

somewhat
different

Capital position and risk profile

Incl. an update on the P&C reserving level

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Agenda

- ▶ Solvency position Q2/2017 and movement analysis
- ▶ Risk position and stress test results
- ▶ Recent NatCat events and adherence to risk appetite
- ▶ Composition and development of P&C claim reserves

Hannover Re maintains comfortable capital position

Capital adequacy above targets with substantial excess capital

in m. EUR, as of 30/06/2017	Internal Metrics ¹⁾			Notional Solvency II ²⁾		Solvency II ³⁾
Available Economic Capital / Eligible Own Funds	13,425			12,735		12,735
Confidence Level	99.97%	99.5%	Haircut for minority interests ⁴⁾	99.5%		99.5%
Required Capital / Solvency Capital Requirements	10,207	5,060		5,060		5,513
Excess Capital	3,218	8,365		7,675	Standard formula operational risk	7,222
Capital Adequacy Ratio (CAR)	132%	265%		252%		231%
Minimum Target Ratio (Limit)	100%	180%		180%		180%
Minimum Target Ratio (Threshold)	110%	200%		200%		200%

1) Internal Metric: internal target confidence level at 99.97%, full internal model, full transferability of capital

2) Notional Solvency II: full internal model incl. operational risk (starting Q3/2017), confidence level at 99.5%

3) Regulatory view (Solvency II): partial internal model with standard formula for operational risk, confidence level at 99.5%

4) Non-available minority interests mostly consist of non-controlling interests in E+S Rückversicherung AG

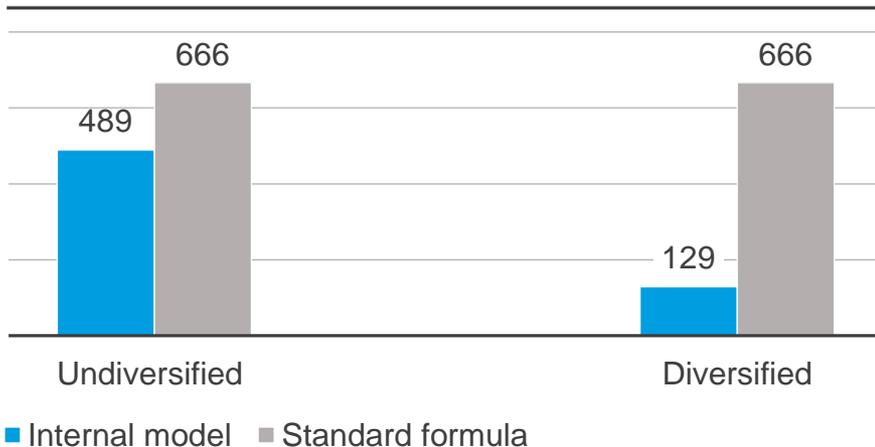
Operational risk model recently approved

Comparison to standard formula and TOP 3 scenarios

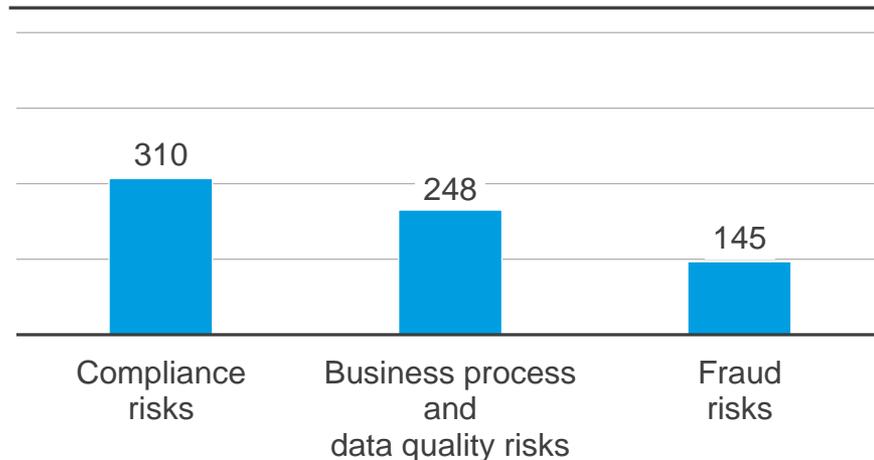
- ▶ Fully stochastic approach with high modelling granularity
 - based on internal self-assessment of operational risks
 - benchmarked against internal and external loss data

- ▶ TOP 3 scenarios:
 - Compliance passive - risk of legal changes and increasing fines
 - Data quality and insufficient processes, e.g. error in data processing
 - Fraud, via external social engineering attempts

SCR* for operational risk in m. EUR



SCR* for TOP 3 scenarios in m. EUR



As at Q2/2017; for comparison with the standard formula, the operational risk acc. to the internal model is shown with its marginal contribution (i.e. as the difference between the total required capital with and without operational risk)

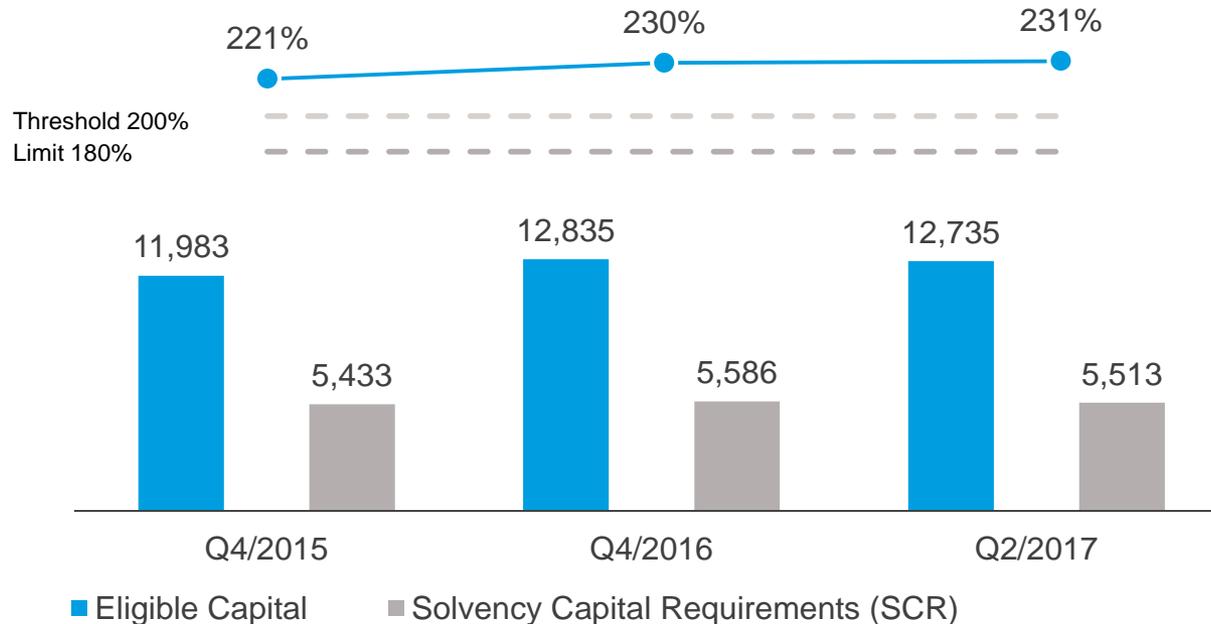
* SCR = Solvency Capital Requirements

Stable buffer above Solvency II capital targets

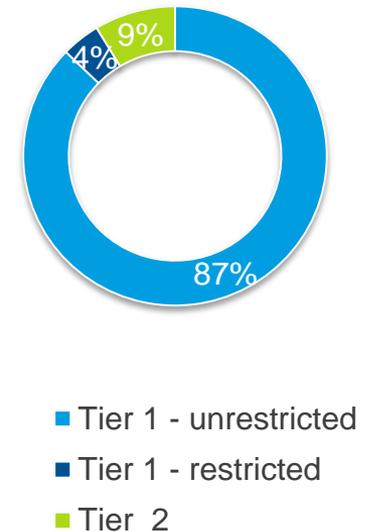
Despite significant changes in economic environment

Development of the capital adequacy ratio (regulatory view)

- ▶ **2016:** Overall increase in available capital due to positive results and favourable new business developments in line with increase in required capital
- ▶ **2017:** Stable ratio, f/x-induced reduction in funds and capital requirements

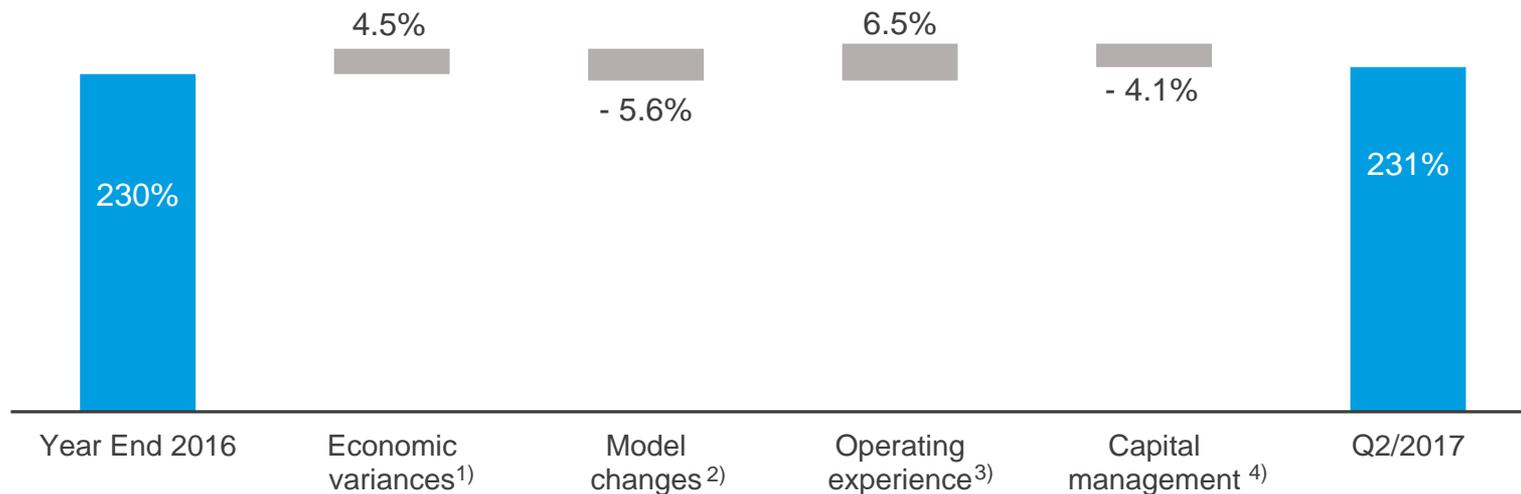


Q2/2017 capital composition



Solvency capital generation in first half 2017

Own fund and SCR movement in 2017



Eligible Own Funds	12,835	-376	-63	567	-228	12,734
SCR	5,586	-267	103	91	0	5,513

1) Changes due to changes of foreign exchange rates, interest rates, credit spreads and other financial market factors

2) Model strengthening, main effect from strengthening of risk margin

3) Operating earnings and variances in assumptions

4) Mainly build-up of foreseeable dividends

Significant diversification between largest risks

Hannover Re's risk profile

Property & Casualty	Life & Health	Market & Counterparty	Operational & Other
NatCat	Life & Health Cat	Credit & Spread	Compliance & Fraud
Man-Made Cat	Mortality Trend	Interest Rate	Processes
Pricing	Longevity Trend	F/x Rate	IT, IT Security & Data
Reserving	Disability/Morbidity	Equity ²⁾	Human Resources
	Lapse	Real Estate	Strategic & Reputational ¹⁾
	Other	Counterparty	Emerging ¹⁾

■ High: VaR 99.5% > 10% of available capital³⁾

■ Medium: VaR 99.5% > 5% of available capital

□ Low: VaR 99.5% ≤ 5% of available capital

1) Not covered by VaR/Internal model

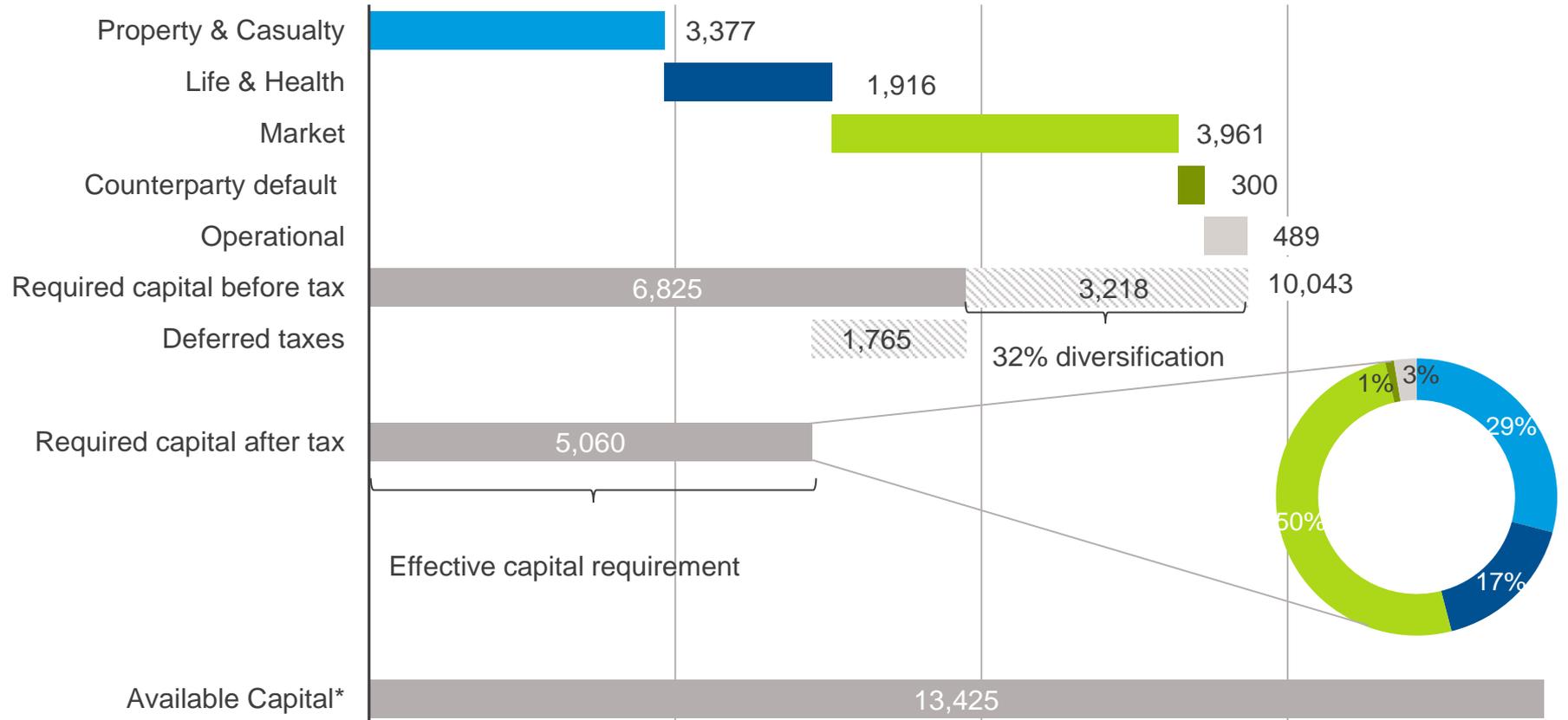
2) Including Private/Non-Listed Equity

3) VaR – Value-at-Risk, pre-tax

Capital efficiency supported by high diversification

Breakdown of Solvency II capital requirements

Risk capital for the 99.5% VaR (according to internal economic capital model) in m. EUR

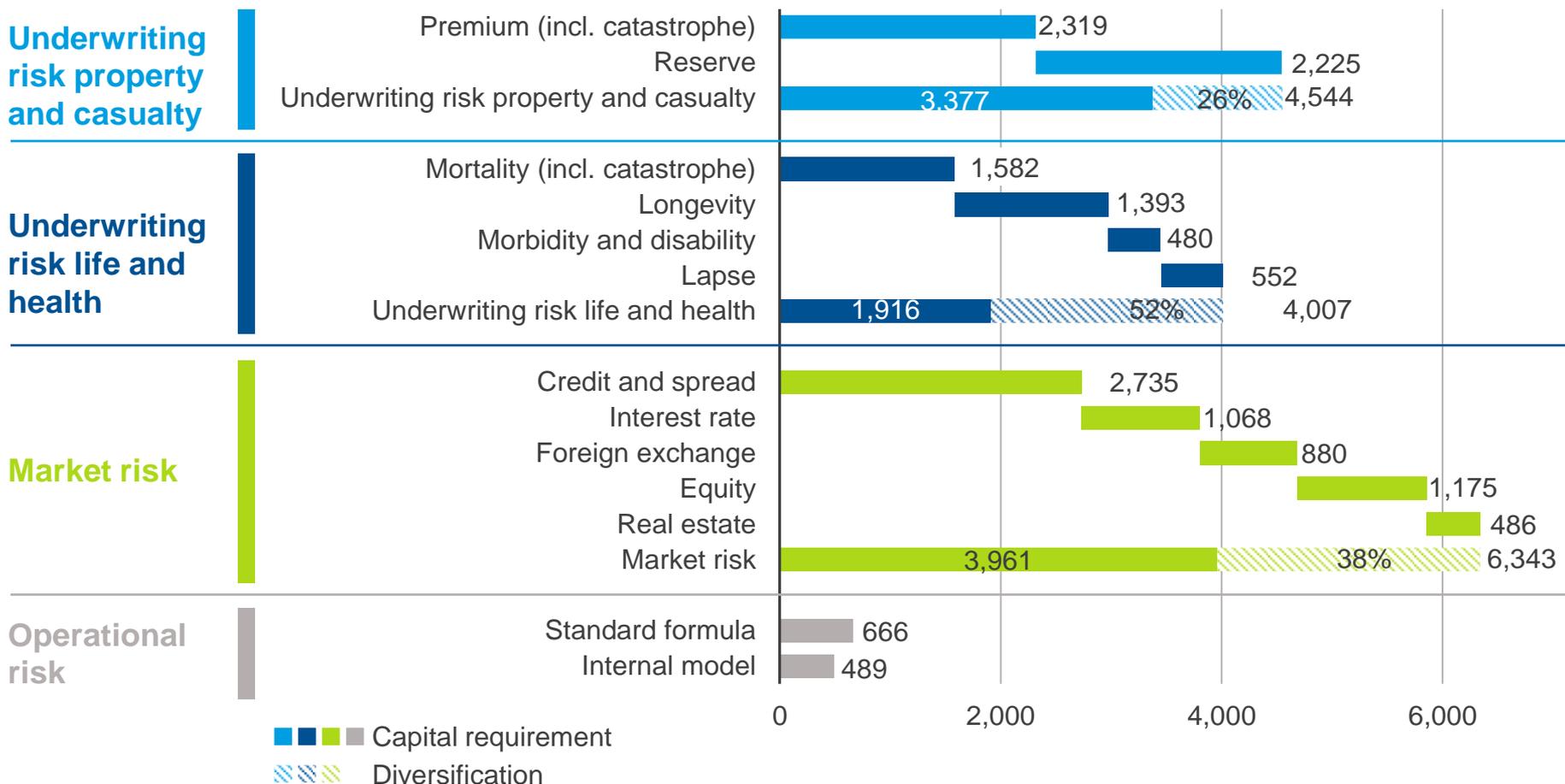


As at 30 June 2017

* According to the internal model (before haircut for minority interest)

Hannover Re is well diversified within each risk category and has a well balanced asset and liability portfolio

Risk capital for the 99.5% VaR (according to internal economic capital model) in m. EUR



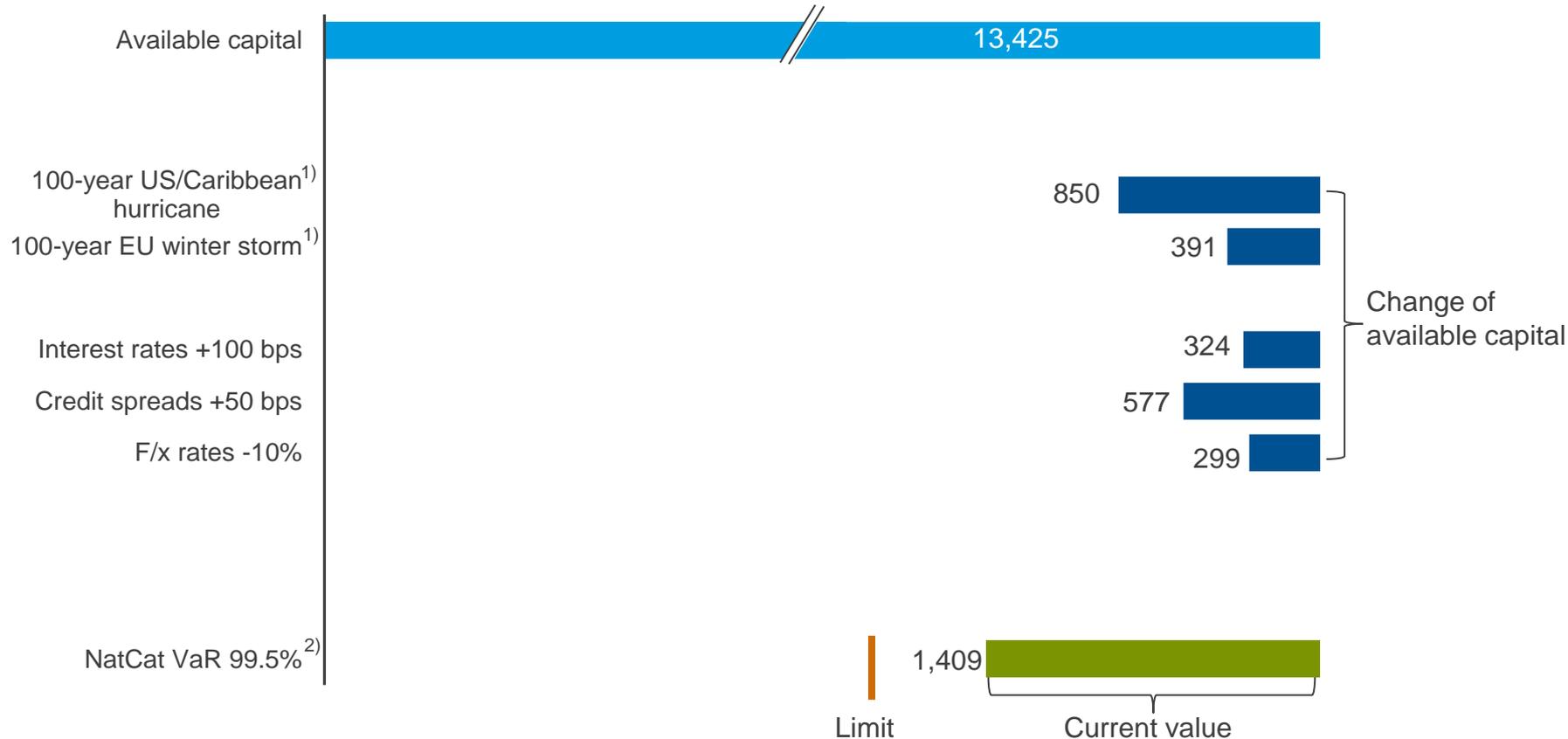
As at 30 June 2017

Individual risks with limited impact on own funds

Sensitivity of own funds for selected risks

Sensitivity of available capital

in m. EUR



As at 30 June 2017

1) A return period of 100 years is equivalent to an occurrence probability of 1%; based on the aggregate annual loss

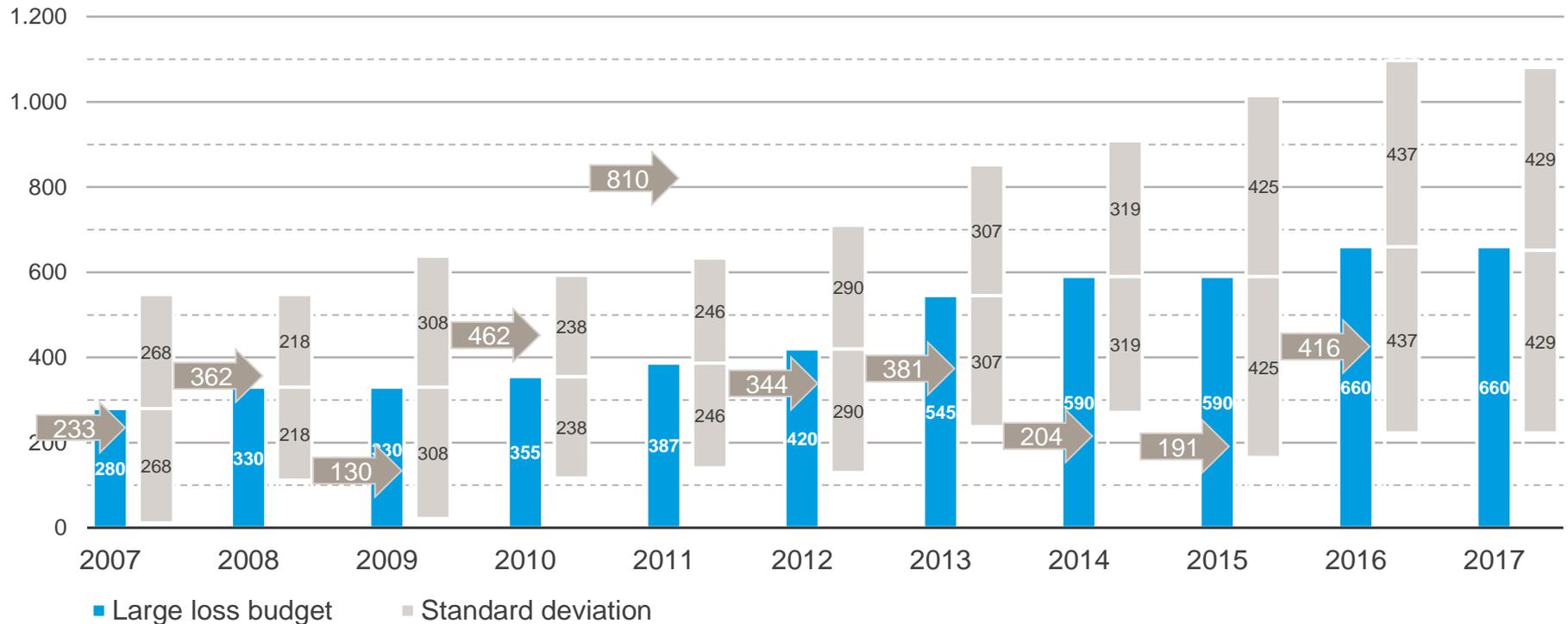
2) Net underwriting result (pre-tax), annual aggregate loss, VaR – Value at Risk

Effective exposure risk management: 11 years track record

... utilisation of large loss budget for NatCat oscillates around the expectation

Net Losses NatCat (➡)

in m. EUR



Realisation of net losses NatCat on average 85% of expectation

Recent natural catastrophes in North / Middle America

Uncertainty of estimates still significant

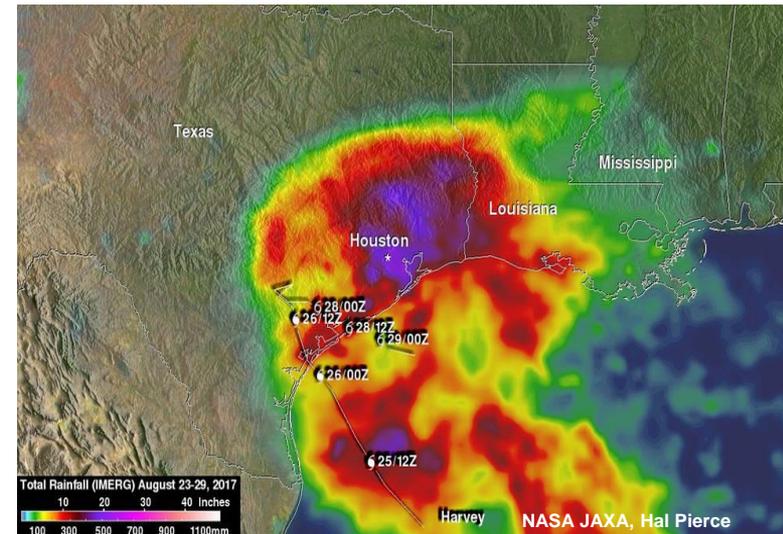
Event	Date	Region	Insured market loss estimates (MLE) in bn. USD	Modelled return period for MLE (years)
Hurricane "Harvey"	25. - 28. Aug	USA	>10	>3
Hurricane "Irma"	6. - 12. Sep	USA	25 - 35	5 - 10
		Caribbean	7 - 15	10 - 20
Hurricane "Maria"	19. - 22. Sep	Puerto Rico, Caribbean	40 - 85	75 - 350
Earthquake Mexico 8.1	07. Sep	Mexico, Chiapas	0.8 - 1.1	< 10
Earthquake Mexico 7.1	19. Sep	Mexico, Puebla	0.7 - 2	8 - 20

Sources: Insured market loss: AIR / Modelled return period: own research.

Hurricane "Harvey"

Event characteristics

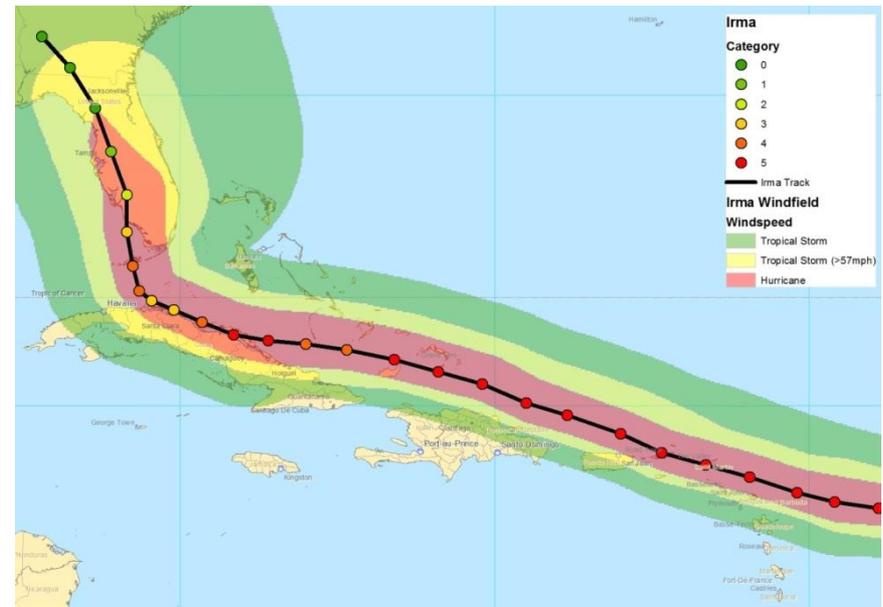
- ▶ Landfall as Cat 4 hurricane near Rockport TX
- ▶ First Cat 4 landfall in the US since 2004
- ▶ Harvey caused record rainfall of up to 52 inches while circling in the area
- ▶ Houston metropolitan area severely affected by flash floods
- ▶ Basically all rivers in the area had record water levels
- ▶ Severe underinsurance of flood losses



Hurricane "Irma"

Event characteristics

- ▶ Cat 5 hurricane with the highest ever recorded wind speeds in the open Atlantic
- ▶ Cat 5 landfall in the Caribbean severely affecting Barbuda, Anguilla, St. Martin/St. Maarten and Virgin Islands
- ▶ Tropical storm-force winds on Puerto Rico and Dominican Republic. Landfall as Cat 4 hurricane in Cuba
- ▶ US landfall as Cat 3 hurricane near Naples FL
- ▶ Significant storm surge and precipitation induced flooding in Florida, including Miami
- ▶ Tropical storm-force winds all over Florida plus heavy rain and wind in Georgia and South Carolina

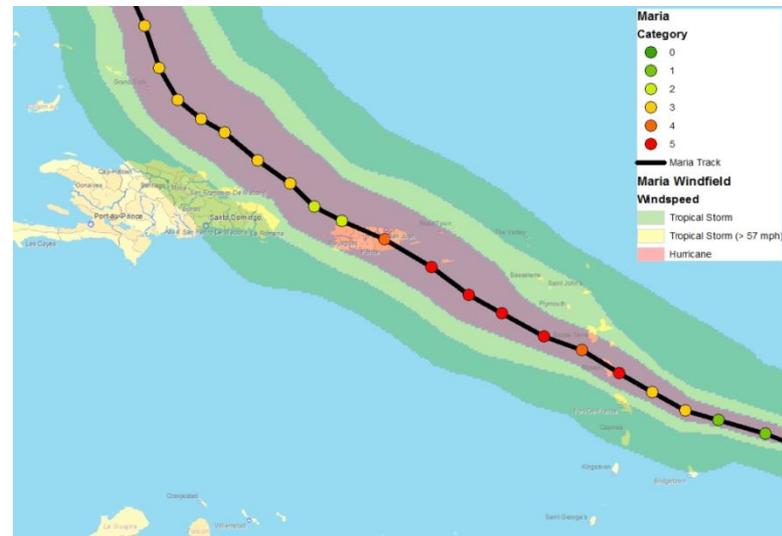


Source: Figure based on data from National Hurricane Center (www.nhc.noaa.gov)

Hurricane "Maria"

Event characteristics

- ▶ Cat 5 hurricane in the Caribbean affecting Dominica, Guadeloupe, US Virgin Islands, Puerto Rico, Dominican Republic
- ▶ Cat 5 landfall in Dominica, Cat 4 landfall in Puerto Rico
- ▶ Strongest storm to hit Puerto Rico in 85 years
- ▶ Heavy rainfall, landslides and universal power outages as well as significant damage to structures reported in both Dominica and Puerto Rico
- ▶ Full recovery of power grid may last for months
- ▶ Puerto Rico accounts for largest share of insured loss



Source: Figure based on data from National Hurricane Center (www.nhc.noaa.gov)

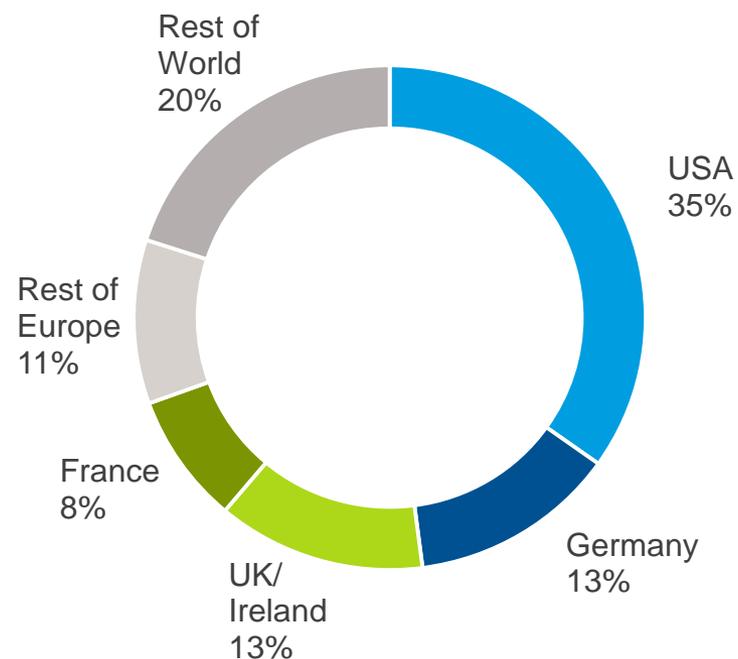
Diversified Property & Casualty book

Gross loss reserve per region

**HR Group:
Gross
Property &
Casualty
loss
reserves***

USA	8,362
Germany	3,150
UK/Ireland	3,165
France	2,006
Rest of Europe	2,523
Rest of World	4,804
Total	24,010

Total gross P&C loss reserves*



* As of 31 December 2016, consolidated, IFRS, in m. EUR

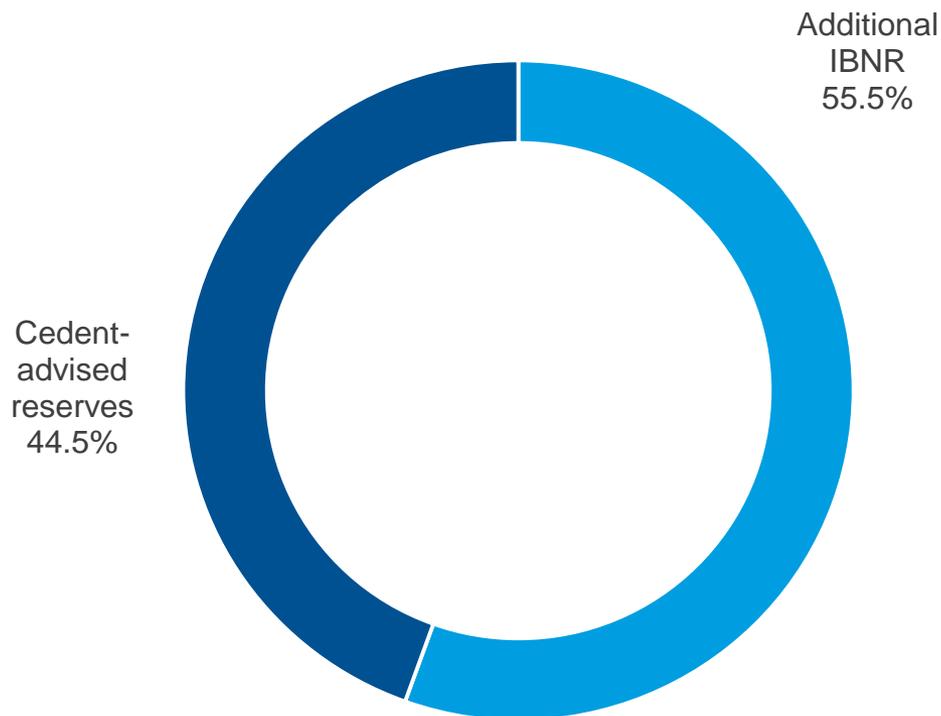
More than 50% of HR Group P&C reserves are additional IBNR

Cedent advised reserves vs. additional IBNR

**HR Group:
Gross
Property &
Casualty
loss
reserves***

Additional IBNR	13,323
Cedent-advised reserves	10,688
Total	24,010

Gross P&C reinsurance loss reserves*



* HR Group as at 31 December 2016, IFRS, gross, consolidated, figures in m. EUR

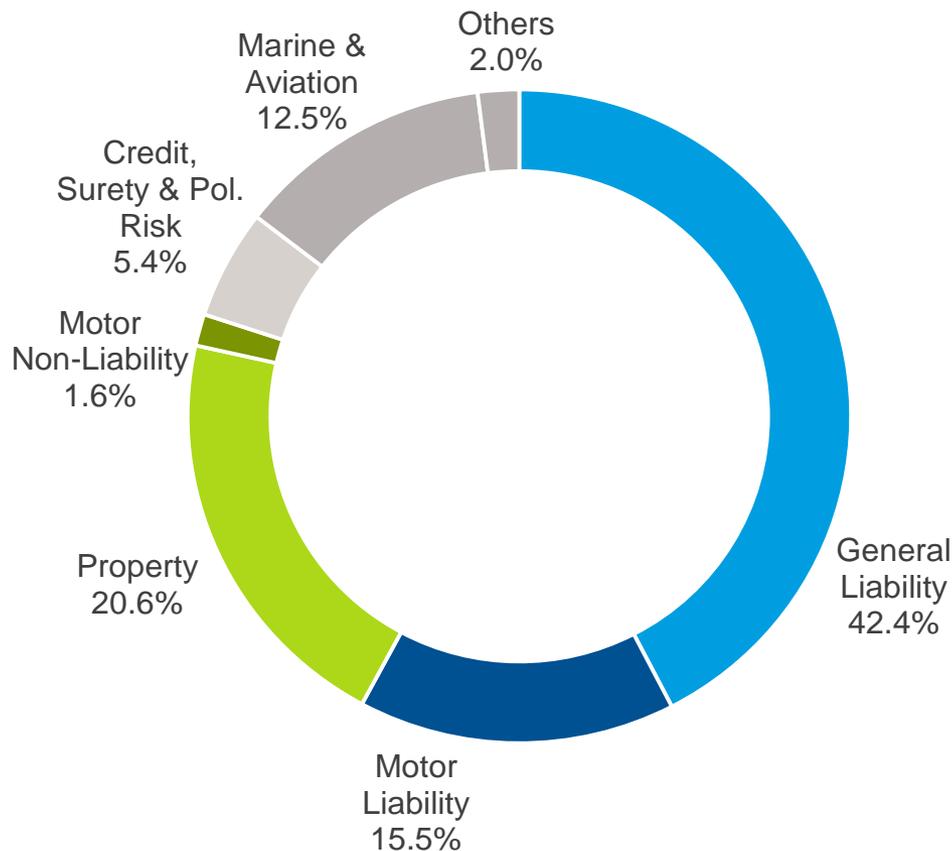
About 42% related to general liability

Driven by premium volume in recent U/Y

**HR Group:
Gross
Property &
Casualty
loss
reserves***

General Liability	10,179
Motor Liability	3,716
Property	4,950
Motor Non-Liability	376
Credit, Surety & Political Risk	1,297
Marine & Aviation	3,010
Others	483
Total	24,010

Gross P&C reinsurance loss reserves*



* HR Group as at 31 December 2016, IFRS, gross, consolidated, figures in m. EUR

Stable redundancy despite challenging environment

Reserve study review by WillisTowers Watson confirms redundancies*

- ▶ Over the last 8 years, on average 2.4% of the net earned loss ratio for P&C business is due to net reserve redundancy increases

in m. EUR

Year	Redundancy	Increase redundancy	Effect on loss ratio	P&C premium (net earned)
2009	867	276	5.3%	5,230
2010	956	89	1.6%	5,394
2011	1,117	162	2.7%	5,961
2012	1,308	190	2.8%	6,854
2013	1,517	209	3.1%	6,866
2014	1,546	29	0.4%	7,011
2015	1,887	341	4.2%	8,100
2016	1,865	-22	-0.3%	7,985
2009 - 2016 total		1,275		53,401
2009 - 2016 average		159	2.4%	6,675

* Redundancy of loss and loss adjustment expense reserve for its non-life insurance business against held IFRS reserves, before tax and minority participations. WillisTowers Watson reviewed these estimates - more details shown in appendix.

Reported loss triangles for HR/E+S* ...

Reconciliation to our balance sheet

in m. EUR

No.	Line of business	Total reserves U/Y 1979 - 2004	U/Y 1979 - 2004 in % of HR Group	Total reserves U/Y 2005 - 2016	U/Y 2005 - 2016 in % of HR Group
1	General liability non-prop.	829.1	3.5%	5,071.3	21.1%
2	Motor non-prop.	548.0	2.3%	1,838.5	7.7%
3	General liability prop.	159.9	0.7%	2,089.8	8.7%
4	Motor prop.	183.0	0.8%	949.8	4.0%
5	Property prop.	26.3	0.1%	1,333.3	5.6%
6	Property non-prop.	17.3	0.1%	1,127.2	4.7%
7	Marine	20.3	0.1%	1,151.4	4.8%
8	Aviation	247.3	1.0%	914.7	3.8%
9	Credit/surety	0.1	0.0%	1,151.4	4.8%
	All lines of business	2,031.2	8.5%	15,627.3	65.1%

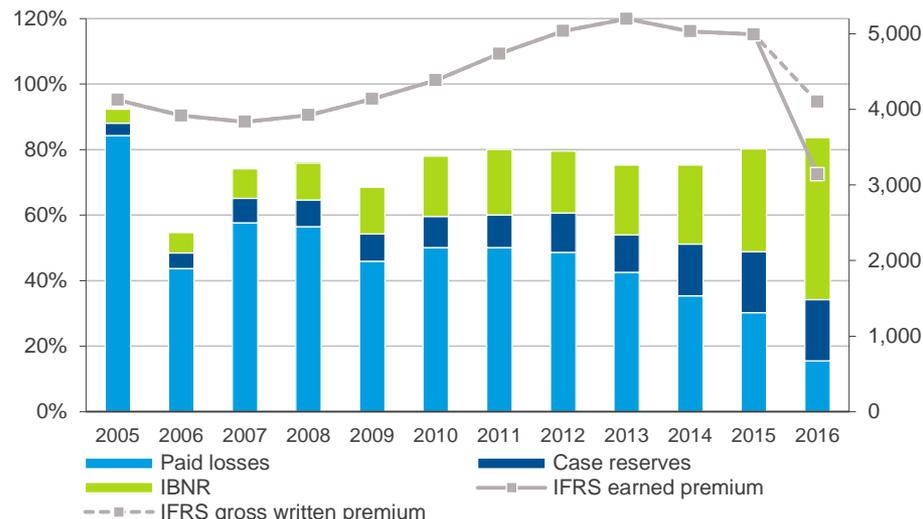
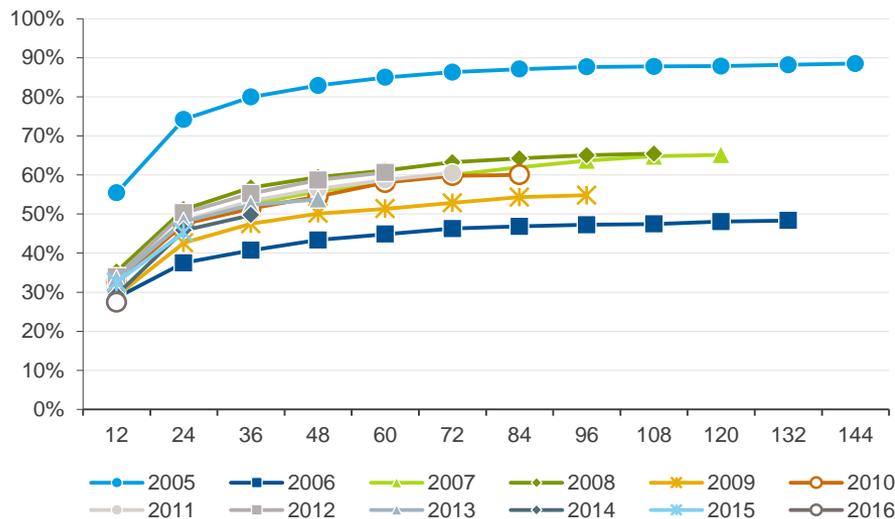
As at 31 December 2016 (in m. EUR), consolidated, IFRS figures

... represent about 3/4 of our gross carried reserves

Reported gross claims triangle for HR/E+S*

Total (~3/4 of HR Group reserves shown in 9 individual triangles)

UW year	IFRS earned premium	Statistical data (as provided by cedents)												Booked data			
		12	24	36	48	60	72	84	96	108	120	132	144	Ultimate loss ratio	Paid losses	Case reserves	IBNR balance
2005	4,124	55.4%	74.2%	79.9%	82.9%	85.0%	86.3%	87.1%	87.6%	87.8%	87.9%	88.2%	88.5%	92.3%	84.3%	3.8%	4.2%
2006	3,917	28.6%	37.5%	40.7%	43.3%	44.9%	46.3%	46.8%	47.3%	47.4%	48.0%	48.3%		54.6%	43.7%	4.8%	6.2%
2007	3,834	33.9%	47.6%	52.6%	55.8%	58.2%	60.0%	62.0%	63.7%	64.8%	65.1%			74.2%	57.7%	7.5%	9.0%
2008	3,923	35.2%	51.2%	56.8%	59.4%	61.2%	63.2%	64.2%	65.0%	65.4%				75.9%	56.5%	8.2%	11.3%
2009	4,138	29.0%	42.6%	47.5%	50.1%	51.3%	52.9%	54.3%	54.8%					68.5%	46.0%	8.3%	14.2%
2010	4,385	32.7%	47.4%	51.4%	54.5%	58.1%	59.8%	60.0%						78.0%	50.2%	9.5%	18.4%
2011	4,734	33.5%	48.2%	53.4%	56.4%	58.7%	60.5%							80.1%	50.1%	10.0%	19.9%
2012	5,035	33.9%	50.3%	55.2%	58.7%	60.6%								79.6%	48.7%	12.0%	18.9%
2013	5,195	33.4%	48.1%	52.3%	53.8%									75.3%	42.6%	11.4%	21.3%
2014	5,030	29.3%	45.8%	49.7%										75.3%	35.4%	15.8%	24.2%
2015	4,992	32.5%	45.3%											80.3%	30.2%	18.6%	31.4%
2016	3,140	27.4%												83.6%	15.5%	18.7%	49.4%



* Combined Hannover Re / E+S Rück as at 31 Dec 2016 (in m. EUR), consolidated, IFRS, excluding branches, development in months, underwriting year

Reserving risk is reflected in the variation in ultimate loss ratios

Total (~3/4 of HR Group reserves shown in 9 individual triangles)

U/Y	Ultimate loss ratio 2010	Ultimate loss ratio 2011	Ultimate loss ratio 2012	Ultimate loss ratio 2013	Ultimate loss ratio 2014	Ultimate loss ratio 2015	Ultimate loss ratio 2016	Paid losses 2016	Case reserves 2016	IBNR balance 2016
2005	96.2%	95.8%	94.1%	92.7%	93.3%	92.8%	92.3%	84.3%	3.8%	4.2%
2006	63.3%	62.1%	60.9%	59.5%	57.5%	56.5%	54.6%	43.7%	4.8%	6.2%
2007	78.3%	77.1%	77.5%	77.2%	75.6%	75.0%	74.2%	57.7%	7.5%	9.0%
2008	83.2%	84.1%	81.8%	80.9%	80.3%	78.0%	75.9%	56.5%	8.2%	11.3%
2009	78.3%	75.8%	73.1%	72.7%	70.1%	69.9%	68.5%	46.0%	8.3%	14.2%
2010	81.2%	84.1%	81.4%	78.9%	80.0%	79.0%	78.0%	50.2%	9.5%	18.4%
2011		85.6%	82.4%	81.9%	80.9%	81.8%	80.1%	50.1%	10.0%	19.9%
2012			89.1%	83.1%	79.1%	79.8%	79.6%	48.7%	12.0%	18.9%
2013				82.8%	80.1%	78.9%	75.3%	42.6%	11.4%	21.3%
2014					79.0%	75.7%	75.3%	35.4%	15.8%	24.2%
2015						82.6%	80.3%	30.2%	18.6%	31.4%
2016							83.6%	15.5%	18.7%	49.4%

As at 31 December 2016 (in m. EUR), consolidated, IFRS, development in years

somewhat
different

Appendix

Details on reserve review by Willis Towers Watson

- The scope of Willis Towers Watson's work was to review certain parts of the held loss and loss adjustment expense reserve, net of outwards reinsurance, from Hannover Rück SE's consolidated financial statements in accordance with IFRS as at each 31 December from 2009 to 2016, and the implicit redundancy margin, for the non-life business of Hannover Rück SE. Willis Towers Watson concludes that the reviewed loss and loss adjustment expense reserve, net of reinsurance, less the redundancy margin is reasonable in that it falls within Towers Watson's range of reasonable estimates.
 - Life reinsurance and health reinsurance business are excluded from the scope of this review.
 - Towers Watson's review of non-life reserves as at 31 December 2016 covered 98.1% / 98.2% of the gross and net held non-life reserves of €24.0 billion and € 22.8 billion respectively. Together with life reserves of gross €4.1 billion and net €3.9 billion, the total balance sheet reserves amount to €28.1 billion gross and €26.6 billion net.
 - The results shown in this presentation are based on a series of assumptions as to the future. It should be recognised that actual future claim experience is likely to deviate, perhaps materially, from Willis Towers Watson's estimates. This is because the ultimate liability for claims will be affected by future external events; for example, the likelihood of claimants bringing suit, the size of judicial awards, changes in standards of liability, and the attitudes of claimants towards the settlement of their claims.
 - The results shown in Willis Towers Watson's reports are not intended to represent an opinion of market value and should not be interpreted in that manner. The reports do not purport to encompass all of the many factors that may bear upon a market value.
 - Willis Towers Watson's analysis was carried out based on data as at evaluation dates for each 31 December from 2009 to 2016. Willis Towers Watson's analysis may not reflect development or information that became available after the valuation dates and Willis Towers Watson's results, opinions and conclusions presented herein may be rendered inaccurate by developments after the valuation dates.
 - As is typical for reinsurance companies, claims reporting can be delayed due to late notifications by some cedants. This increases the uncertainty in the estimates.
 - Hannover Rück SE has asbestos, environmental and other health hazard (APH) exposures which are subject to greater uncertainty than other general liability exposures. Willis Towers Watson's analysis of the APH exposures assumes that the reporting and handling of APH claims is consistent with industry benchmarks. However, there is wide variation in estimates based on these benchmarks. Thus, although Hannover Rück SE's held reserves show some redundancy compared to the indications, the actual losses could prove to be significantly different to both the held and indicated amounts.
 - Willis Towers Watson has not anticipated any extraordinary changes to the legal, social, inflationary or economic environment, or to the interpretation of policy language, that might affect the cost, frequency, or future reporting of claims. In addition, Towers Watson's estimates make no provision for potential future claims arising from causes not substantially recognised in the historical data (such as new types of mass torts or latent injuries, terrorist acts), except in so far as claims of these types are included incidentally in the reported claims and are implicitly developed.
 - In accordance with its scope Willis Towers Watson's estimates are on the basis that all of Hannover Rück SE's reinsurance protection will be valid and collectable. Further liability may exist for any reinsurance that proves to be irrecoverable.
 - Willis Towers Watson's estimates are in Euros based on the exchange rates provided by Hannover Rück SE as at each 31 December evaluation date. However, a substantial proportion of the liabilities is denominated in foreign currencies. To the extent that the assets backing the reserves are not held in matching currencies, future changes in exchange rates may lead to significant exchange gains or losses.
 - Willis Towers Watson has not attempted to determine the quality of Hannover Rück SE's current asset portfolio, nor has Willis Towers Watson reviewed the adequacy of the balance sheet provisions except as otherwise disclosed herein.
- In its review, Willis Towers Watson has relied on audited and unaudited data and financial information supplied by Hannover Rück SE and its subsidiaries, including information provided orally. Willis Towers Watson relied on the accuracy and completeness of this information without independent verification.
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