictable, modeling helps to determine potential losses and the likelihood of such losses. The Group uses adjusted third-party models to manage its underwriting and accumulations to stay within intended exposure limits and to guide how much reinsurance Zurich buys.

To have a consistent approach and form a global perspective on accumulations, the Group models general insurance exposures in a center of excellence, which works with local businesses to help improve the overall quality of data. The Group models potential losses from property policies in hazard-prone areas with material exposure and from workers' compensation policies covering earthquakes in California, the U.S. Pacific Northwest and New Madrid (U.S. states of Arkansas, Illinois, Indiana, Kentucky, Louisiana, Michigan, Mississippi, Missouri, Ohio, Tennessee, Wisconsin). Other non-property-related losses are estimated based on adjustments. Risk modeling mainly addresses climate-induced perils such as windstorms, river floods, tornadoes, hail storms, and geologically induced perils such as earthquakes.

The Group constantly seeks to improve its modeling, fill in gaps in models with additional assessments, and increase the granularity of data collection. It uses internal and external knowledge in modeling accumulations. One such source of external knowledge is the Natural Catastrophe Advisory Council, a group of scientists associated with leading research organizations such as the U.S. National Center for Atmospheric Research, the U.S. Geological Survey and the Intergovernmental Panel on Climate Change. Furthermore, Zurich is a Governor Sponsor of the Global Earthquake Model (GEM) Foundation, a shareholder of PERILS AG, and a member of the Risk Prediction Initiative (RPI) and the Oasis Loss Modeling Framework. Zurich validates modeling results by comparing them with claims experience.

Risks from man-made catastrophes

Man-made catastrophes include such risks as industrial accidents and terrorism attacks. Zurich's experience in monitoring potential exposures to natural catastrophes is also applicable to threats posed by man-made catastrophes.

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The Group reviews and aggregates worker injury, property and life risk exposures to identify areas of significant concentration and assesses other lines of business, such as liability and auto, although the potential exposure is not as significant. The data allow underwriters to evaluate how insuring a particular customer's risk might affect Zurich's overall exposure. Zurich uses a vendor-provided catastrophe model to evaluate potential exposures in every major U.S. city and selected cities in Europe. The Group undertakes more detailed and frequent analyses for cities in which Zurich has greater exposure. Outside the modeled areas, exposure concentrations are identified directly on Zurich's Risk Exposure Data Store (REDS), a system that stores information about our location-based exposure to risk in a single place.

The Group's analysis for general insurance business has shown that its exposures outside North America are lower, in large part due to government-provided pools; even so, the Group assesses the risk for countries with the next-greatest potential net exposure. The Group periodically monitors accumulation limits for these and other areas.

Reinsurance for general insurance and life insurance

The Group's objective in purchasing reinsurance is to provide market-leading capacity for customers while protecting the balance sheet, supporting earnings volatility management, and achieving capital efficiency. The Group follows a centralized reinsurance purchasing strategy for both General Insurance and Global Life, and bundles programs, where appropriate, to benefit from diversification and economies of scale.

The Group structures and aligns its external reinsurance protection to its capital position to achieve an optimum risk-return ratio. This includes a participation in the underlying risks through self-retentions. The Group manages its central reinsurance purchasing according to these principles. The cession rate for General Insurance was 21.2 percent and 16.6 percent as of December 31, 2016 and December 31, 2015, respectively. The cession rate for Global Life was 5.6 percent and 17.2 percent as of December 31, 2016 and December 31, 2015, respectively. The decrease in ceded premiums for Global Life is due to temporary reinsurance in 2015 of a run-off portfolio.

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

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

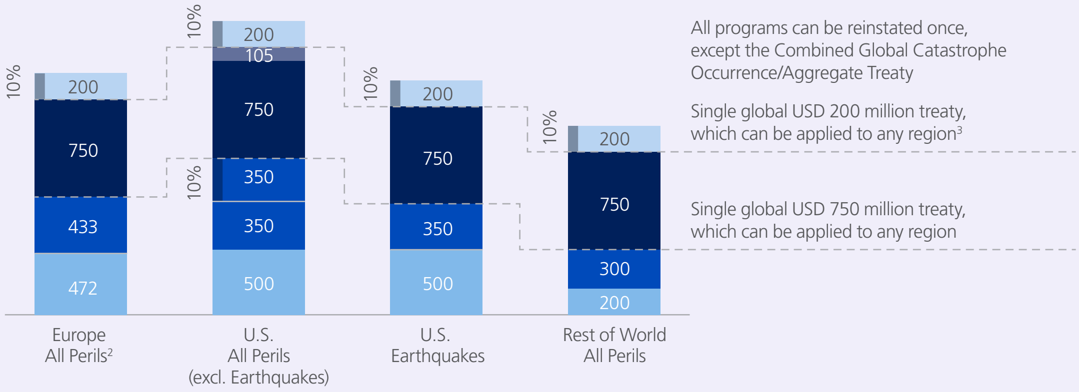
Major changes in 2016 included the non-renewal of the specific U.S. Earthquake Cat bond which is now covered as part of a traditional regional annually renewable treaty, the reduced attachment point of the U.S. and International Catastrophe towers, and the placement of a three-year USD 750 million Global Catastrophe treaty which can be applied to any region. To maintain a superior earnings protection for higher-frequency catastrophe scenarios, the Group slightly decreased the attachment point of the Global Aggregate Catastrophe treaty.

Risk review (continued)

Audited

Reinsurance for catastrophes by region – unusually severe catastrophe events[1]

USD millions, as of December 31, 2016

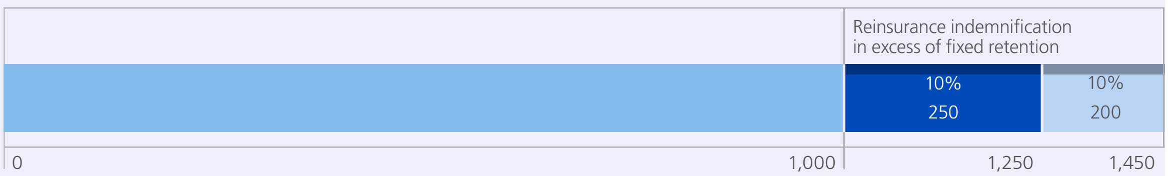


- Retention
- Regional cat treaties
- Global cat treaties
- U.S. wind swap
- Combined global cat treaty[3]
- Percentage of co-participation

[1] The Global Aggregate Cat Treaty renewed on January 1, 2016; the U.S. and the Global Cat Treaty renewed on April 1, 2016; the Europe Cat Treaty and International Cat Treaty renewed on July 1, 2016.
[2] Europe Cat Treaty calculated with EUR/USD exchange rate as of June 30, 2016.
[3] This USD 200m cover is the same combined global occurrence/aggregate treaty presiding over the global catastrophe treaty. This cover can be used only once, either for aggregated losses or for an individual occurrence or event.

Reinsurance for catastrophes, aggregated – unusually frequent catastrophe events

USD millions, as of December 31, 2016



- All cat losses exceeding USD 25 million
- Global aggregate cat treaty
- Combined global cat treaty[1]
- Percentage of co-participation

[1] This USD 200m cover is the same combined global occurrence/aggregate treaty presiding over the global catastrophe treaty. This cover can be used only once, either for aggregated losses or for an individual occurrence or event.

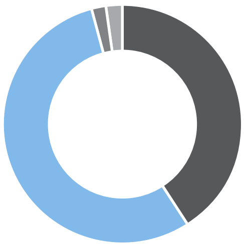
To complement existing treaties, the Group purchases catastrophe reinsurance specific to life insurance for its exposure to natural and man-made catastrophes.

Market risk including investment credit risk

Section highlights

Total Z-ECM capital required: USD 33.9 billion

%, as of July 1, 2016



Insurance risk	**41%**
Market risk, including investment credit risk	**55%**
Other credit risk	**2%**
Operational risk	**2%**

Key risk and capital indicators

Z-ECM, in USD billions

	Q2 2014	Q2 2015	Q2 2016
Market risk	17.7	16.3	18.7

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

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

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

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

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

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

Risk review (continued)

Audited

The Group uses derivative financial instruments to limit market risks arising from changes in currency exchange rates, interest rates and equity prices, from credit quality of assets and liabilities and commitments to third parties. The Group enters into derivative financial instruments mostly for economic hedging purposes and, in limited circumstances, the instruments may also meet the definition of an effective hedge for accounting purposes. The latter instruments include cross-currency interest rate swaps in fair value hedges and cross-currency swaps in cash flow hedges of Zurich's borrowings, in order to mitigate exposure to foreign currency and interest rate risk. In compliance with Swiss insurance regulation, the Group's policy prohibits speculative trading in derivatives, meaning a pattern of 'in and out' activity without reference to an underlying position. The Group addresses the risks arising from derivatives through a stringent policy that requires approval of a derivative program before transactions are initiated, and by subsequent regular monitoring by Group Risk Management of open positions and annual reviews of derivative programs.

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

Risk from equity securities and property

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

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

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

Risk from interest rates and credit spreads

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

Zurich has limits on holdings in real assets and limits on deviations of asset interest rate sensitivities from liability interest rate sensitivities. The Group also manages credit-spread risk, which describes the sensitivity of the values of assets and liabilities due to changes in the level or the volatility of credit spreads over the risk-free interest rate yield curves. Movements of credit spreads are driven by expected probability of default, expected losses in cases of defaults of issuers, the uncertainty of default probabilities and losses, as well as actual defaults of issuers.

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

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

Basis of presentation – General Insurance and rest of the business

The basis of the presentation for tables 4, 5, and 6 is an economic valuation represented by the fair value for Group investments, IFRS insurance liabilities are discounted at risk-free market rates to reflect the present value of insurance liability cash flows and other liabilities, for example own debt. (Note: the Group describes risk-free market rates as swap rates). In the sensitivities, own debt does not include subordinated debt, which Zurich considers available to protect policyholders in a worst-case scenario.

Tables 4, 5 and 6 show the estimated economic market risk sensitivities of the net impact for General Insurance and the rest of the business. Positive values represent an increase in the balance, and values in parentheses represent a decrease. Mismatches in changes in value of assets relative to liabilities represent an economic risk to the Group. The net impact – the difference between the impact on Group investments and liabilities – represents the economic risk related to changes in market risk factors that the Group faces.

In determining the sensitivities, investments and liabilities are fully re-valued in the given scenarios. Each instrument is re-valued separately, taking the relevant product features into account. Non-linear effects, where they exist, are reflected in the model. The sensitivities are shown after tax. They do not include the impact of transactions within the Group.

Sensitivities for the rest of the business include Farmers, Other Operating Businesses and Non-Core Businesses.

Basis of presentation – Global Life

Tables 4, 5 and 6 show the estimated economic sensitivity of the embedded value of the Global Life business to financial market movements. Actions that would be taken by management or policyholders are considered. For contracts with financial options and guarantees, such as some participating business, movements in financial markets can change the nature and value of these benefits. The dynamics of these liabilities are captured so that this exposure is quantified, monitored, managed and where appropriate, mitigated.

For the economies in the U.S., the UK and the Eurozone, risk-free nominal interest rate are modeled using a LIBOR market model. Negative nominal interest rates, if any, are floored to zero. For Switzerland, risk free nominal interest rates are modeled using a variant of the LIBOR market model with displacement diffusion and stochastic volatility. This model allows for modelling negative nominal interest rates in a market where these are more severe than in other economies.

For more information, see the ‘embedded value report 2016’ at www.zurich.com/investor-relations/results-and-reports.

Risk review (continued)

Audited

Analysis of economic sensitivities for interest rate risk

Table 4 shows the estimated impacts of a 100 basis point increase/decrease in yield curves after consideration of hedges in place, as of December 31, 2016 and 2015, respectively.

Economic interest rate sensitivities

Table 4

In USD millions, as of December 31	**2016**	2015
100 basis point increase in the interest rate yield curves		
General Insurance business		
Net impact after tax[1,2]	(158)	(288)
Global Life business		
Total impact on Embedded Value	(192)	(276)
Rest of the business		
Net impact after tax[1,2]	(107)	67
100 basis point decrease in the interest rate yield curves		
General Insurance business		
Net impact after tax[1,2]	56	247
Global Life business		
Total impact on Embedded Value	(388)	29
Rest of the business		
Net impact after tax[1,2]	123	(157)

1 Modeling enhancements for the General Insurance business reflecting revised estimates over the expected duration on certain inter-company loans resulted in an increase of USD 102 million and a decrease of USD 208 million for the 100 basis point increase and decrease, respectively, in the interest rate yield curves for the year ending December 31, 2016. This results in equal and offsetting impacts to the Rest of the Business.
2 Sensitivities for General Insurance and Rest of the Business have been developed using general insurance liability cash flow data as of September 30, 2016, re-valued as of December 31, 2016 using standard methodology and models.

Analysis of economic sensitivities for equity risk

Table 5 shows the estimated impacts from a 10 percent decline in stock markets, after consideration of hedges in place, as of December 31, 2016 and 2015, respectively.

Economic equity price sensitivities

Table 5

In USD millions, as of December 31	**2016**	2015
10% decline in stock markets		
General Insurance business		
Net impact after tax	(387)	(459)
Global Life business		
Total impact on Embedded Value	(262)	(289)
Rest of the business		
Net impact after tax	(35)	(31)

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Analysis of economic sensitivities for credit spread risk

Table 6 shows the estimated impacts from a 100 basis points increase in corporate credit spreads, as of December 31, 2016 and 2015, respectively. The sensitivities apply to all fixed income instruments, excluding government, supranational and similar debt securities.

Table 6

Economic credit spread sensitivities

In USD millions, as of December 31	**2016**	2015
100 basis point increase in credit spreads		
General Insurance business		
Net impact after tax	(1,144)	(1,004)
Global Life business		
Total impact on Embedded Value	(1,122)	(1,056)
Rest of the business		
Net impact after tax	(262)	(220)

Limitations of the analysis for General Insurance and rest of the business:
- The sensitivities show the effects of a change of certain risk factors, while other assumptions remain unchanged.
- The interest rate scenarios assume a parallel shift of all interest rates in the respective currencies. They do not take into account the possibility that interest rate changes might differ by rating class; these are disclosed separately as credit spread risk sensitivities.
- The sensitivity analysis is based on economic net assets, and not on shareholders' equity or net income as set out in the consolidated financial statements.
- The sensitivity analysis is calculated after tax; the Group effective tax rate is 30.7 percent for 2016 and 36.6 percent for 2015.
- The equity market scenarios assume a concurrent movement of all stock markets.
- The sensitivity analysis does not take into account actions that might be taken to mitigate losses. Actions may involve changing the asset allocation, for example through selling and buying assets.
- The sensitivities do not indicate a probability of such events occurring in the future. They do not necessarily represent the Group's view of expected future market changes. In addition to the sensitivities, management uses stress scenarios to assess the impact of more severe market movements on the Group's financial condition. For more information on stress scenarios, see 'impact of market, credit, and insurance scenarios on Z-ECM (unaudited).'

Limitations of the analysis for Global Life:
- The sensitivities show the effects of a change in certain risk factors, while other assumptions remain unchanged, except where they are directly affected by the revised conditions.
- The market risk scenarios assume a concurrent movement of all stock markets and an unrelated parallel shift of all interest rates in different currencies.
- The assumptions on policyholder behavior, such as lapsing of policies, included in the sensitivity analysis for Global Life may be different from actual behavior. Therefore, the actual impact may deviate from the analysis.

Risks from defaults of counterparties

Debt securities

The Group is exposed to credit risk from third-party counterparties where the Group holds securities issued by those entities.

Table 7

Debt securities by rating of issuer

as of December 31	**2016**		2015	
	USD millions	**% of total**	USD millions	% of total
Rating				
AAA	28,503	20.3%	29,228	21.2%
AA	46,497	33.2%	47,332	34.4%
A	23,133	16.5%	24,165	17.5%
BBB	35,733	25.5%	32,728	23.8%
BB and below	5,193	3.7%	4,235	3.1%
Unrated	1,122	0.8%	42	0.0%
Total	**140,181**	**100.0%**	**137,730**	**100.0%**

Table 7 shows the credit risk exposure of debt securities, by issuer credit rating. As of December 31, 2016, 95.5 percent of the Group's debt securities was investment grade and 20.3 percent was rated 'AAA.' As of December 31, 2015, 96.9 percent of debt securities was investment grade and 21.2 percent was rated 'AAA.'

In August 2016, the Group revised its investment policy to allow for speculative grade investments without specific authorization. Revised limits are now based on default and recovery rates that tighten progressively for lower ratings. Where the Group identifies investments expected to trigger limit breaches, appropriate actions are implemented.

Risk review (continued)

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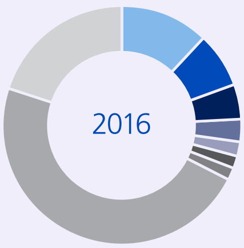
The risk-weighted average issuer credit rating of the Group's debt securities portfolio is 'BBB+' in 2016, compared with 'BBB' in 2015.

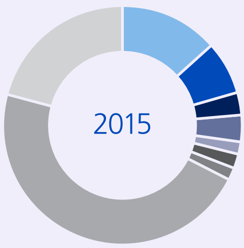
Debt securities – credit risk concentration by industry

%, as of December 31



USD 140bn

MBS/ABS	**12.2%**
Manufacturing	**7.4%**
Others	**4.7%**
Utilities	**3.1%**
Telecom	**1.8%**
Oil & gas	**1.9%**
Chemicals & pharmaceuticals	**1.6%**
Government, supranationals & similar	**47.5%**
Financial institutions & similar	**19.8%**



USD 138bn

MBS/ABS	**13.4%**
Manufacturing	**7.3%**
Others	**3.0%**
Utilities	**3.6%**
Telecom	**1.7%**
Oil & gas	**2.1%**
Chemicals & pharmaceuticals	**1.5%**
Government, supranationals & similar	**46.6%**
Financial institutions & similar	**20.8%**

As of December 31, 2016, the largest concentration in the Group's debt securities portfolio was in governments, supranationals and similar at 47.5 percent. In all other categories, a total of USD 22.0 billion or 29.9 percent was secured. As of December 31, 2015, 46.6 percent of the Group's debt portfolio was invested in governments, supranationals and similar. In all other categories, a total of USD 24.5 billion or 33.3 percent was secured.

Table 8

The Group's debt exposure to eurozone governments and supranationals & similar

in USD millions, as of December 31	**2016**	2015
Germany	3,399	3,261
France	6,152	5,670
Austria	1,929	1,910
Belgium	2,263	2,015
Netherlands	1,273	1,355
Greece	–	–
Ireland	521	529
Italy	9,128	9,330
Portugal	551	515
Spain	6,773	4,970
Rest of eurozone	742	794
Eurozone supranationals and similar	917	665
Total	**33,650**	**31,014**

In addition to debt exposure, the Group had loan exposure of USD 4.3 billion and USD 4.7 billion to the German Central Government or the German Federal States as of December 31, 2016 and 2015, respectively. For more information, see the 'other loans' section.

The second-largest concentration in the Group's debt securities portfolio is in financial institutions (including banks), at 19.8 percent, of which 37.8 percent is secured.

The third-largest concentration in the Group's debt securities portfolio is in structured finance securities (mortgage-backed securities (MBS)/asset-backed securities (ABS) and similar). Although credit risks of the underlying securities are diverse in nature, the Group also considers macro impacts that may affect structured finance sub-categories (e.g., auto or credit card ABS) in its credit assessments. Structured finance exposures are assessed on a look-through basis prior to acquisition and not merely on the strength of prevailing credit ratings or credit profiles.

Audited

Cash and cash equivalents

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

Cash and cash equivalents amounted to USD 7.2 billion as of December 31, 2016 and USD 8.2 billion as of December 31, 2015. The risk-weighted average rating of the overall cash portfolio is 'A-' as of December 31, 2016 and December 31, 2015. 57 percent of the total was with the 10 largest global banks, whose risk-weighted average rating increased from 'A-' as of December 31, 2015 to 'A' as of December 31, 2016.

Mortgage loans

The mortgage business is affected by local property market conditions and local legislation. Investment portfolio allocations made to mortgages take these factors into consideration, are in line with the framework of the strategic asset allocation defined by the Group, and adapted and approved by local investment committees. The Group's largest mortgage loan portfolios are held in Germany (USD 2.4 billion) and in Switzerland (USD 3.5 billion); these are predominantly secured against residential property but also include mortgages secured by commercial property. In Switzerland, the underlying properties backing individual loans are revalued every 10 years. In Germany, the property valuation is not always reassessed after the mortgage loan is granted. A less-frequent, or no revaluation of the underlying property means that reported loan-to-value (LTV) ratios will be higher/lower than they would be if property prices had risen/fallen since their valuation. Conservative lending criteria (i.e., maximum mortgage-loan to property-value ratios) and diversification of loans across many single borrowers, particularly in Germany and in Switzerland, help reduce potential loss.

In 2016 the Group started investing in mortgages in the U.S. (USD 0.6 billion). These are mainly participations in large mortgage loans secured against commercial property.

Business units are required to clearly state criteria for determining borrower and collateral quality in their local investment guidelines. The Group sets requirements for local investment guidelines, and monitoring and reporting standards. The Group closely monitors performance of portfolios with respect to impairments and losses.

For more details, see note 24 in the consolidated financial statements.

Other loans

The credit risk arising from other loans is assessed and monitored together with the 'debt securities' portfolio. 50.4 percent of the reported loans are to governments, supranationals and similar, of which 94.2 percent are to the German Central Government or the German Federal States. Table 9 shows the composition of the loan portfolio by rating class. As of December 31, 2016, a total of USD 5.5 billion or 60.4 percent of loans are secured. As of December 31, 2015, a total of USD 5.0 billion or 52.6 percent of loans were secured.

Table 9

Other loans by rating of issuer

as of December 31	2016		2015	
	USD millions	**% of total**	USD millions	% of total
Rating				
AAA	3,929	43.0%	4,243	44.3%
AA	565	6.2%	696	7.3%
A	3,342	36.5%	1,702	17.8%
BBB and below	1,311	14.3%	1,624	17.0%
Unrated	–	–	1,303	13.6%
Total	**9,146**	**100.0%**	**9,569**	**100.0%**

Risk review (continued)

Audited

Derivatives

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

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

In compliance with EMIR (European Market Infrastructure Regulation), applicable clearing obligations were met in 2016.

Risk from currency exchange rates

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

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

Table 10 shows the total IFRS equity's sensitivity to changes in exchange rates for the main functional currencies to which the Group is exposed. Positive values represent an increase in the value of the Group's total equity. See notes 1, 3 and 7 of the consolidated financial statements for additional information on foreign currency translation and transactions.

Table 10

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

in USD millions, as of December 31	**2016**	2015
10% increase in		
EUR/USD rate	515	584
GBP/USD rate	208	220
CHF/USD rate	457	153
BRL/USD rate	139	97
Other currencies/USD rates	546	525

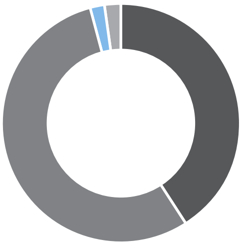
The sensitivities show the effects of a change of the exchange rates only, while other assumptions remain unchanged. The sensitivity analysis does not take into account management actions that might be taken to mitigate such changes. The sensitivities do not indicate a probability of such events occurring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

Other credit risk

Section highlights

Total Z-ECM capital required: USD 33.9 billion

%, as of July 1, 2016



Key risk and capital indicators

Z-ECM, in USD billions

	Q2 2014	Q2 2015	Q2 2016
Reinsurance credit risk	1.4	1.0	0.6

Audited

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

- → Reinsurance assets
- → Receivables

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

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

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

Credit risk concentration

The Group has counterparty limits, which are regularly monitored. Exposure to counterparties' parent companies and subsidiaries is aggregated to include reinsurance assets, investments, derivatives, and for the largest counterparties, certain insurance products. There was no unapproved material exposure in excess of the Group's limits for counterparty aggregation as of December 31, 2016 or December 31, 2015.

On-balance sheet exposures are the main source of credit risk. Off-balance sheet credit exposures are related primarily to certain insurance products and collateral used to protect underlying credit exposures on the balance sheet. The Group also has off-balance sheet exposures related to undrawn loan commitments of USD 7 million and USD 8 million as of December 31, 2016 and 2015, respectively. See note 22 of the consolidated financial statements for undrawn loan commitments.

Risk review (continued)

Audited

Credit risk related to reinsurance assets

The Group's Corporate Reinsurance Security Committee manages the credit quality of cessions and reinsurance assets. The Group typically cedes new business to authorized reinsurers with a minimum rating of 'A–.' As of December 31, 2016 and 2015 respectively, 66 percent and 73 percent of the business ceded to reinsurers that fall below 'A–' or are not rated is collateralized. Of the business ceded to reinsurers that fall below 'A–' or are not rated, 32 percent was ceded to captive insurance companies, in 2016 and in 2015.

Reinsurance assets included reinsurance recoverables (the reinsurers' share of reserves for insurance contracts) of USD 18.4 billion and USD 17.9 billion, and receivables arising from ceded reinsurance of USD 1.4 billion and USD 0.9 billion as of December 31, 2016 and 2015, respectively, gross of allowance for impairment. Reserves for potentially uncollectible reinsurance assets amounted to USD 94 million as of December 31, 2016 and USD 149 million as of December 31, 2015. The Group's policy on impairment charges takes into account both specific charges for known situations (e.g., financial distress or litigation) and a general, prudent provision for unanticipated impairments.

Reinsurance assets in table 11 are shown before taking into account collateral such as cash or bank letters of credit and deposits received under ceded reinsurance contracts. Except for an immaterial amount, letters of credit are from banks rated 'A–' and better. Compared with December 31, 2015, collateral decreased by USD 0.6 billion to USD 8.4 billion. In 2015, reinsurance assets and collateral increased due to the sale of a run-off portfolio.

Table 11 shows reinsurance premiums ceded and reinsurance assets split by rating.

Table 11

Reinsurance premiums ceded and reinsurance assets by rating of reinsurer and captive

as of December 31				2016				2015
	Premiums ceded		Reinsurance assets		Premiums ceded		Reinsurance assets	
	USD millions	% of total	USD millions	% of total	USD millions	% of total	USD millions	% of total
Rating								
AAA	68	0.9%	29	0.1%	72	0.9%	36	0.2%
AA	2,178	27.9%	5,402	27.3%	1,188	14.7%	4,770	25.6%
A	2,883	36.9%	8,625	43.6%	2,284	28.3%	8,271	44.3%
BBB	933	11.9%	1,366	6.9%	861	10.7%	1,244	6.7%
BB	267	3.4%	566	2.9%	325	4.0%	530	2.8%
B	310	4.0%	379	1.9%	258	3.2%	194	1.0%
Unrated	1,205	15.0%	3,383	17.3%	3,090	38.3%	3,617	19.4%
Total[1]	**7,843**	**100.0%**	**19,749**	**100.0%**	**8,078**	**100.0%**	**18,662**	**100.0%**

[1] The value of the collateral received amounts to USD 8.4 billion and USD 9.0 billion as of December 31, 2016 and 2015, respectively.

Audited

Credit risk related to receivables

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

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

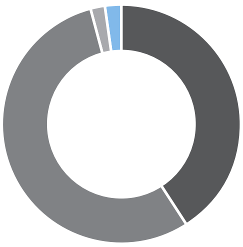
Receivables from ceded reinsurance are part of reinsurance assets and are managed accordingly. See notes 15 and 24 of the consolidated financial statements for additional information on receivables.

Risk review (continued)

Operational risk

Section highlights

Total Z-ECM capital required: USD 33.9 billion
%, as of July 1, 2016



Insurance risk	41%
Market risk, including investment credit risk	55%
Other credit risk	2%
Operational risk	2%

Key risk and capital indicators
Z-ECM, in USD billions

	Q2 2014	Q2 2015	Q2 2016
Operational risk	1.1	0.9	0.6

Audited

Operational risk is the risk of loss resulting from inadequate or failed internal processes, people, systems or from external events such as external fraud, catastrophes, or failure in outsourcing arrangements.

Zurich has a comprehensive framework with a common approach to identify, assess, quantify, mitigate, monitor and report operational risk within the Group. Within this framework, the Group:

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

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

Zurich mitigates and responds to cyber risks and threats to data security. Data held by Zurich's business partners is protected through contractual arrangements and controls that are built into 'cloud governance' procedures designed to secure Zurich's data in accordance with regulatory requirements and the Group's information security policies.

The Group regularly assesses risks associated with strategic suppliers to verify that suppliers remain financially viable and able to deliver services, and that the Group is not exposed to geographic and supplier concentration risks.

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

As part of Z-ECM, the Group uses a scenario-based approach to assess, model and quantify the capital required for operational risk under extreme circumstances and with a very slight probability of occurrence. The chart below shows the operational risk scenarios that have the highest impact on Z-ECM capital required.

Z-ECM capital required for operational risk, split by risk scenario clusters
as of July 1, 2016

Risk scenario clusters contributing to the Z-ECM capital required for operational risk

Regulatory and tax compliance: This risk cluster relates to possible non-compliance with applicable laws and regulations, leading to a range of consequences. It includes fines and penalties, litigation, compensation to policyholders, increased regulatory scrutiny, financial losses and increased cost of compliance, as well as consequences from a possible failure to comply with tax requirements.	17.6%
Market abuse, mis-selling and conduct of business: This risk cluster relates to the possibility that staff, processes or systems may operate in ways that lead to inappropriate conduct of business in relation to the customer. It includes the possibility of investigations, sanctions and fines imposed on Zurich as a company or any member of staff as a result of market abuse, mis-selling practices leading to regulatory breach or increased compensation.	17.5%
M&A – due diligence and integration: This risk cluster relates to poor execution of both the due diligence and the post-M&A integration processes. It includes the understatement of liabilities and required investments, operational or legal risks in the acquired business, inadequate transaction decisions, loss of key staff, inability to realize synergies or deliver benefits.	14.5%
Outsourcing: This risk cluster relates to the need to exit a strategic supplier arrangement for (i) poor service quality; or (ii) a foreseeable disruption in services to financial distress of the ultimate parent company.	10.2%
Other scenarios, e.g., project management, employment malpractice, record retention, licensing.	40.2%

Risk management and internal controls

The Group considers controls to be key instruments for managing operational risk. The Board has overall responsibility for the Group's risk management and internal control frameworks, in particular for their adequacy and integrity. The Group's internal control system increases the reliability of Zurich's financial reporting, makes operations more effective, and aims to ensure legal and regulatory compliance. The internal controls system is designed to mitigate rather than eliminate the material risk that business objectives might not be met. It provides reasonable assurance against material financial misstatements or operational losses.

The Group promotes risk awareness and understanding of controls with communication and training. Primary risk management and internal control systems are designed at Group level and implemented Group-wide.

Management, as the first line of defense, is responsible for identifying, evaluating and addressing significant risks, and designing, implementing and maintaining internal controls. Key processes and controls in the organization are subject to reviews by management, Group Risk Management, Group Compliance, and Group Audit. Significant risks and associated mitigation actions are reported regularly to the Risk and Investment Committee and the Audit Committee of the Board.

In 2016, the Group enhanced specific areas of the internal control framework, focusing on significant financial reporting controls as well as controls to ensure the integrity of our regulatory and internal capital calculations. Internal control certification processes are conducted regularly by local business units throughout the Group.

Significant controls are assessed for their design and operating effectiveness. Significant control issues or issues affecting more than one business unit may be categorized as having Group-level significance. The Risk and Investment Committee of the Board and the Audit Committee of the Board monitor resolution of such issues.

The Group's Disclosure Committee, chaired by the Group Controller, assesses the content, accuracy and integrity of the disclosures and the effectiveness of the internal controls over financial reporting. The conclusions result in a recommendation to the Group Chief Financial Officer to release the financial disclosures to the Board Audit Committee, which may challenge further. The Board reviews and approves results announcements and the Annual Report. This ensures that both the Board and management have sufficient opportunity to review and challenge the Group's financial statements and other significant disclosures before they are made public.

Risk review (continued)

The Risk and Investment Committee of the Board has reviewed the effectiveness of the Group's risk management system, including the Group's risk tolerance and enterprise-wide risk governance framework, and the Audit Committee of the Board has reviewed the effectiveness of the system of control over financial reporting for the calendar year 2016 and has reported to the Board accordingly. Issues identified have been communicated to the Board and have been or are being addressed by the Group.

The internal and external auditors also regularly report conclusions, observations and recommendations that arise as a result of their independent reviews and testing of internal controls over financial reporting and operations.

Audited

Liquidity risk

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

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

The Group limits the percentage of the investment portfolio that is not readily realizable and regularly monitors exposures to take action if necessary to maintain an appropriate level of asset liquidity. During 2016, the Group was within its limits for asset liquidity.

The fair value hierarchy tables in note 23 of the consolidated financial statements segregate financial assets into three levels, reflecting the basis for how fair value was determined. These tables indicate the high degree of liquidity of the Group's investments.

See note 18 of the consolidated financial statements for more information on debt obligation maturities and credit facilities and note 22 of the consolidated financial statements for information on commitments and guarantees. The Group's ongoing liquidity monitoring includes regular reporting to the executive management and quarterly reporting to the Risk and Investment Committee of the Board, covering aspects such as the Group's actual and forecast liquidity, possible adverse scenarios that could affect the Group's liquidity and possible liquidity needs from the Group's main subsidiaries, including under conditions of stress.

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

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

Audited

Strategic risk and risks to the Group's reputation

Strategic risk

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

Strategic risks can arise from:

- → Inadequate assessment of strategic plans
- → Ineffective implementation of strategic plans
- → Unexpected changes to assumptions underlying strategic plans

Zurich defines the strategy as the long-term plan of action designed to allow the Group to achieve its goals and aspirations.

The Group works to reduce unintended risks of strategic business decisions through its risk assessment processes and tools, including the Total Risk Profiling™ (TRP) process. As part of the regular TRP process, in 2016 the Executive Committee (ExCo) assessed the key strategic risk scenarios, looking at 2017 and beyond. The Group TRP identified and assessed risks in executing the Group's operational transformation, maintaining customer focus and execution of technical excellence, information security and cyber risks, adverse Brexit outcomes, euro banking crisis, and adverse reserve development arising from accelerating inflation and inflation expectations. Mitigation actions have been assigned to executive owners and their status is reviewed at least quarterly.

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

Risks to the Group's reputation

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

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

Disclaimer & cautionary Statement

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

All references to "Farmers Exchanges" mean Farmers Insurance Exchange, Fire Insurance Exchange, Truck Insurance Exchange and their subsidiaries and affiliates. The three Exchanges are California domiciled interinsurance exchanges owned by their policyholders with governance oversight by their Boards of Governors. Farmers Group, Inc. and its subsidiaries are appointed as the attorneys-in-fact for the Farmers Exchanges and in that capacity provide certain non-claims administrative and management services to the Farmers Exchanges. Neither Farmers Group, Inc., nor its parent companies, Zurich Insurance Company Ltd and Zurich Insurance Group Ltd, have any ownership interest in the Farmers Exchanges. Financial information about the Farmers Exchanges is proprietary to the Farmers Exchanges, but is provided to support an understanding of the performance of Farmers Group, Inc. and Farmers Reinsurance Company.

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