

50  
years

somewhat  
different



# 19th International Investors' Day

London, 20 October 2016

*hannover* **re**<sup>®</sup>

- 1 | Strategic positioning in a competitive environment \_\_\_\_\_ Ulrich Wallin
- 2 | From the CFO's desk \_\_\_\_\_ Roland Vogel
- 3 | Risk profile and reserving level \_\_\_\_\_ Dr. Andreas Märkert
- 4 | Managing our P&C book of business: \_\_\_\_\_ Jürgen Gräber  
growth opportunities and retrocession
- 5 | Financial solutions: \_\_\_\_\_ Dr. Klaus Miller  
sustainable and profitable business well worth the price
- 6 | Concluding remarks and outlook \_\_\_\_\_ Ulrich Wallin



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# Strategic positioning in a competitive environment

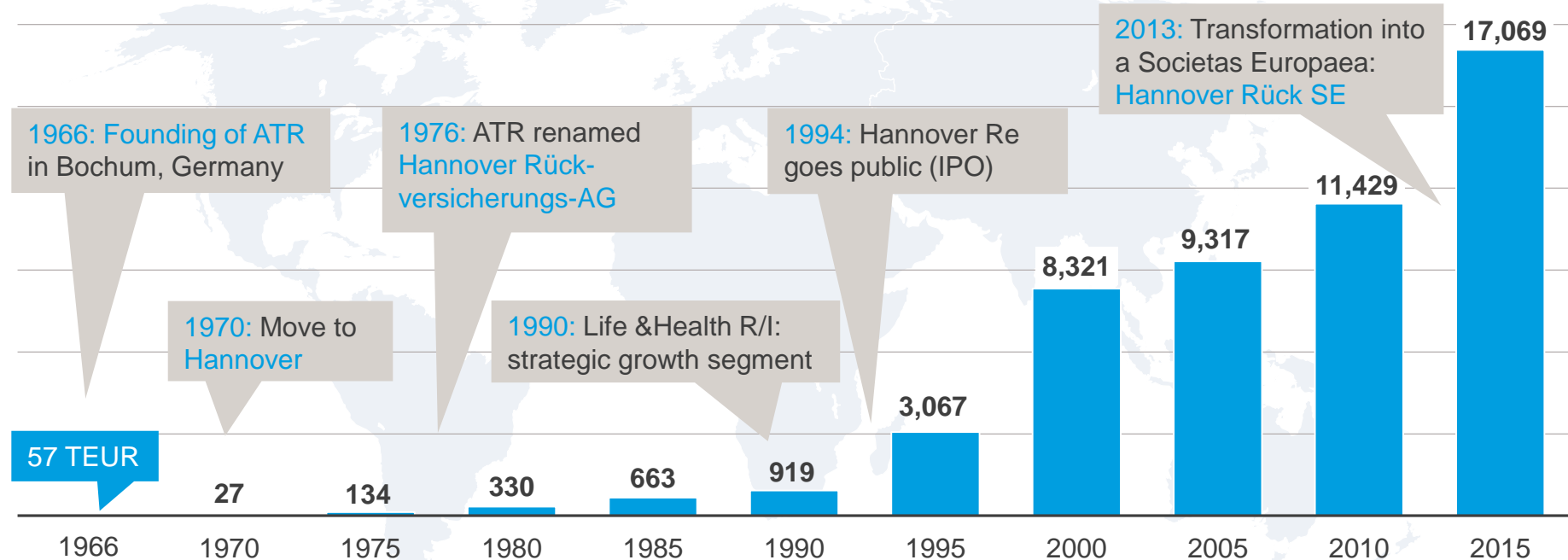
Ulrich Wallin, Chief Executive Officer

- ▶ **Hannover Re – A 50-year success story**
- ▶ Reinsurance is and will be an attractive business
- ▶ Positioned to outperform in the current market
- ▶ Increasing earnings in the medium term

# From a German in-house reinsurer to a global player

## Gross written premium development

in m. EUR



## Growth in number of employees



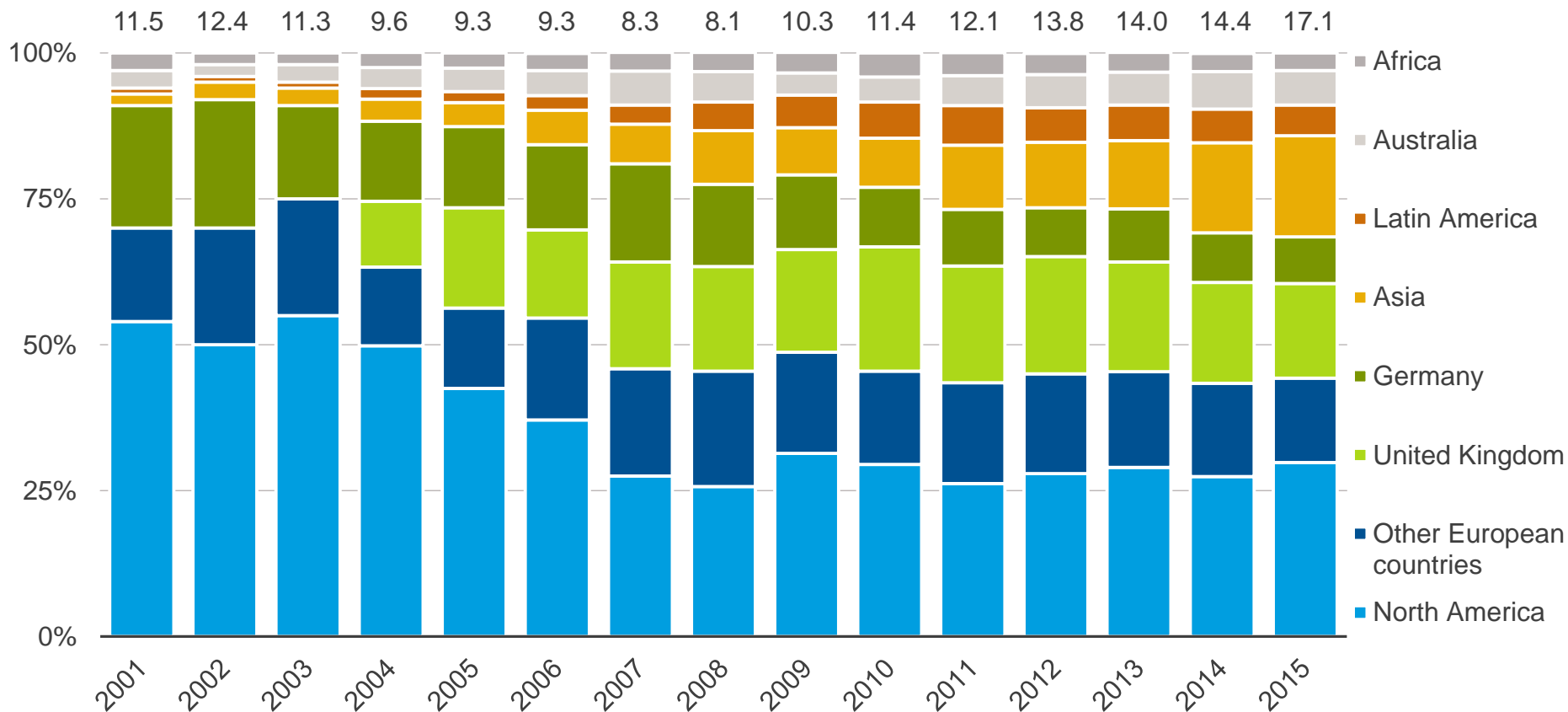
Based on local GAAP/HGB (1966 - 1997), US GAAP (1998 - 2003) and IFRS (as of 2004)

# Well balanced international portfolio

Geographical diversification with benefits for earnings and capital efficiency

Gross written premium (Group): geographical development

in bn. EUR



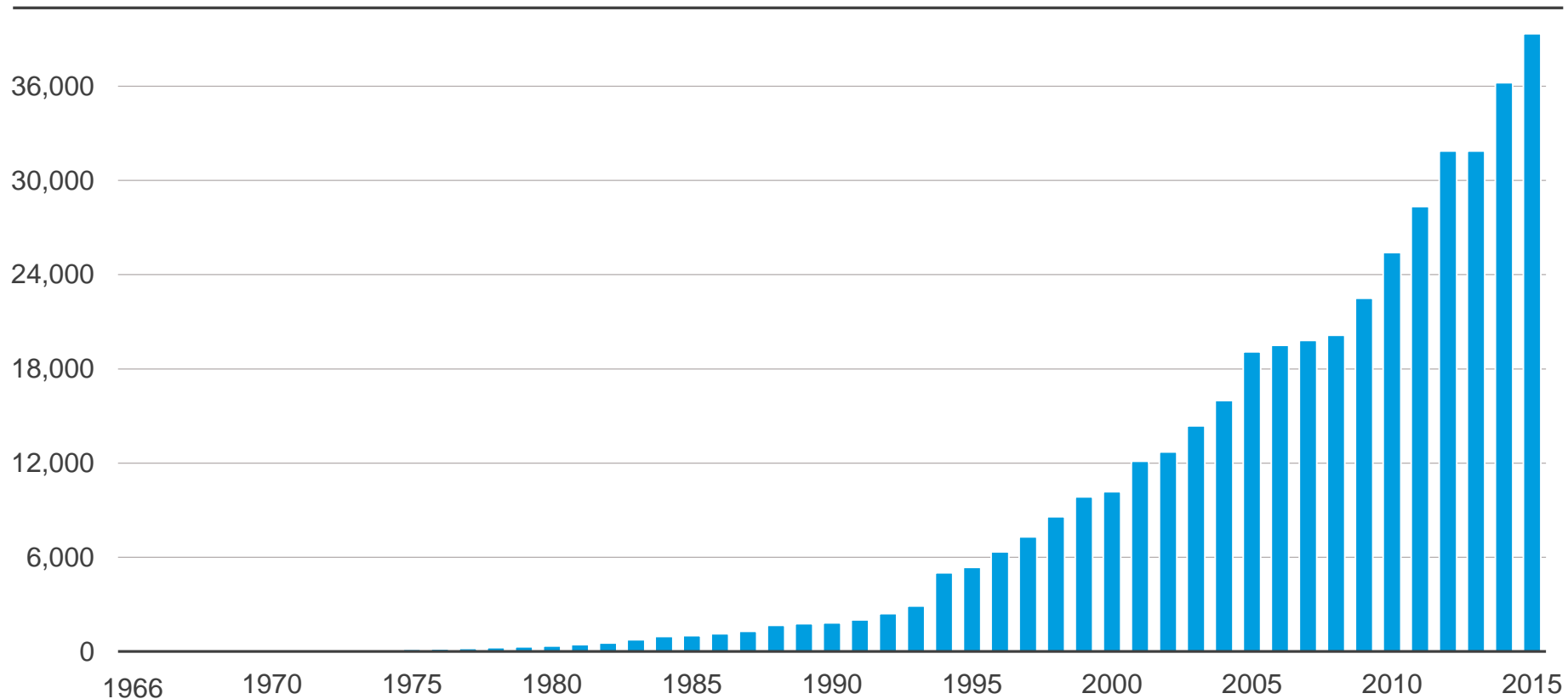
2001 - 2003 US GAAP, as from 2004 IFRS

# Steadily growing asset base ...

... proves the long-term success of the business model

## Development of assets under own management 1966 - 2015

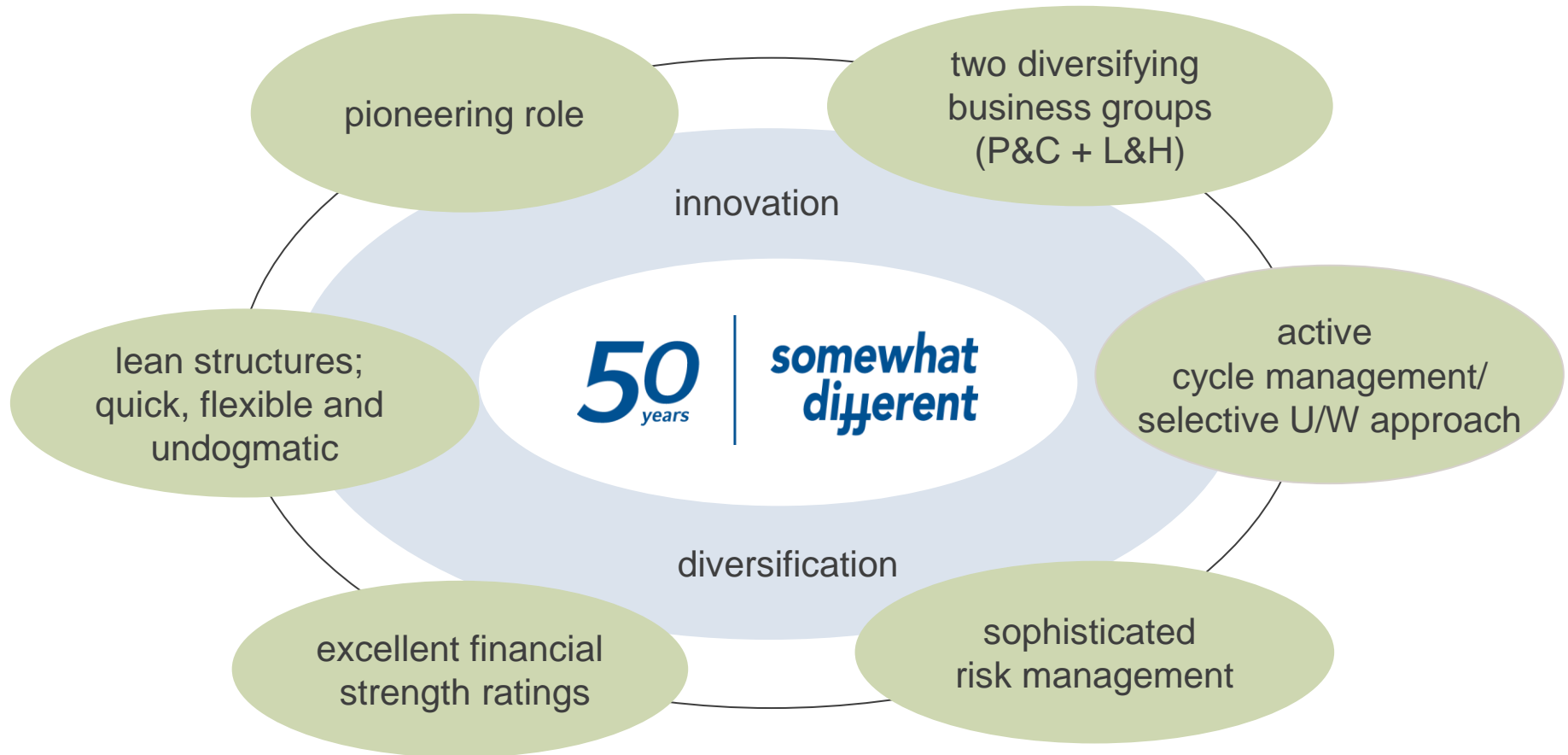
in m. EUR



Based on local GAAP/HGB (1966 - 1997), US GAAP (1998 - 2003) and IFRS (as of 2004)  
1966 - 1993: individual company figures (Hannover Rückversicherungs-AG)  
As of 1994: worldwide Group figures

# Hannover Re's success factors of the past ...

... will be preserved for the future



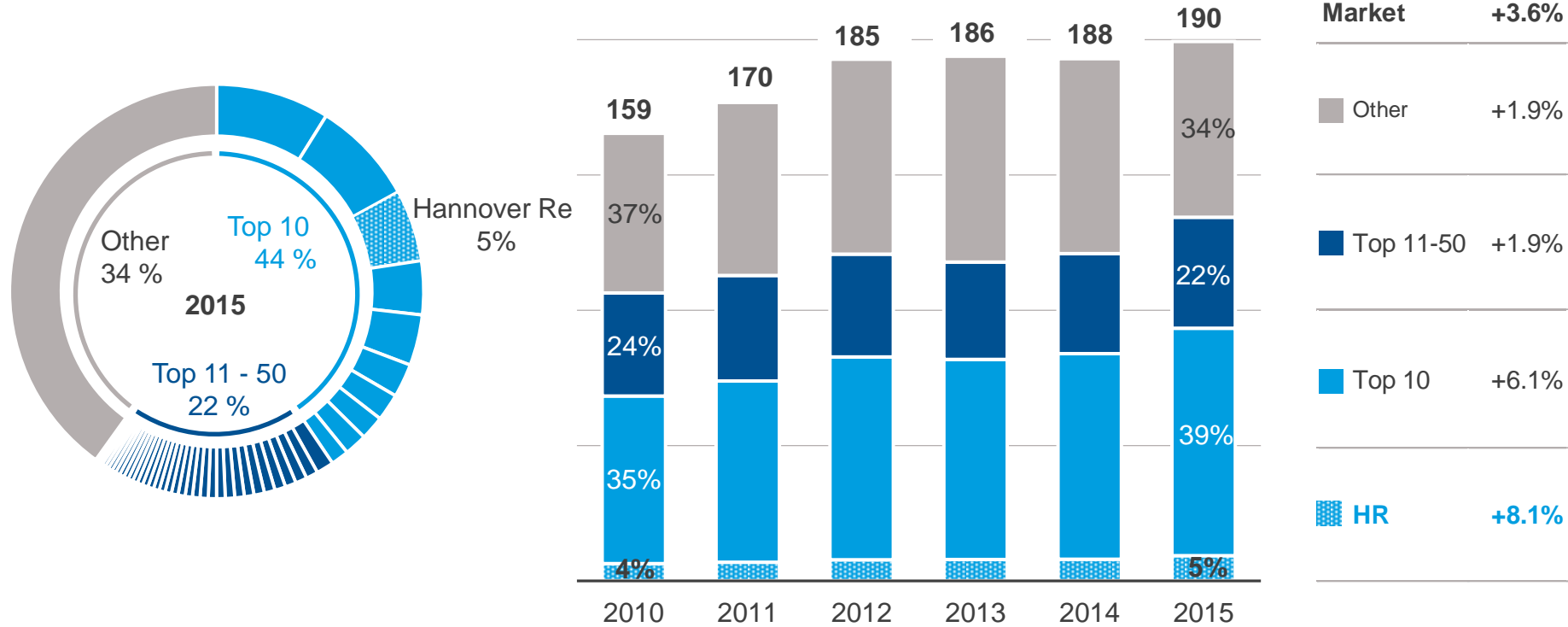


- ▶ Hannover Re – A 50 year success story
- ▶ **Reinsurance is and will be an attractive business**
- ▶ Positioned to outperform in the current market
- ▶ Increasing earnings in the medium term

# Larger P&C players grow faster than the average peer

## Property & Casualty reinsurance in a global perspective

### Market size and concentration



Source: Own research (global market size based on estimate of total ceded premiums by primary insurers)  
 Top 10: Munich Re, Swiss Re, Lloyd's, Hannover Re, Berkshire, SCOR, China Re, PartnerRe, Everest Re, KoreanRe

### Hannover Re outperforms the market

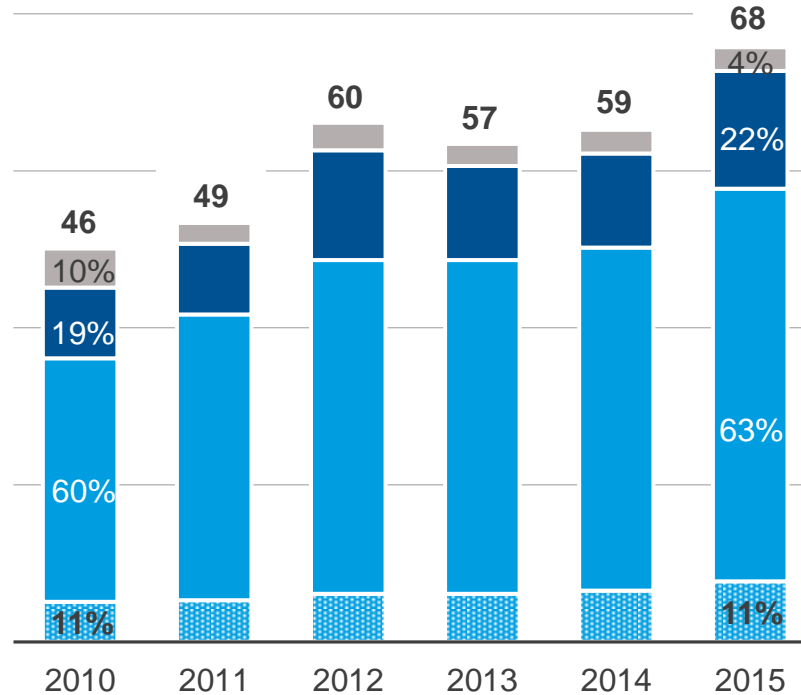
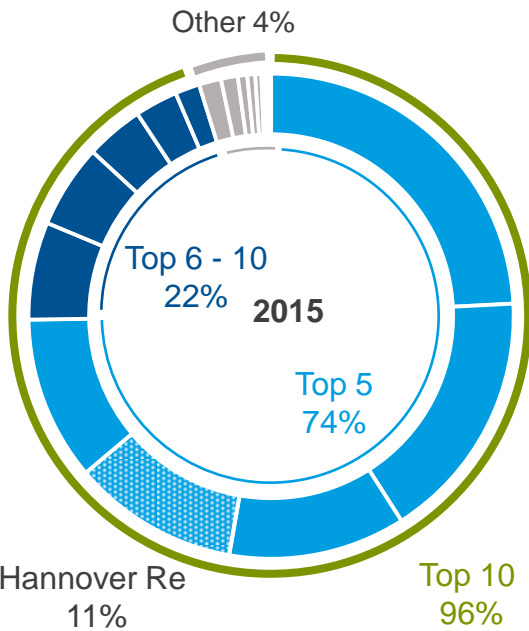
# Concentration on the Top 5/Top 10 players continues

## Life & Health reinsurance in a global perspective

### Market size and concentration

in bn. EUR

### 5-year CAGR



Market	+8.1%
Other	-8.5%
Top 6-10	+11.4%
Top 5	+8.8%
HR	+8.7%

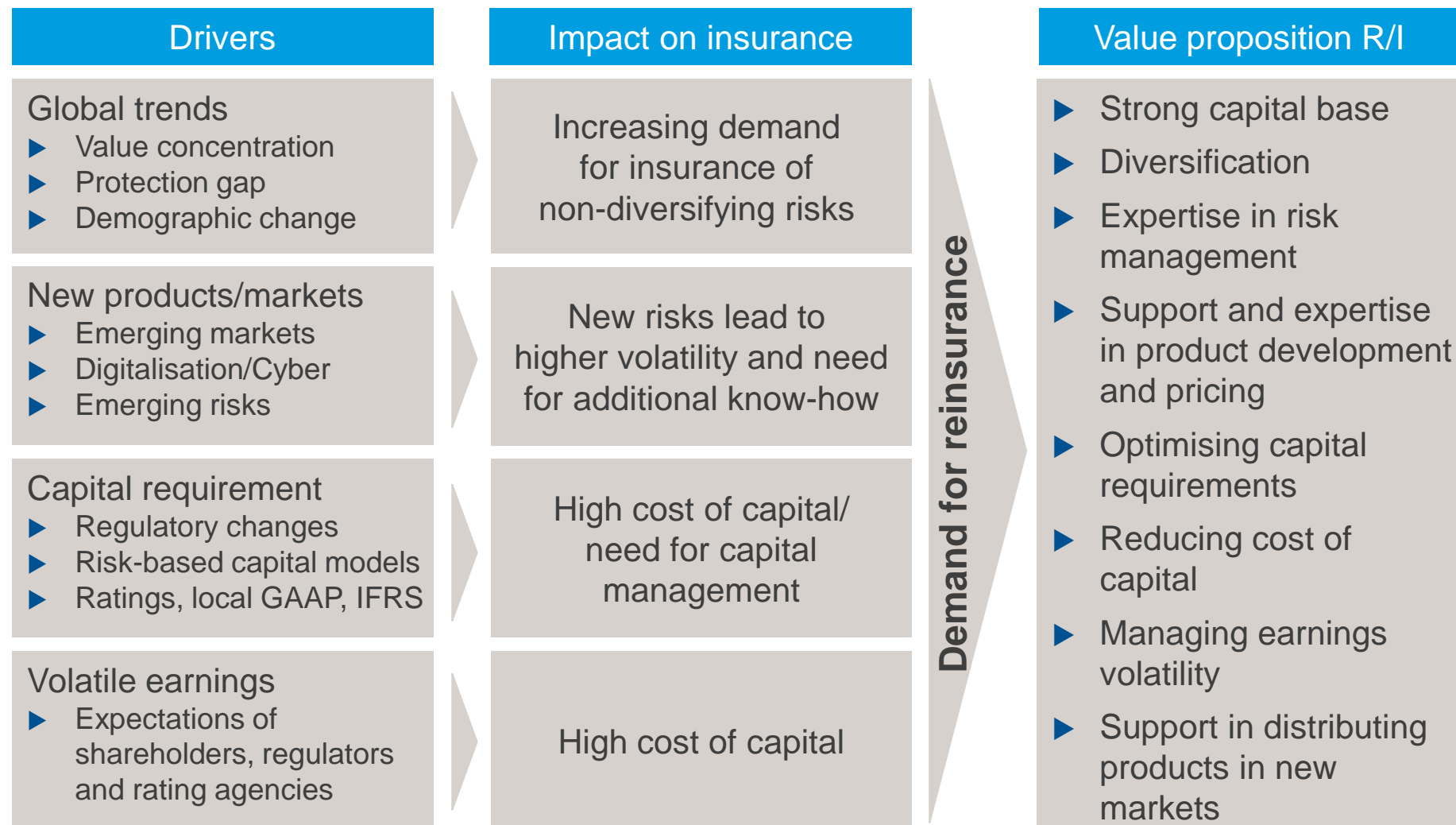
Source: Own research

Top 10: Munich Re, Swiss Re, RGA, Hannover Re, SCOR, Berkshire (incl. GenRe), Great West Lifeco, China Re, Korean Re, PartnerRe

## Hannover Re grows in line with market

# Reinsurance is and will be an attractive product

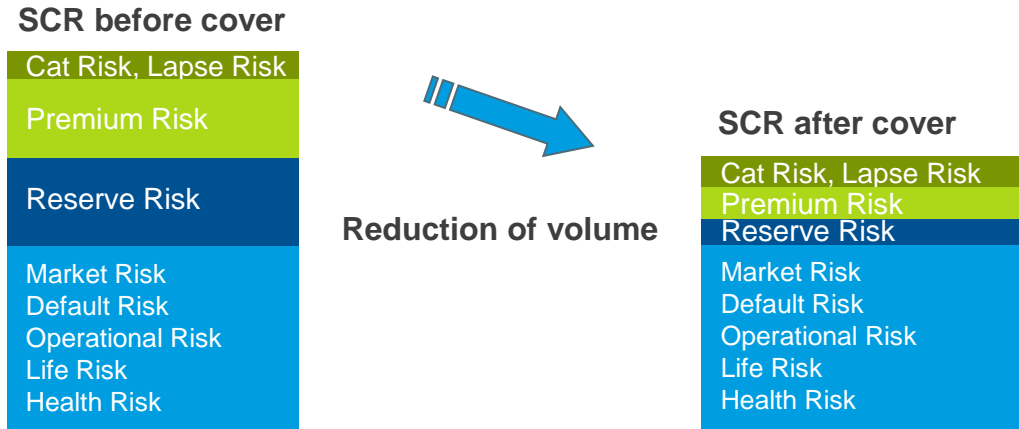
## Drivers for reinsurance demand



# Reinsurance has a high value contribution for our clients

## Efficient and flexible tool to manage earnings volatility and capital

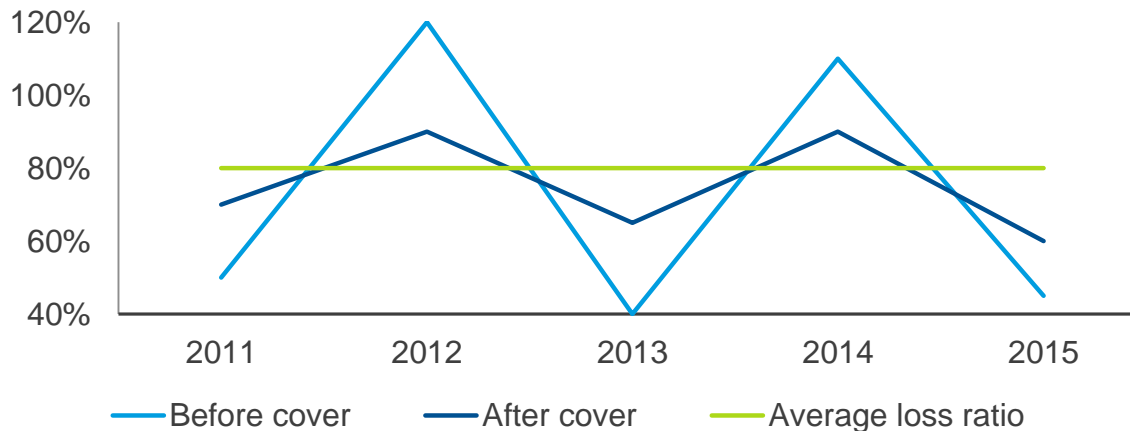
### Calendar-year quota share with run-off cover (schematic)



### Capital management

- ▶ Capital relief
- ▶ Optimisation of capital requirement in light of different regulations (Local GAAP, IFRS, SCR, rating agencies)

### Aggregate excess of loss balance sheet cover (schematic)



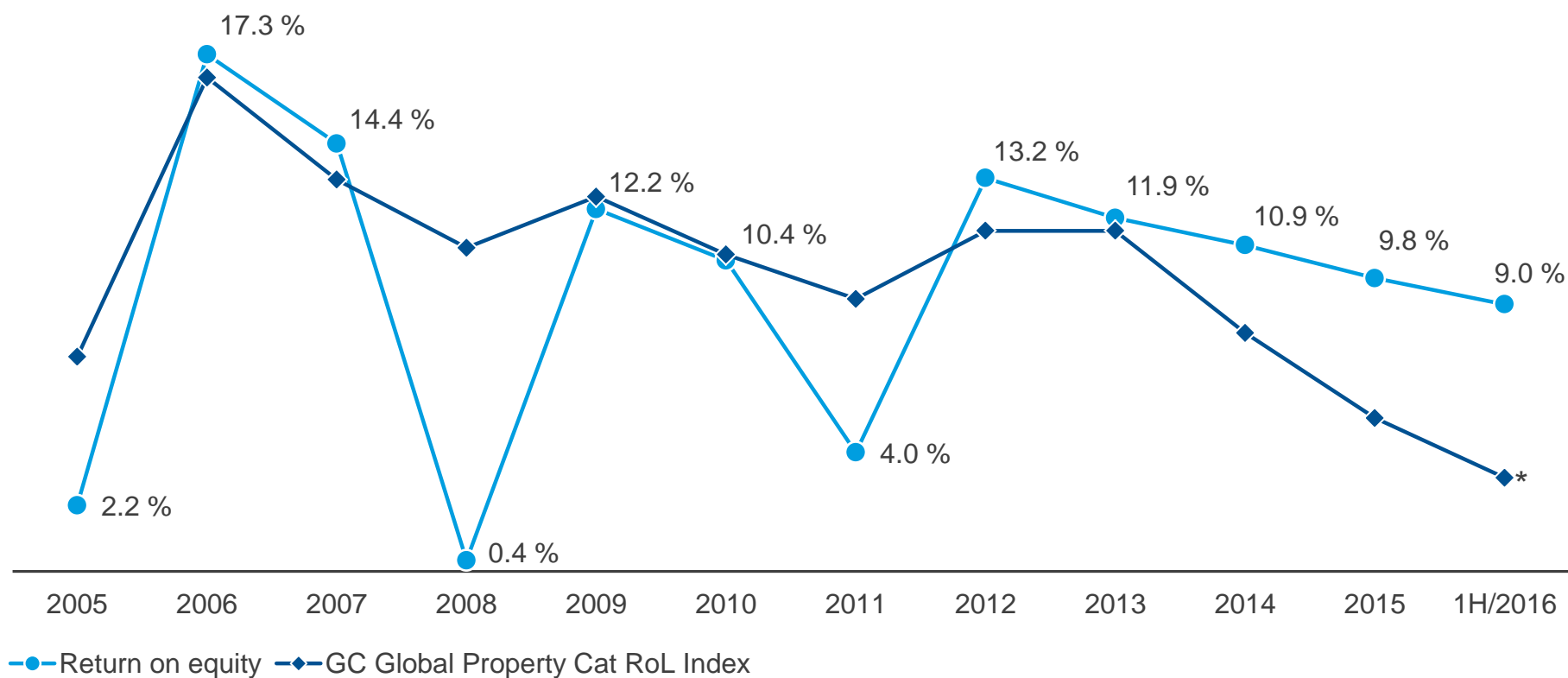
### Earnings volatility

- ▶ Managing and reducing earnings volatility
- ▶ Reducing cost of capital
- ▶ Not possible with equity or debt

# Reinsurance market conditions will improve ...

## ... when the RoE becomes sufficiently low

### Development of return on equity and Guy Carpenter Global Property Cat RoL Index



Source: Guy Carpenter

Return on equity based on company data (Top 10 of the Global Reinsurance Index (GloRe) with more than 50% reinsurance business), own calculation

\* Preliminary figures for 2016

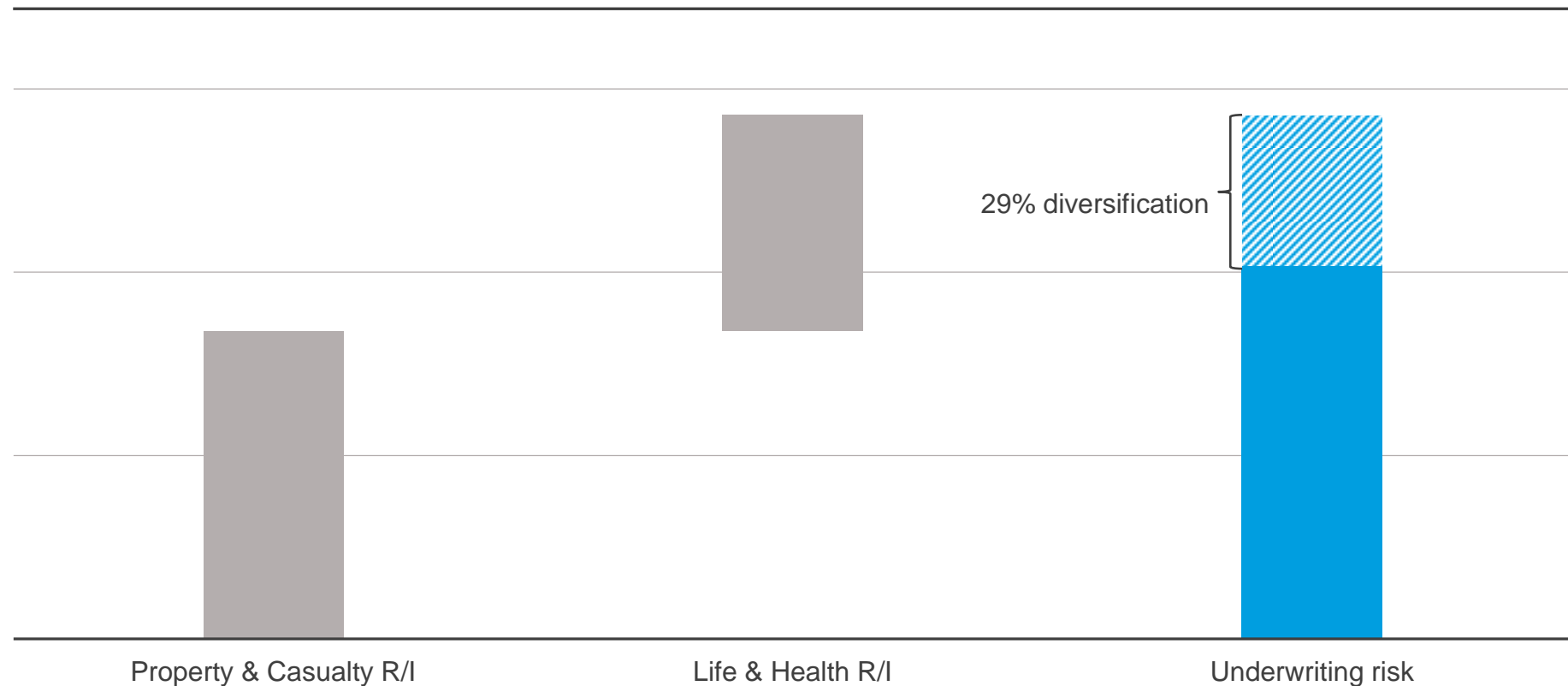
- ▶ Hannover Re – A 50 year success story
- ▶ Reinsurance is and will be an attractive business
- ▶ **Positioned to outperform in the current market**
- ▶ Increasing earnings in the medium term

# High diversification is an important part of our business model

Balanced mix of P&C and L&H business reduces capital requirement significantly

## Risk capital for the 99.5% VaR

in m. EUR



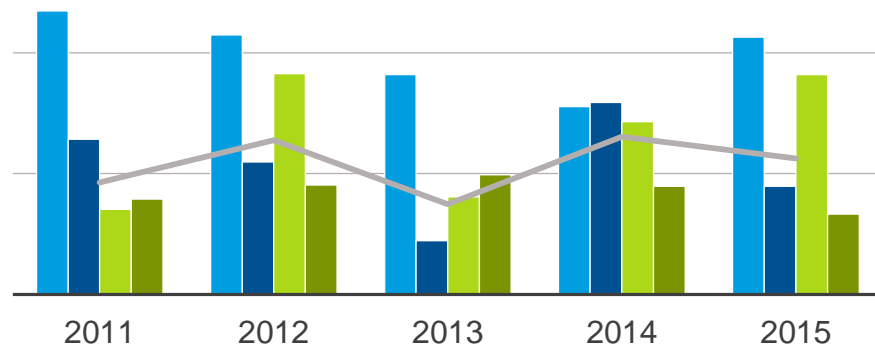
As at 30 June 2016



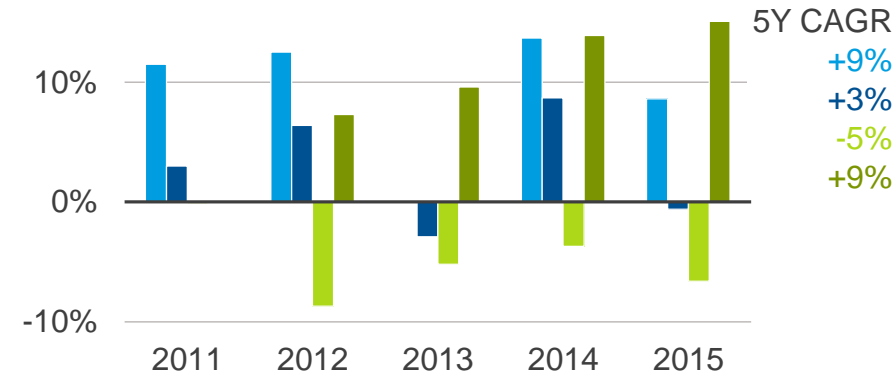
# Strong cash flow fuels growth of invested assets. . .

## . . .and helps to offset pressure from low interest rates

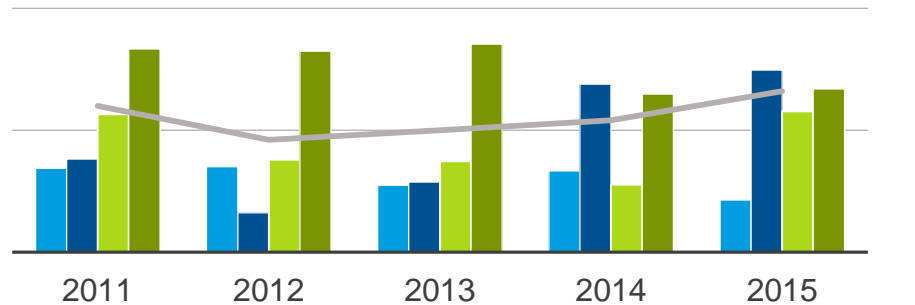
**HR has the highest cash flow/NPE ratio** in %



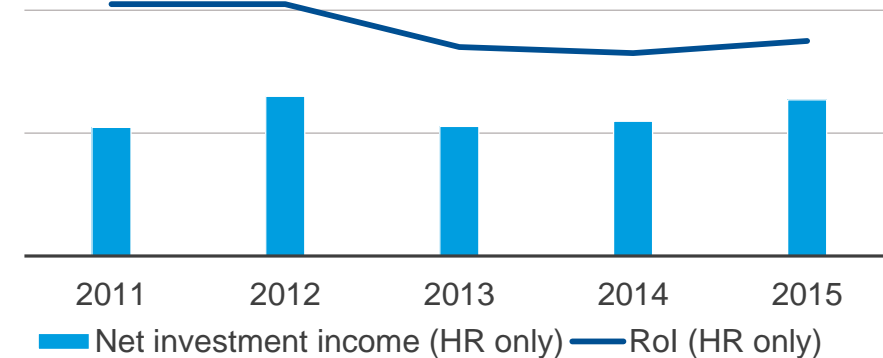
**HR AuM growth is above peers' average**



**HR realises less than peers' average** in % of NII\*



**NII (AuM) stable despite lower RoI** in m. EUR



■ Hannover Re ■ Peer 1 ■ Peer 2 ■ Peer 3 — ∅ Peer 1-3

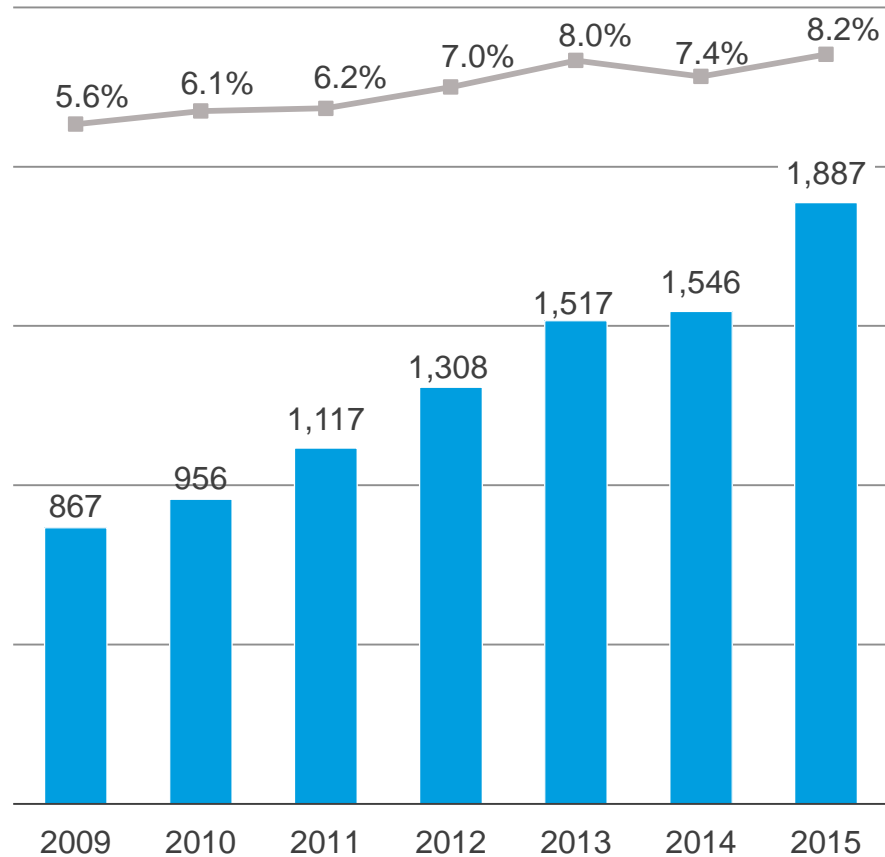
\* From assets under own management

Data from company reporting, own calculations; Peers: Munich Re, Swiss Re, SCOR

# Consistent and sustainable positive reserve development ...

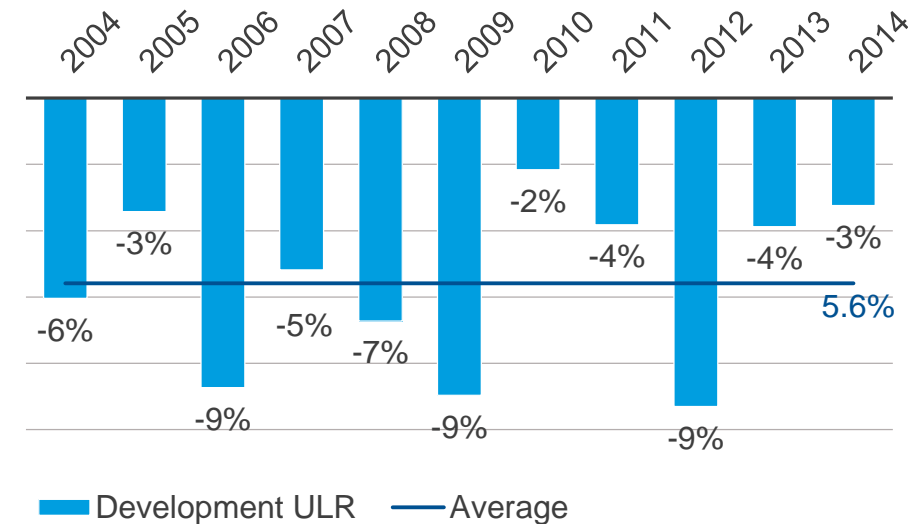
## ... while increasing reserve redundancies to all-time high level in 2015

**Reserve redundancies\*** in m. EUR/in % of reserves

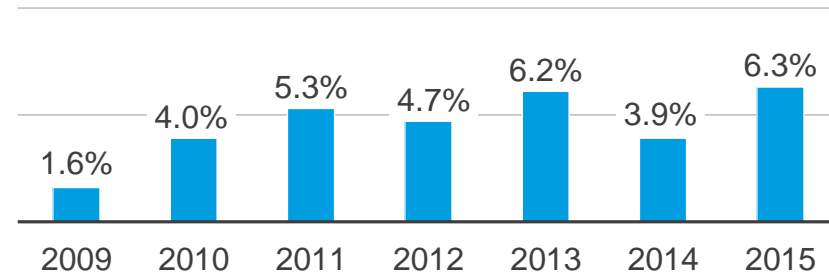


\* According to Willis Towers Watson

**Development of booked ULR by U/Y since 2009**



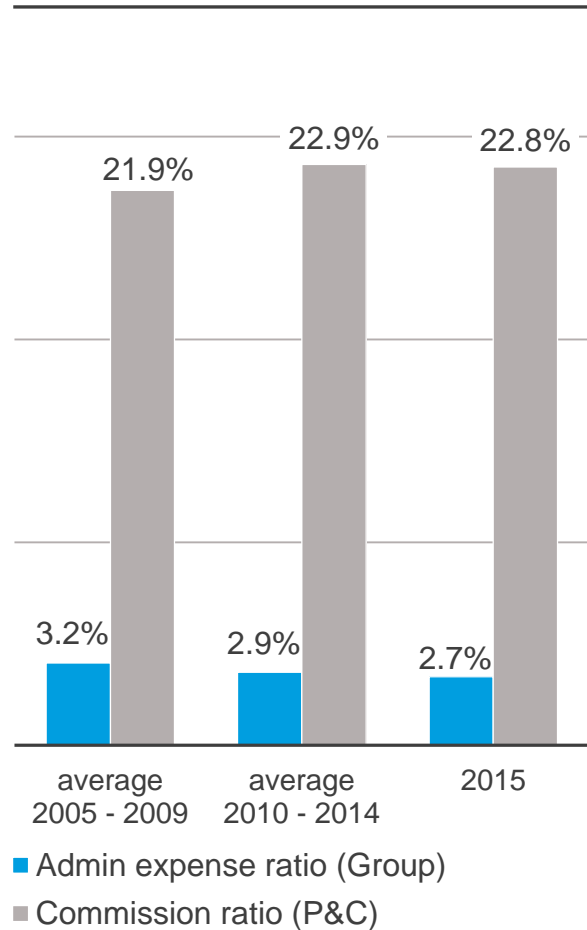
**Run-off profit (financial year)** in % of NPE



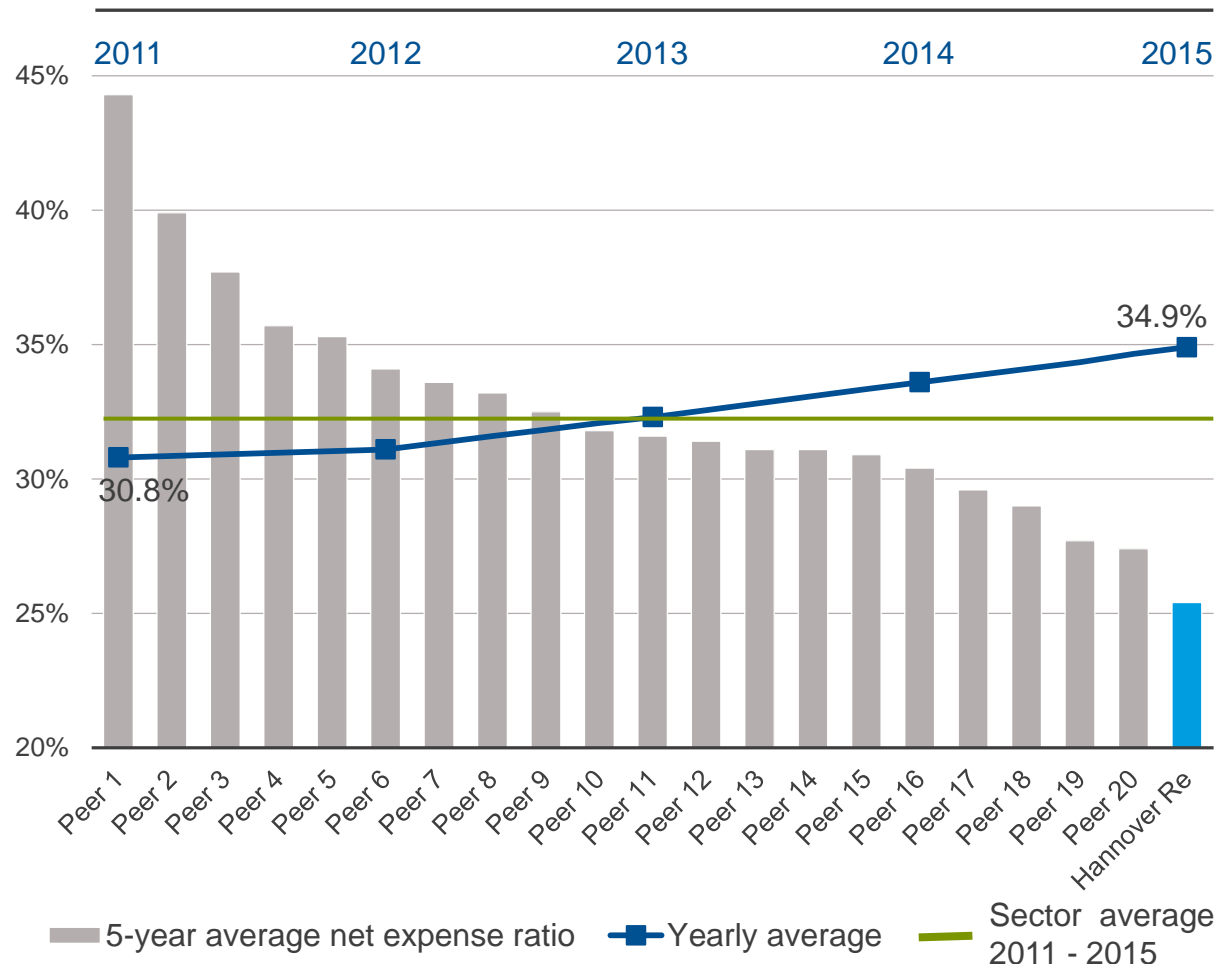
# Low expense ratio is an important competitive advantage

## Hannover Re largely maintained its ratio in contrast to increasing industry trend

### Expense ratio



### Net expense ratio (P&C reinsurance)\*

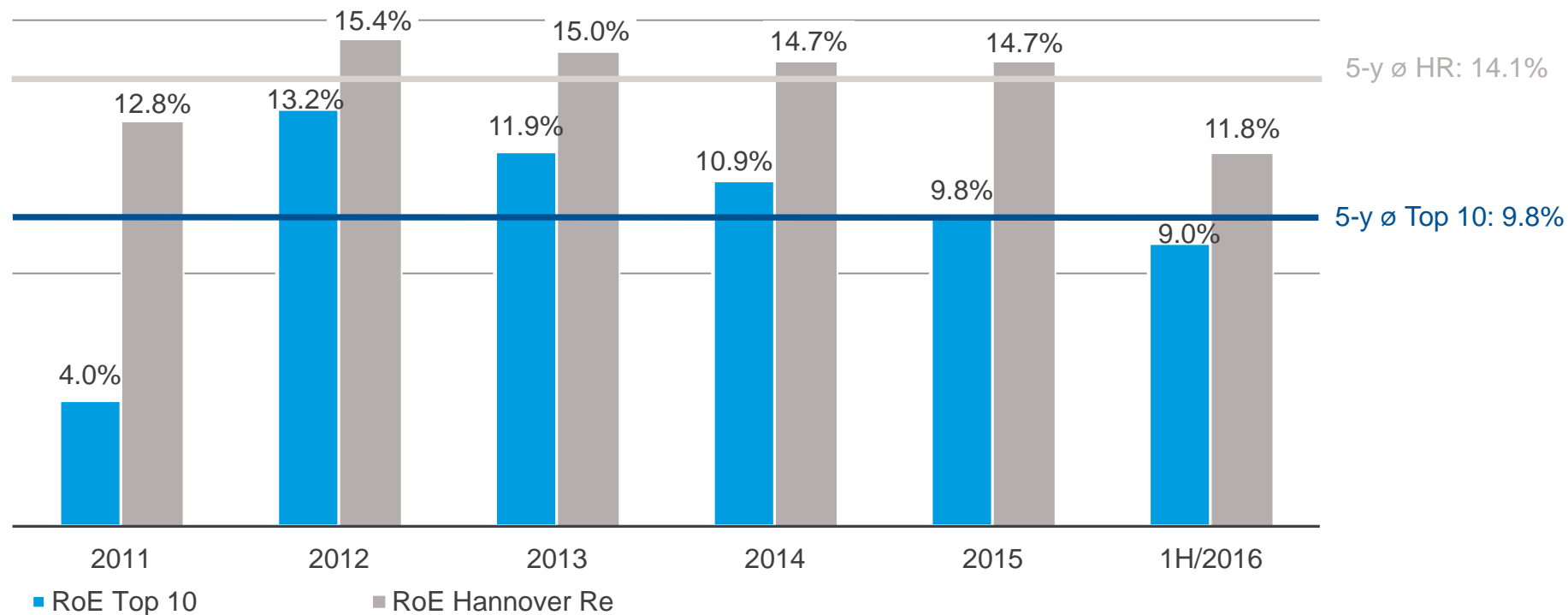


\* Source: Global Reinsurance Highlights 2016 (S&P Global Ratings)

# Hannover Re is one of the most profitable reinsurers

## Low interest rate environment is increasing the pressure on reinsurer's RoE

### Development of return on equity



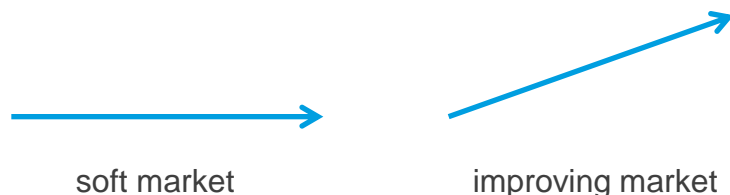
Top 10 of the Global Reinsurance Index (GloRe) with more than 50% reinsurance business  
Data based on company data, own calculation

- ▶ Hannover Re – A 50 year success story
- ▶ Reinsurance is and will be an attractive business
- ▶ Positioned to outperform in the current market
- ▶ **Increasing earnings in the medium term**

# Increasing earnings in the medium term

Sustainable earnings power of ~EUR 1 bn. in an unchanged market environment

## Property & Casualty reinsurance results



## Positioned to outperform

- ▶ High confidence level of reserves supporting stable earnings despite soft market (C/R ≤ 96%)
- ▶ Strong market position and financial strength enable us to outgrow the market when market conditions improve
- ▶ Better conditions for our increased retro coverage

## Life & Health reinsurance results



## Increasing profits in the medium term

- ▶ Improving underlying profitability masked by legacy US mortality business in the short term (2017/2018)
- ▶ Favourable trends from positive VNB (2011-2015: EUR 1.9 bn.) visible as IFRS results from 2019 onwards

## Investments



## Stable absolute NII in low yield environment

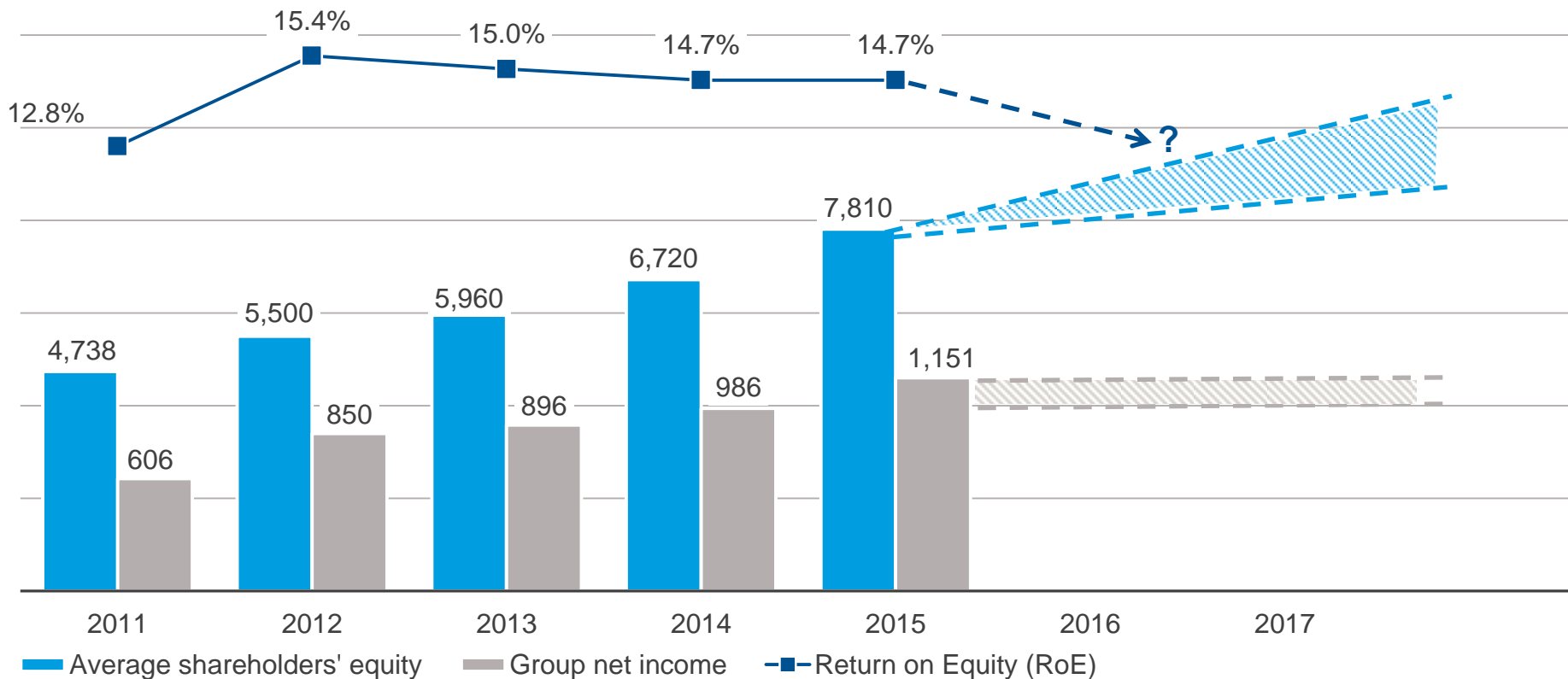
- ▶ Pressure from low interest rates and declining return on investments offset by ...
- ▶ ... increasing investment volume from further positive cash flow

# Short-term profit growth may not keep pace with capital growth

Interest rate environment has two negative effects: RoI and RoE

## Shareholders' equity and RoE

in m. EUR



**Hannover Re manages its capital in years of flat earnings expectations**

# Dividend payout will increase in years with flat earnings

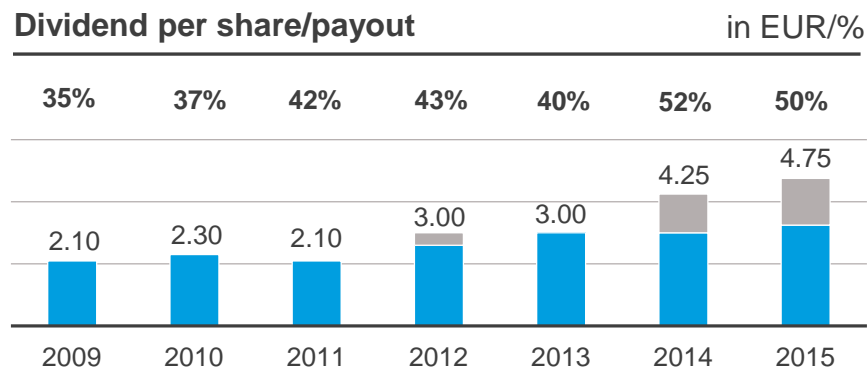
Our considerations with regard to our dividend policy

## Earnings

- ▶ Strategic payout: 35 - 40 % of Group IFRS results
- ▶ Retaining 60 - 65 % to finance future growth

## Return on equity

- ▶ Provide an attractive level of return on shareholders' equity based on the following criteria:
  - 900 bps above risk-free
  - Be among the most profitable R/I companies relative to peers



## Capitalisation

- ▶ Maintain & achieve regulatory requirements (i.e. Solvency II) & ratings; S&P (AA-), A.M. Best (A+)
- ▶ Margin for organic/inorganic growth, if opportunities arise
- ▶ Excess capital distributed via special dividend

## Consistency

- ▶ Aim to steadily increase or at least maintain base dividend in accordance with the growth of the business



## Hannover Re continues to be an attractive investment

- ▶ Hannover Re has developed into a top-tier reinsurer
- ▶ The reinsurance market will continue to grow
- ▶ Hannover Re is positioned to be successful in a competitive business
- ▶ Earnings likely to be stable in the short term, but ...

**...medium- and long-term trend of growing earnings will continue**

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## From the CFO's desk

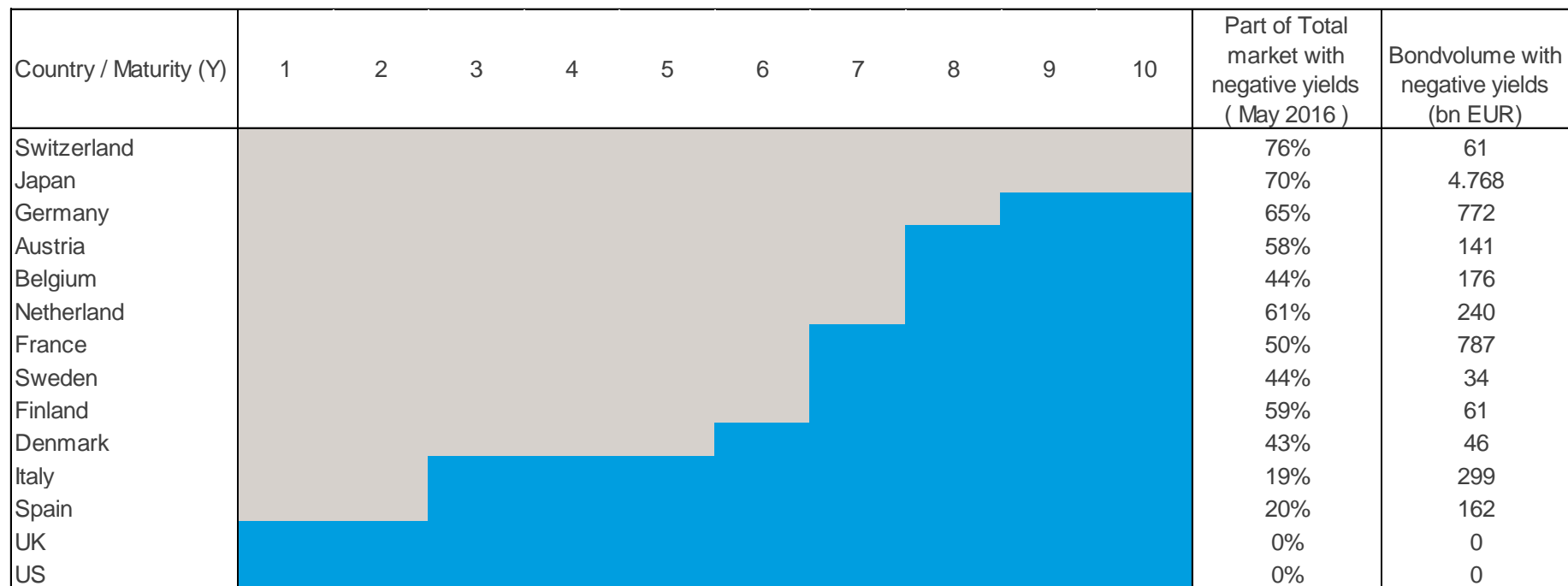
Asset management in times of negative interest rates / Solvency II vs IFRS accounts

**Roland Vogel, Chief Financial Officer**

# Investment update

# Negative interest rates dominate markets for government bonds

## Cash costs even more ...



negative Yield  
 positive Yield

Source: Bloomberg, Deutsche Bank as of June 2016

**As of 30 Sep 2016 ~EUR 400 m. (~1%) of our assets earn negative book yields**

# Yield development Euro

## Brexit effects become obvious

Asset group/ Asset class	12/2015	08/2016	Key ratios as per 29.08.2016				Key ratios as per 29.12.2015			
	Clean value in m. EUR		Rating	Modified duration next call	Yield*	Book yield*	Rating	Modified duration next call	Yield*	Book yield*
Governments	3,788.6	4,328.8	AA	6.25	-0.14	1.80	AA	6.20	0.39	2.16
Semi-governments	387.6	409.0	AA-	5.71	0.01	1.75	A+	5.60	0.54	1.97
Covered Bonds	2,098.8	2,014.6	AA+	5.68	0.10	2.64	AA+	5.44	0.63	2.83
ABS/MBS	414.1	387.2	BBB+	0.44	2.39	2.47	BBB	0.19	2.17	2.37
Corporates	3,571.4	3,389.7	BBB	4.84	1.09	3.06	BBB	4.77	1.75	3.24
Fixed-income derivatives		-2.4								
<b>Fixed income</b>	<b>10,260.5</b>	<b>10,526.9</b>	<b>A</b>	<b>5.45</b>	<b>0.39</b>	<b>2.39</b>	<b>A</b>	<b>5.28</b>	<b>0.97</b>	<b>2.68</b>
Time deposits	76.6	114.5	A-	0.09	0.07	-0.27	BBB	0.28	1.05	1.04
Cash	227.6	134.0	BBB+	0.00	0.00	0.00	A-	0.00	0.00	0.00
<b>Short-term investments</b>	<b>304.2</b>	<b>248.5</b>	<b>BBB+</b>	<b>0.04</b>	<b>0.03</b>	<b>0.12</b>	<b>BBB+</b>	<b>0.10</b>	<b>0.36</b>	<b>0.36</b>
<b>Total EUR</b>	<b>10,564.7</b>	<b>10,775.4</b>	<b>A</b>	<b>5.33</b>	<b>0.38</b>	<b>2.33</b>	<b>A</b>	<b>5.17</b>	<b>0.96</b>	<b>2.63</b>

\* In %

-58 bps

## Consequences of the current EUR-yield environment

- ▶ Reinvestment yield down to 38 bps theoretically
- ▶ Unrealised gains up by EUR 350 m. since the beginning of 2016
  - Existing business is not affected as we are duration-matched
- ▶ Impact from positive cash flow on pricing becomes marginal
  - In some cases even negative
- ▶ Overall EUR MtCR – for EUR business currently written: >95%

# Largely stable asset allocation throughout first half 2016

## Moderate increase in diversified listed equities

### Asset allocation<sup>1)</sup>

Investment category	2012	2013	2014	2015	30 Jun 2016
<b>Fixed-income securities</b>	<b>92%</b>	<b>90%</b>	<b>90%</b>	<b>87%</b>	<b>87%</b>
- Governments	19%	19%	21%	26%	27%
- Semi-governments	23%	20%	19%	17%	18%
- Corporates	33%	36%	36%	34%	32%
Investment grade	30%	33%	33%	30%	29%
Non-investment grade <sup>3)</sup>	3%	3%	3%	4%	4%
- Pfandbriefe, Covered Bonds, ABS	17%	15%	14%	10%	10% <sup>2)</sup>
<b>Equities</b>	<b>2%</b>	<b>2%</b>	<b>2%</b>	<b>3%</b>	<b>4%</b>
- Listed Equity	<1%	<1%	<1 %	1%	2%
- Private Equity	2%	2%	2%	2%	2%
<b>Real estate/real estate funds</b>	<b>2%</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>
<b>Others<sup>3)</sup></b>	<b>1%</b>	<b>1%</b>	<b>1%</b>	<b>1%</b>	<b>1%</b>
<b>Short-term investments &amp; cash</b>	<b>3%</b>	<b>4%</b>	<b>4%</b>	<b>5%</b>	<b>5%</b>
<b>Total market values in bn. EUR</b>	<b>32.5</b>	<b>32.2</b>	<b>36.8</b>	<b>39.8</b>	<b>40.3</b>

1) Economic view based on market values without outstanding commitments for Private Equity and Alternative Real Estate as well as fixed-income investments of EUR 885.6 m. (EUR 837.1 m.) as at 30 June 2016

2) Of which Pfandbriefe and Covered Bonds = 78.1%

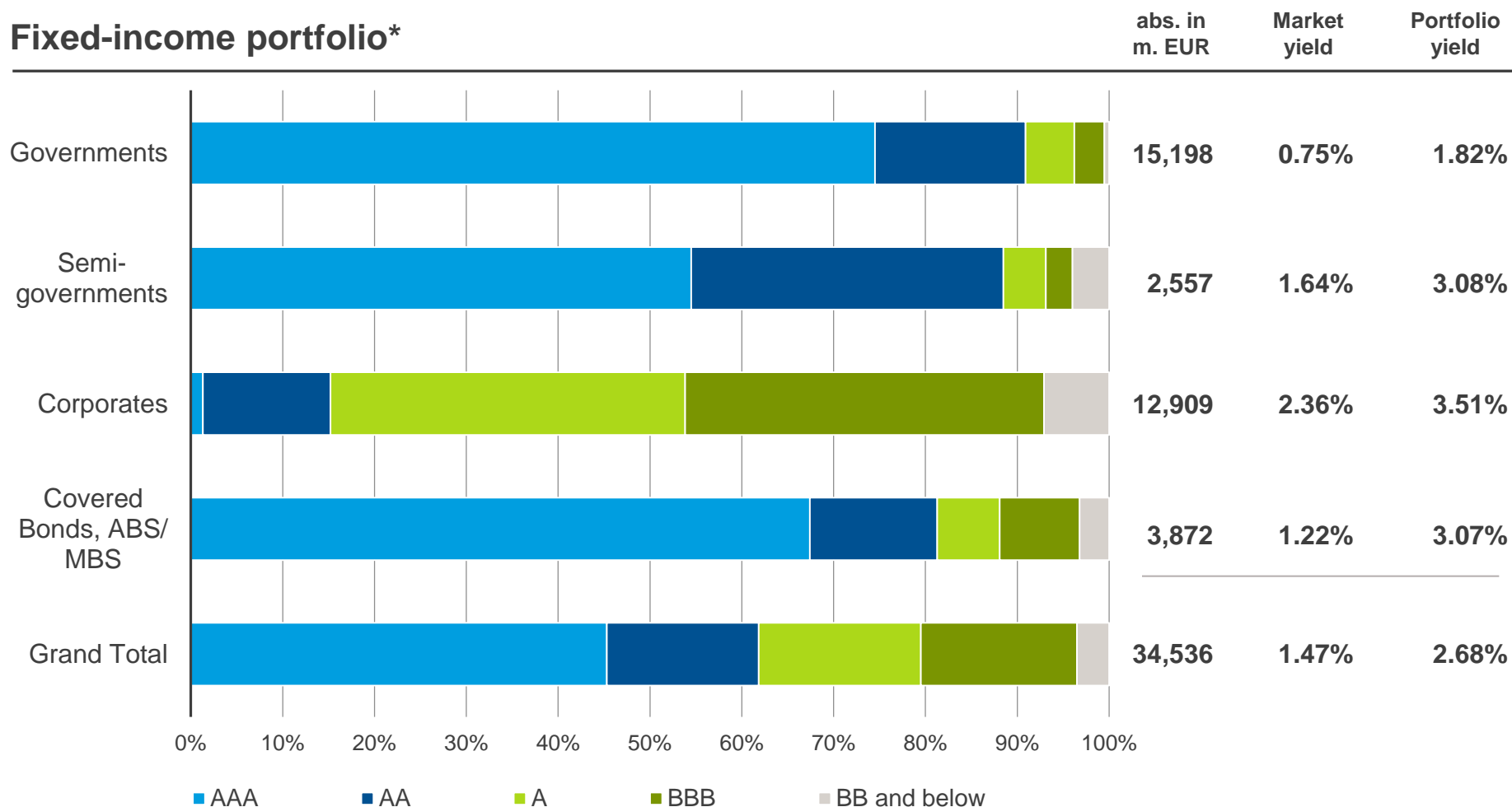
3) Reallocation of High Yield Funds from "Others" to "Corporates – Non-investment grade"



# Portfolio yield supports ordinary income target ...

## ... but market yields lead to RoI dilution in line with expectation

### Fixed-income portfolio\*

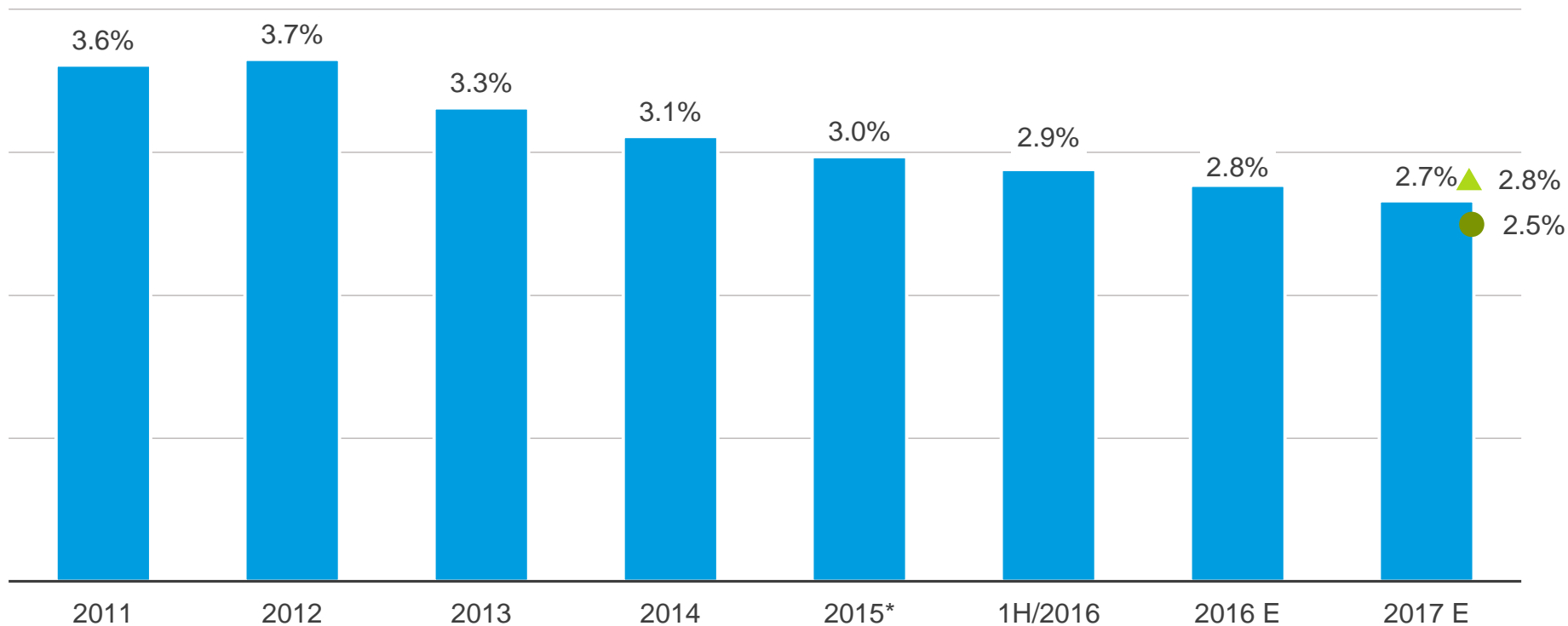


\* Preliminary analysis as at 12 Aug 2016, excluding short-term investments and cash, governments according to economic view

# Ordinary return on investments declines at >15 bps p.a.

Return sensitivity at 15 bps per 100 bps yield movements

## Expected ordinary yield in 2016/2017 from assets under own management in %



■ Expected ordinary investment yield   ▲ Current yield +100bps   ● Current yield -100bps

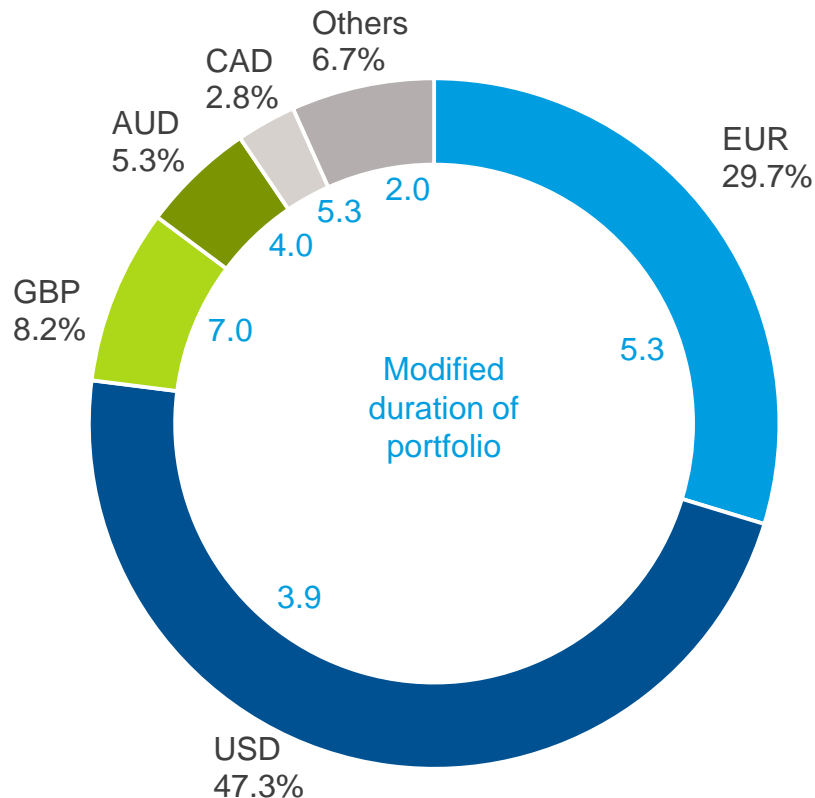
Analysis as at 30 June 2016

\* Excluding one-off effects in 2015

# Currency allocation matches liability profile of balance sheet

Active asset liability management ensures durational match

## Currency split of investments



- ▶ Modified duration of fixed-income mainly congruent with liabilities
- ▶ GBP's higher modified duration predominantly due to life business

### Modified duration

2015	4.4
2014	4.6
2013	4.4
2012	4.5
2011	4.2

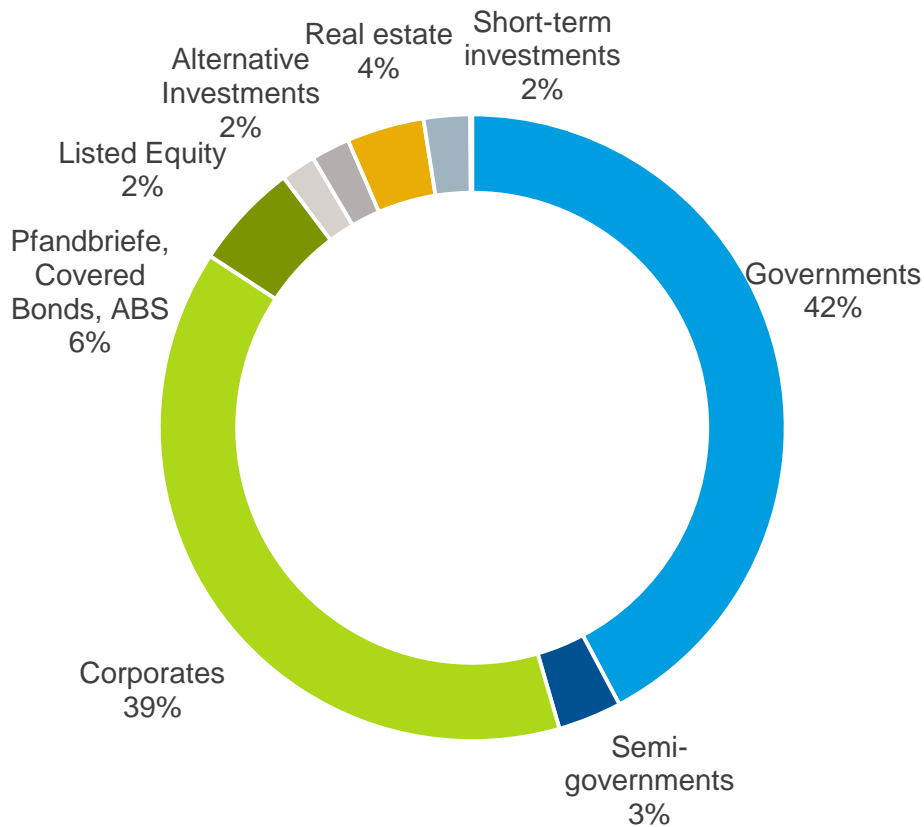
**Modified duration as at 30 June 2016: 4.5**

# Asset allocation of USD and EUR portfolios

Reflection of different business requirements in terms of liquidity

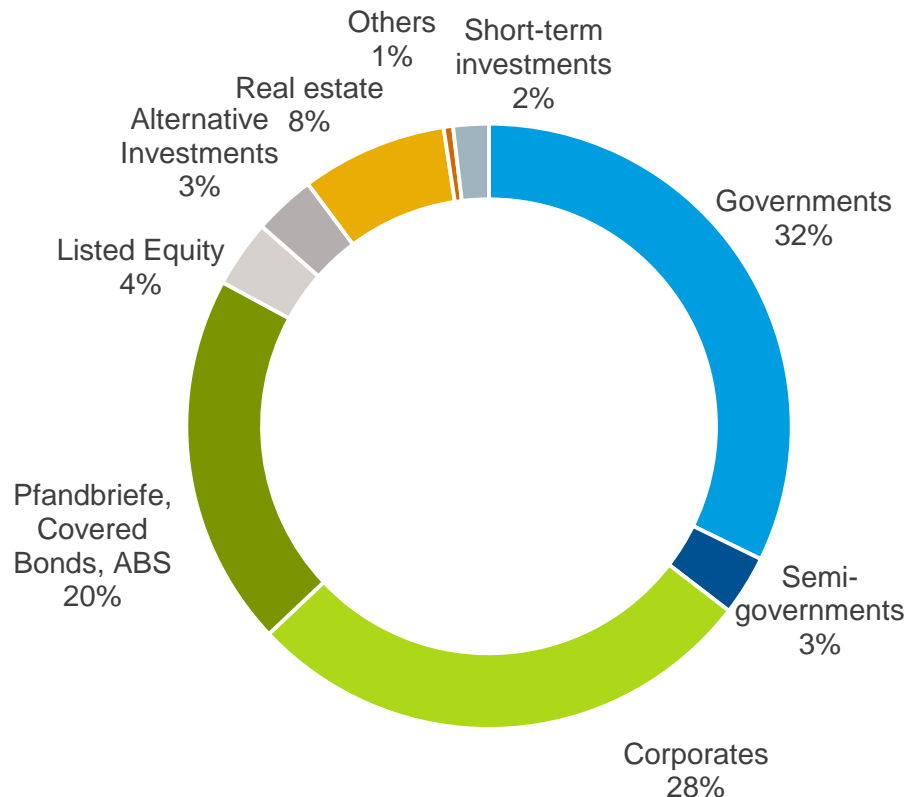
## USD portfolio

EUR 19 bn. (47% of AuM)



## EUR portfolio

EUR 12 bn. (30% of AuM)



Economic view based on market values as at 30 June 2016

## How can we optimise the portfolio...

... within our strategic risk appetite

	Beginning of 2015	2017 – 2019
Barbell strategy ( $\leq$ BBB)	<15%	>20%
Real Estate	~4%	~6 – 7 %
Private Equity	~2%	~3 – 4 %
CLO/Leveraged Loans	~2.5%	~4 – 5 %

- ▶ Effects approx. 10%-points of the overall portfolio
- ▶ Increase in return expectations has a 10% leverage in the overall reinvestment RoI

# How to calculate the RoI?

## Transparency for clear messages 1/2

### Transparent calculation based on IFRS accounts

#### Consolidated balance sheet as at 30 June 2016

Assets		
in EUR thousand	30.6.2016	31.12.2015
Fixed-income securities – held to maturity	652,150	1,007,665
Fixed-income securities – loans and receivables	2,819,395	2,869,865
Fixed-income securities – available for sale	30,195,423	29,616,448
Fixed-income securities – at fair value through profit or loss	101,229	108,982
Equity securities – available for sale	829,202	452,108
Other financial assets – at fair value through profit or loss	41,435	39,602
Real estate and real estate funds	1,668,774	1,673,958
Investments in associated companies	115,781	128,008
Other invested assets	1,512,515	1,544,533
Short-term investments	813,178	1,113,130
Cash and cash equivalents	1,004,942	792,604
<b>Total investments and cash under own management</b>	<b>39,754,024</b>	<b>39,346,903</b>
Funds withheld	12,710,089	13,801,845
Contract deposits	209,666	188,604
<b>Total investments</b>	<b>52,673,779</b>	<b>53,337,352</b>

- ▶ Average balance of total investments and cash under own management (before Funds withheld and contract deposits)

#### Consolidated statement of income as at 30 June 2016

in EUR thousand	1.4. – 30.06.2016	1.1. – 30.06.2016	1.4. – 30.6.2015	1.1. – 30.6.2015
Gross written premium	4,020,205	8,283,791	4,186,311	8,586,536
Ceded written premium	377,774	848,580	501,398	1,004,296
Change in gross unearned premium	(13,282)	(316,951)	(105,622)	(618,181)
Change in ceded unearned premium	(4,505)	48,402	8,215	55,297
<b>Net premium earned</b>	<b>3,624,644</b>	<b>7,166,662</b>	<b>3,587,506</b>	<b>7,019,356</b>
Ordinary investment income	299,563	568,026	286,453	598,678
Profit/loss from investments in associated companies	987	1,652	2,118	4,619
Realised gains and losses on investments	35,950	79,528	21,646	66,644
Change in fair value of financial instruments	10,072	20,539	9,013	(1,625)
Total depreciation, impairments and appreciation of investments	34,317	48,080	6,526	14,712
Other investment expenses	25,765	52,480	28,010	52,265
<b>Net income from investments under own management</b>	<b>286,490</b>	<b>569,185</b>	<b>284,694</b>	<b>601,339</b>
Income/expense on funds withheld and contract deposits	92,057	175,607	98,418	197,427
<b>Net investment income</b>	<b>378,547</b>	<b>744,792</b>	<b>383,112</b>	<b>798,766</b>

- ▶ Investment P&L result, excluding income on funds withheld and contract deposits

# How to calculate the RoI?

## Transparency for clear messages 2/2

in m. EUR	Q2/2015	Q2/2016	1H/2015	1H/2016	RoI
Ordinary investment income*	289	301	603	570	2.9%
Realised gains/losses	22	36	67	80	0.4%
Impairments/appreciations & depreciations	(7)	(34)	(15)	(48)	-0.2%
Change in fair value of financial instruments (through P&L)	9	10	(2)	21	0.1%
Investment expenses	(28)	(26)	(52)	(52)	-0.3%
<b>NII from assets under own mgmt.</b>	<b>285</b>	<b>286</b>	<b>601</b>	<b>569</b>	<b>2.9%</b>
NII from funds withheld	98	92	197	176	
<b>Total net investment income</b>	<b>383</b>	<b>379</b>	<b>799</b>	<b>745</b>	

## Solvency II vs IFRS accounts

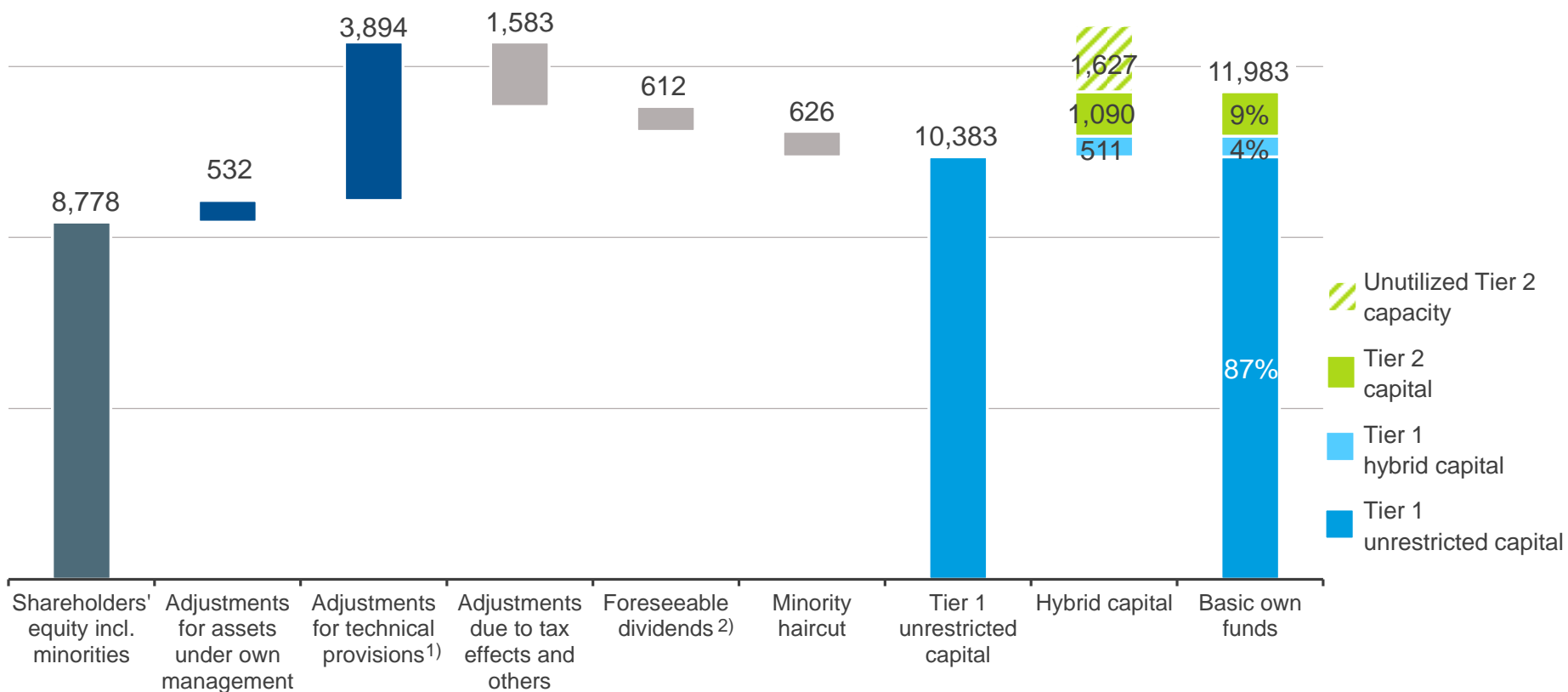


# Looking back: figures as at 31 December 2015

High quality capital base: own funds are Tier 1 supplemented with hybrid capital

## Reconciliation (IFRS shareholders' equity/Solvency II own funds)

in m. EUR



As at 31 December 2015

1) Adjustments for technical provisions incl. risk margin

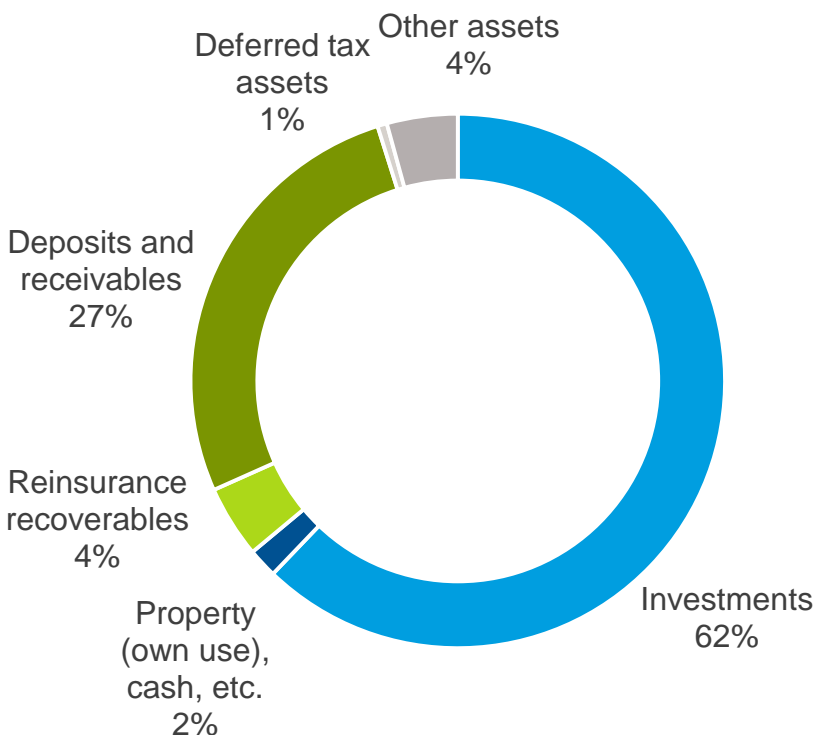
2) Foreseeable dividends and distributions refer to Hannover Rück SE dividend as well as dividends to minorities within Hannover Re Group

# Decrease in total assets under Solvency II

Solvency II vs. IFRS: assets as at 30 June 2016

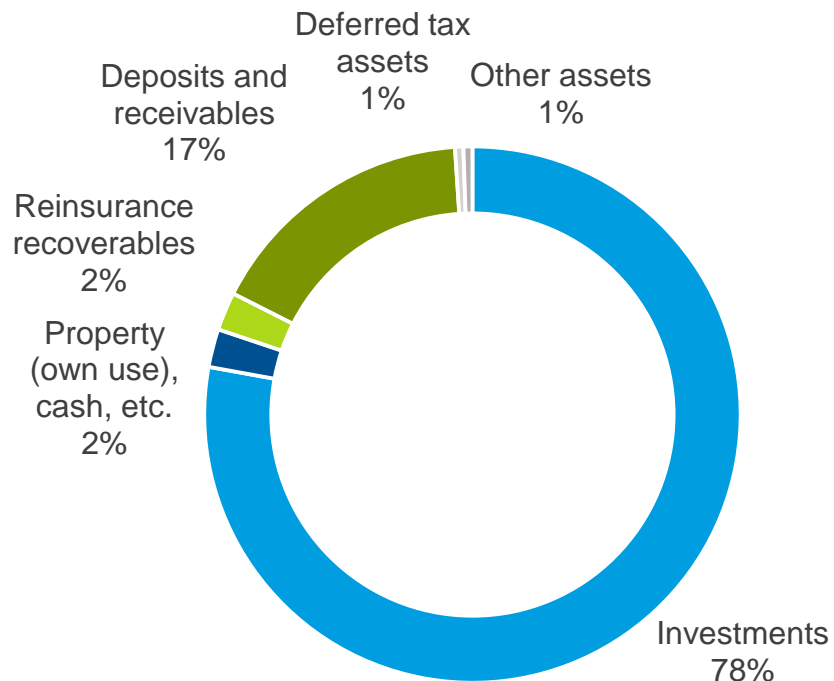
**IFRS**

Total assets: EUR 62.3 bn.



**Solvency II**

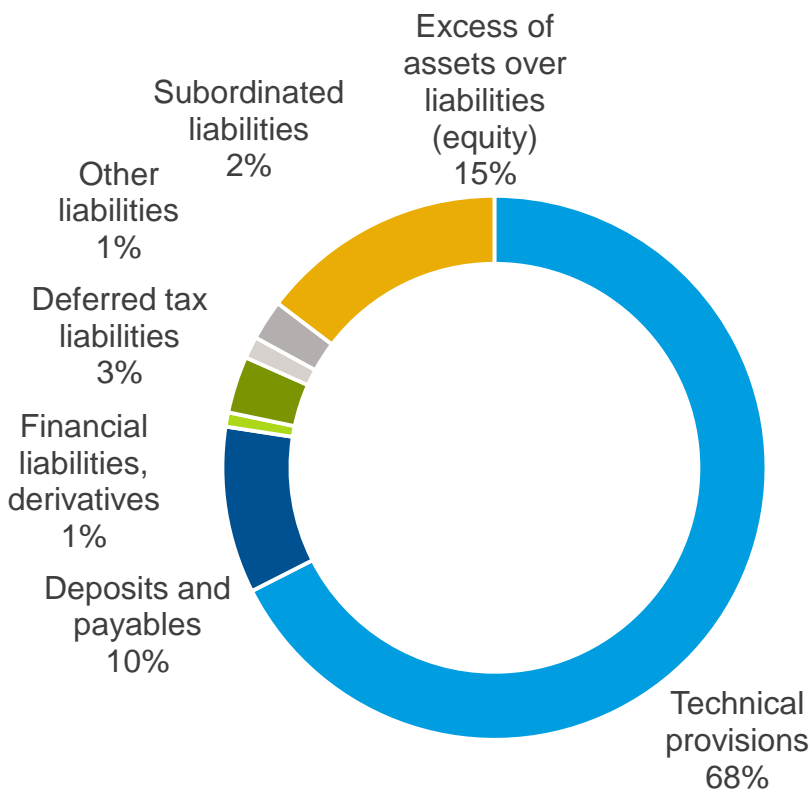
Total assets: EUR 50.4 bn.



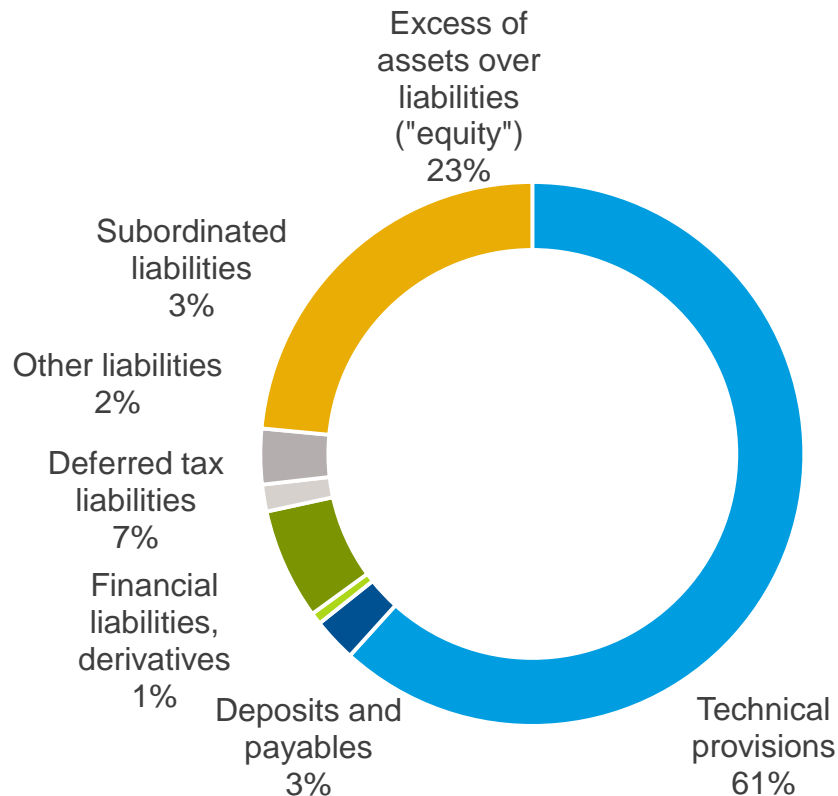
# Increasing share of "equity" under Solvency II

## Solvency II vs. IFRS: liabilities as at 30 June 2016

**IFRS** Liabilities: 53.2 bn., Equity 9.1 bn.



**Solvency II** Liabilities: 38.6 bn., Equity\* 11.8 bn.



All figures in EUR. "Equity" refers to Excess of assets over liabilities, including minorities

# Capital generation more volatile under Solvency II

## Development during 1H/2016

in m. EUR	IFRS	Solvency II	Variance
Excess of assets over liabilities 2015*	8,778	11,620	2,842
Excess of assets over liabilities 1H/2016*	9,136	11,836	2,699
<b>Movement (2015 to 1H/2016)</b>	<b>359</b>	<b>216</b>	<b>-143</b>

▶ Economic difference in equity movement from 2015 to 1H/2016 of EUR 143 m.

- IFRS: EUR +359 m.
- Solvency II: EUR + 216 m.

▶ Difference of EUR 143 m. can be attributed to

- Lock-in (IFRS) vs. current (SII) assumptions for a life portfolio EUR -109 m.
- Amortized cost (IFRS) vs. market valuation (SII) of investments EUR +40 m.
- Amortized cost (IFRS) vs. market valuation (SII) of subordinated liabilities EUR -62 m.
- Other effects

\* Including minorities

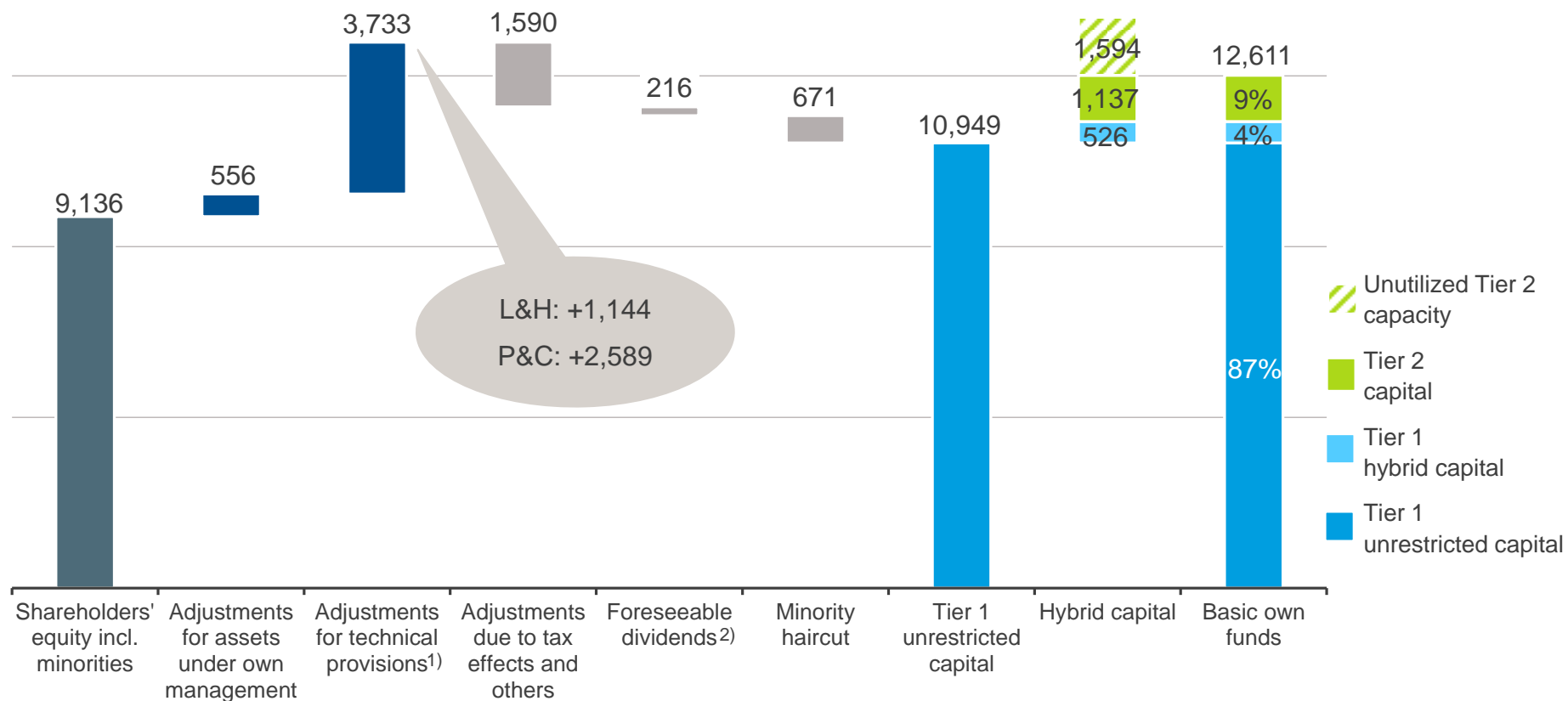
Figures subject to rounding differences

# Further increased own funds reflect positive result in 1H/2016

Own funds are Tier 1 supplemented with hybrid capital

## Reconciliation (IFRS shareholders' equity/Solvency II own funds)

in m. EUR



As at 30 June 2016

1) Adjustments for technical provisions incl. risk margin

2) Foreseeable dividends and distributions have been calculated on the base of 1H/2016 IFRS results and minorities within Hannover Re Group

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50  
years

somewhat  
different



# Risk profile and reserving level

A risk management update

**Dr. Andreas Märkert, Managing Director, Chief Risk Officer**

# Agenda

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- ▶ Hannover Re is well-capitalized and has flexibility to manage its capital position.
- ▶ Our limit system supports controlled risk taking and transparency of capital usage.
- ▶ Reserving level remains comfortable and has significantly improved during 2015.



# Hannover Re Group maintains comfortable capital position

## Capital adequacy above targets with substantial excess capital

in m. EUR	Internal Metrics		Solvency II
Available Economic Capital/Eligible Own Funds	13,282		12,611
<b>Confidence Level</b>	<b>99.97%</b>	<b>99.5%</b>	<b>99.5%</b>
Required Capital/Solvency Capital Requirements	10,126	5,200	5,460
Excess Capital	3,156	8,082	7,151
<b>Capital Adequacy Ratio (CAR)</b>	<b>131%</b>	<b>255%</b>	<b>231%</b>
Minimum Target Ratio (Limit)	100%	200%	180%
Minimum Target Ratio (Threshold)	110%	n/a	200%

### ► Stable Solvency II capital position in 2016:

	Q2/2016	Q1/2016	Q4/2015
<b>Solvency II CAR</b>	<b>231%</b>	<b>228%</b>	<b>221%</b>

As at 30 June 2016

# Focus for internal steering on economic view

## with regulatory view as side condition

in m. EUR	Available Capital	Required Capital	CAR
Internal model at VaR <sup>1)</sup> 99.97%	13,282	10,126	131%
		↓ -4,926	
Internal model at VaR <sup>1)</sup> 99.5%	13,282	5,200	255%
Haircut for minority interests <sup>2)</sup>	↓ -671		
	12,611	5,200	243%
Add-On, standard formula OpRisk		↓ +260	
Regulatory view at VaR <sup>1)</sup> 99.5%	12,611	5,460	231%

- ▶ Economic view: internal target confidence level at 99.97%, full internal model, full transferability of capital
- ▶ Regulatory view: partial internal model with standard formula for operational risk, confidence level at 99.5%, transferability restrictions on minority interests

As at 30 June 2016

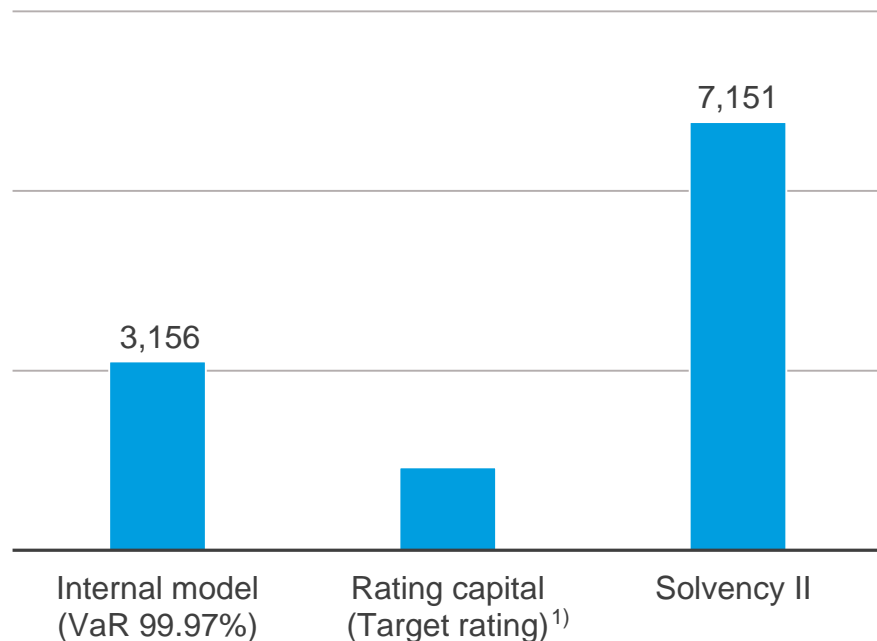
1) Value-at-Risk

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

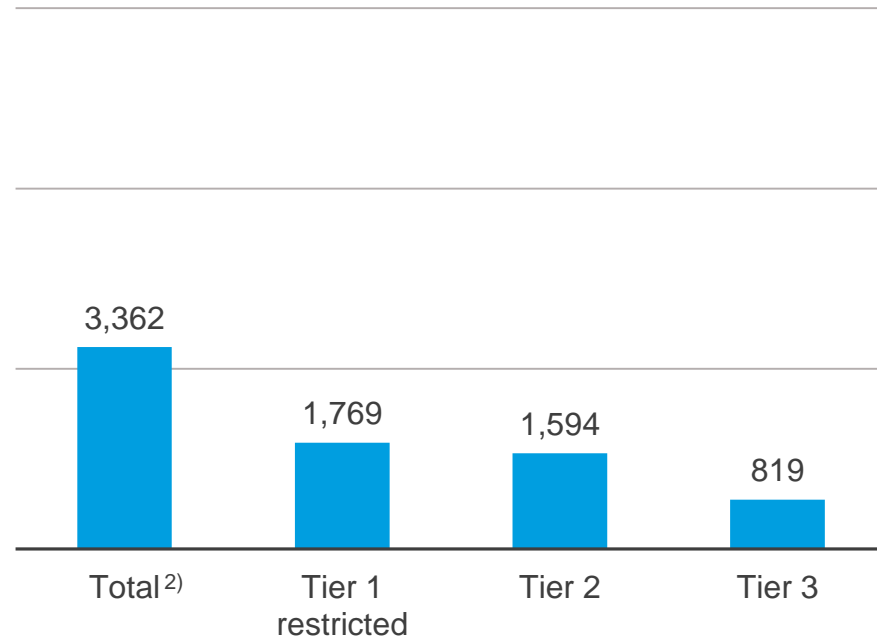
# Comfortable excess capital

with flexibility to react on market potentials or adverse developments

**Current excess capital** in m. EUR



**Additional hybrid capacity (Solvency II) in m. EUR**



► Additional but more restricted flexibility exists in rating agencies' models, too

All figures as of Q2/2016

1) Average of target ratings, internal calculation

2) Sum of Tier 2 and Tier 3 capital is limited to 50% SCR

# 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 <sup>2)</sup>	Human Resources
	Lapse	Real Estate	Strategic & Reputational <sup>1)</sup>
	Other	Counterparty	Emerging <sup>1)</sup>

■ High: VaR 99.5% > 10% of available capital<sup>3)</sup>

■ 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

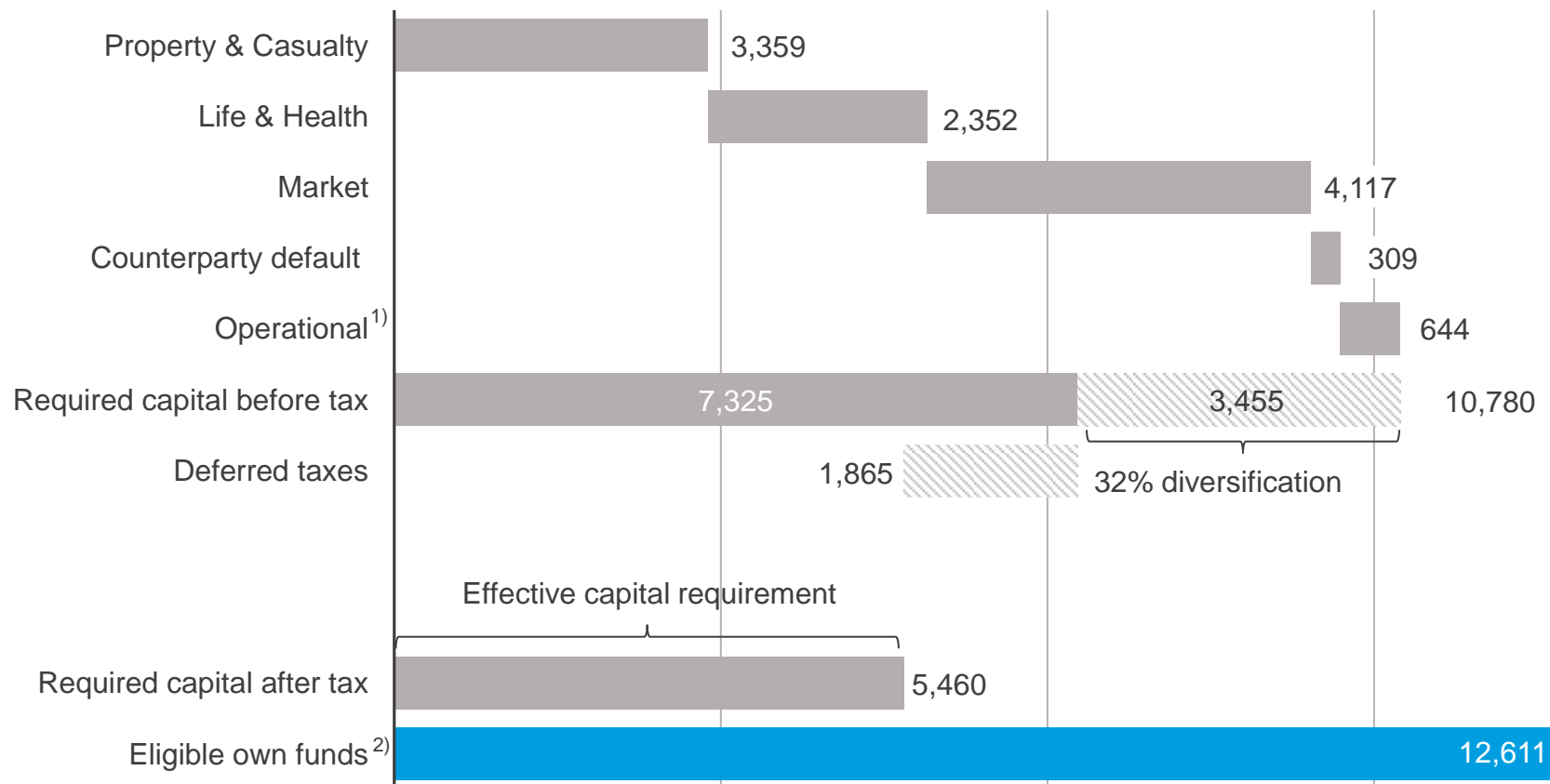
3) VaR – Value-at-Risk, pre-tax

# Capital efficiency supported by high diversification

## Breakdown of Solvency II capital requirements

### Risk capital for the 99.5% VaR (according to Solvency II)

in m. EUR



As at 30 June 2016

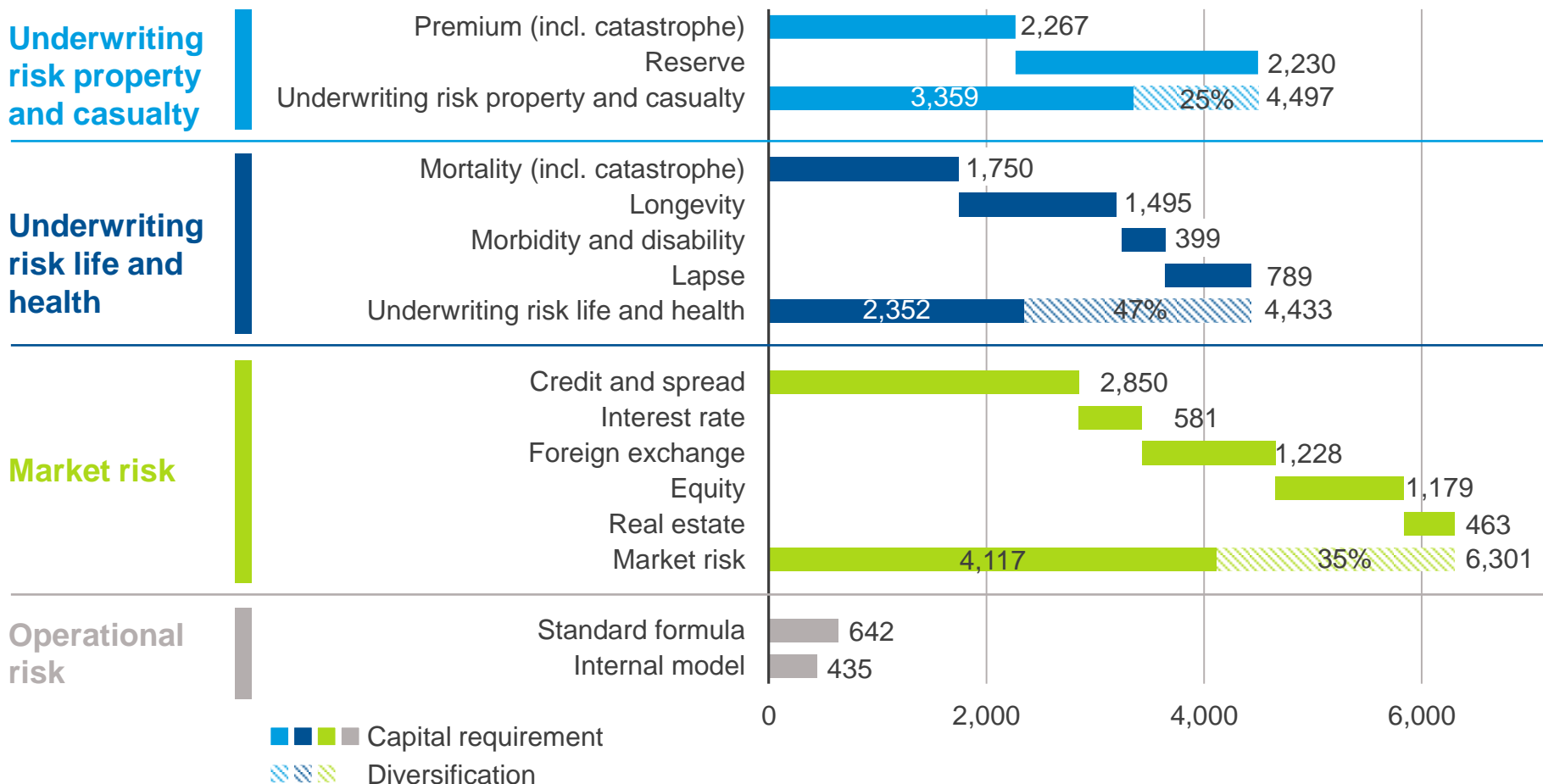
1) Operational risk according to standard formula

2) To meet Solvency Capital Requirements

# 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 economic capital model)

in m. EUR



As at 30 June 2016

# Controlled and transparent risk taking

## Supported by a multi-level limit system



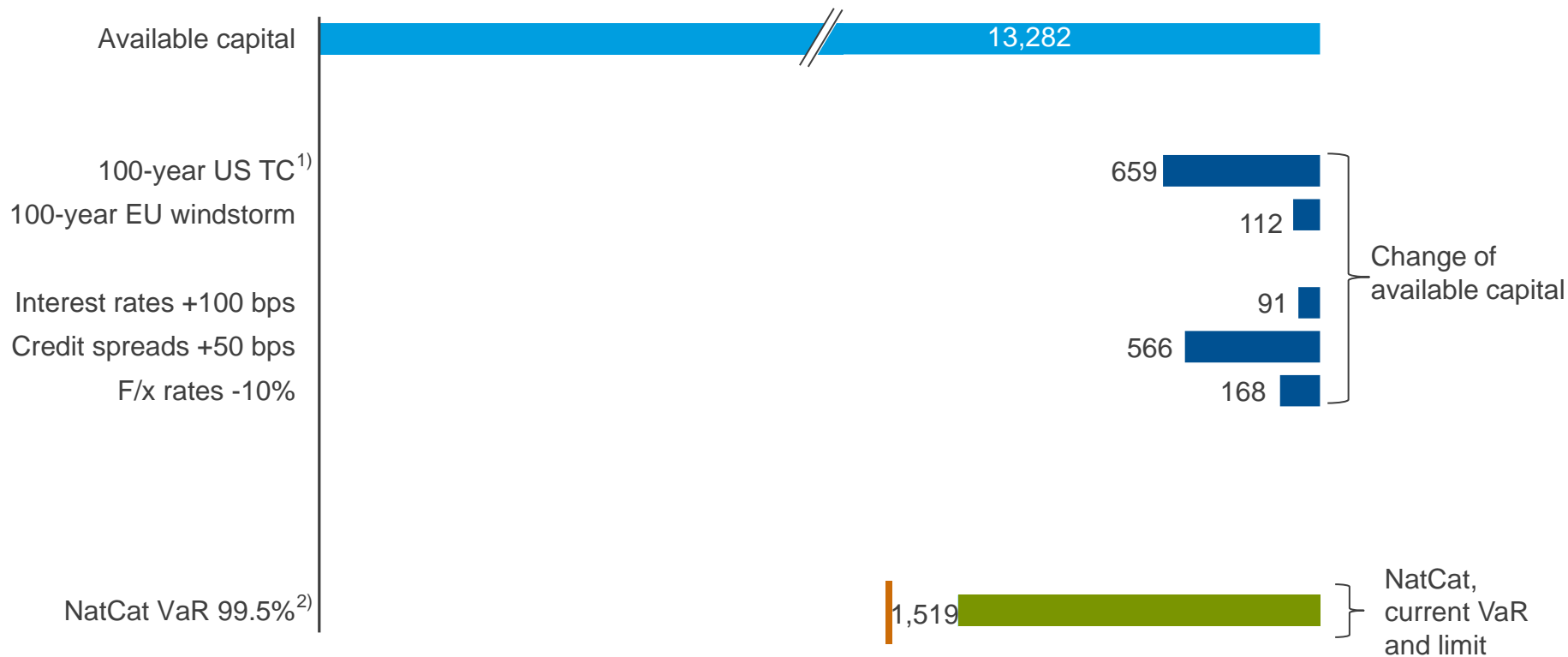
**Efficient processes and systems allow for quick check of new transactions**

# 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 2016

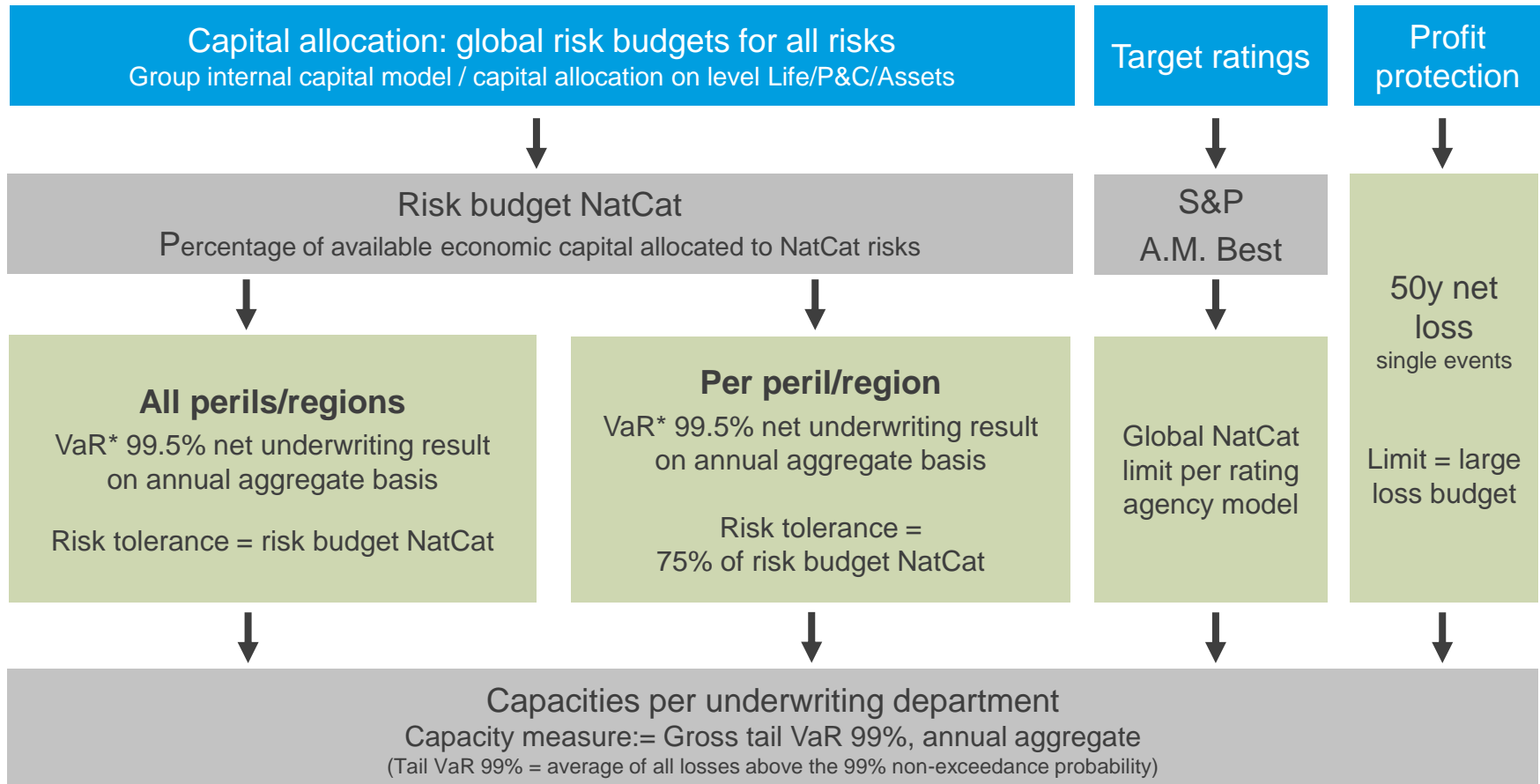
1) A return period of 100 years is equivalent to a occurrence probability of 1% (TC – Tropical Cyclone)

2) Net underwriting result, annual aggregate loss, VaR – Value at Risk



# NatCat: risk and capacity measures

## Breakdown of global risk budget to underwriting capacities



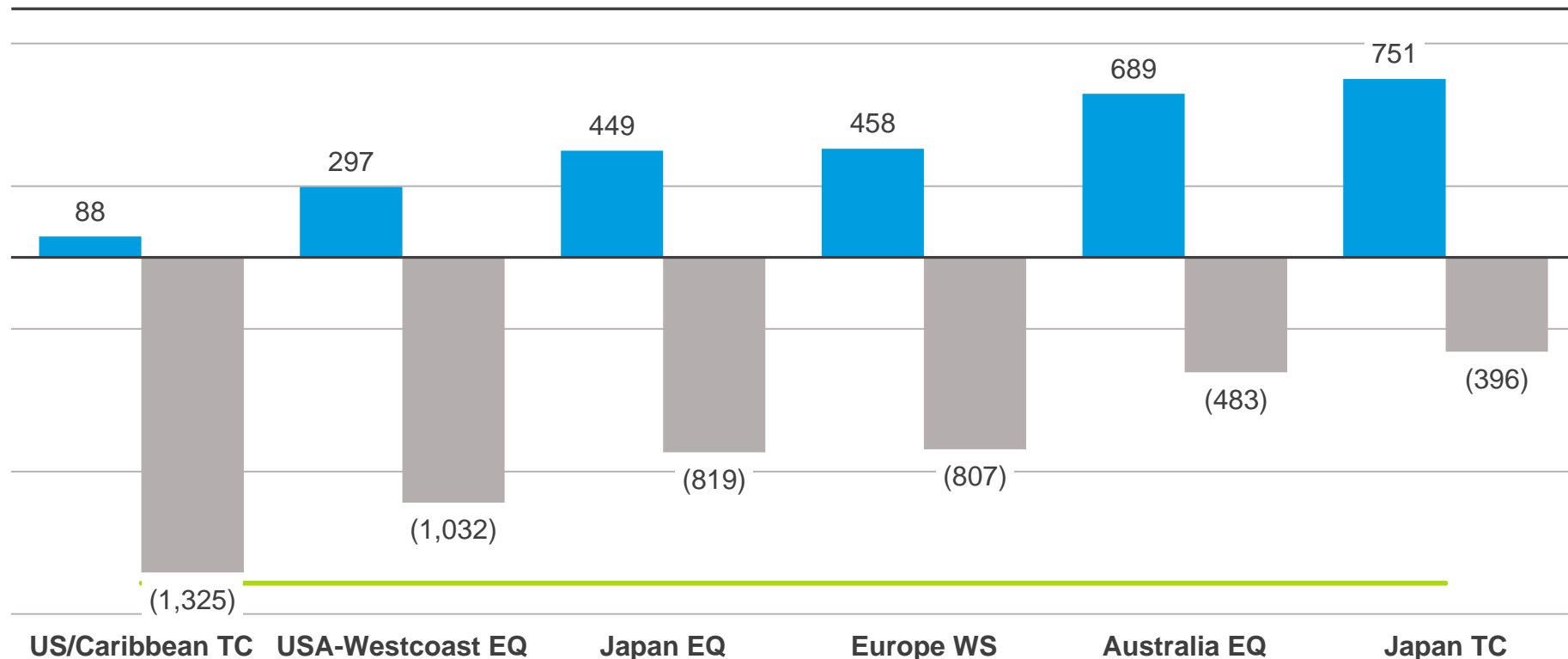
\* VaR – Value at Risk

# Limitation of individual natural catastrophe exposures

## Derived from overall risk appetite

VaR 99.5% and stress test per peril/region\*

in m. EUR



■ Stress test: Net income after realisation of 1/200 y annual aggregate loss  
■ Current VaR 99.5%  
— Limit on VaR 99.5%

\* Figures based on capacities as at 1 April 2016 with f/x rates as at 30 June 2016  
 TC – Tropical Cyclone, EQ – Earthquake, WS – Windstorm

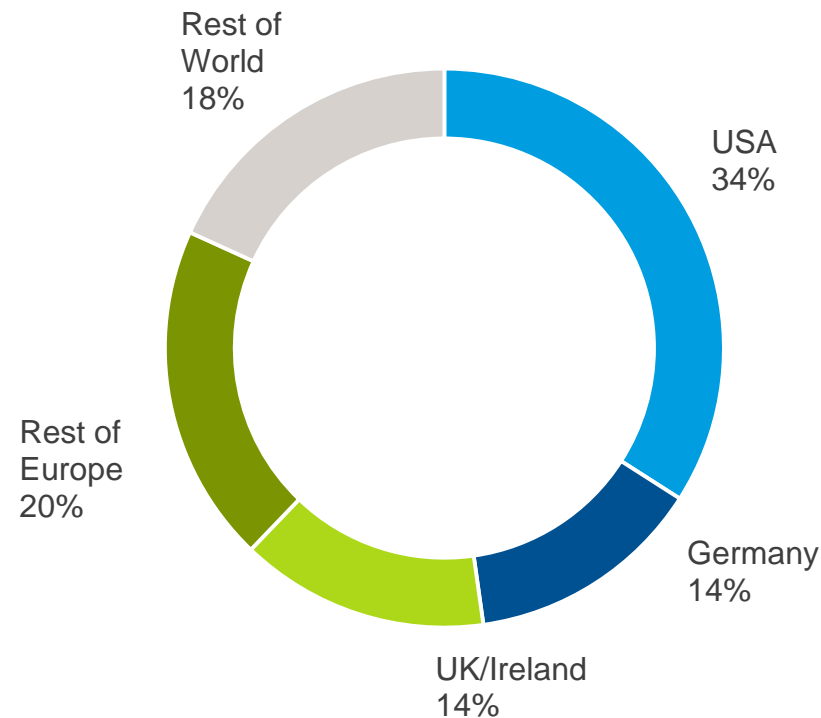
# Significant regional diversification in P&C claim reserves

Main part of the reserves from entities based in Hannover

## HR Group: Property & Casualty - gross loss reserves\*

Total: EUR 22,823 m.

USA	7,772
Germany	3,130
UK/Ireland	3,288
Rest of Europe	4,477
Rest of World	4,155
<b>Total</b>	<b>22,823</b>



\* As of 31 December 2015, consolidated, IFRS, in m. EUR, Loss and loss adjustment expense reserves

# Further increasing reserve redundancies\* in 2015

7-year average impact on net loss ratio: 2.9%

Year	Redundancy in m. EUR	Increase redundancy in m. EUR	Effect on loss ratio	P&C net premium earned in m. EUR
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
<b>2009 - 2015 total</b>		<b>1.297</b>		<b>45,416</b>
<b>2009 - 2015 average</b>		<b>185</b>	<b>2.9%</b>	<b>6,488</b>

\* Redundancy of loss and loss adjustment expense reserve for P&C insurance business against held IFRS reserves, before tax and minority participations. Willis Towers Watson reviewed these estimates - more details shown in slide II (appendix)

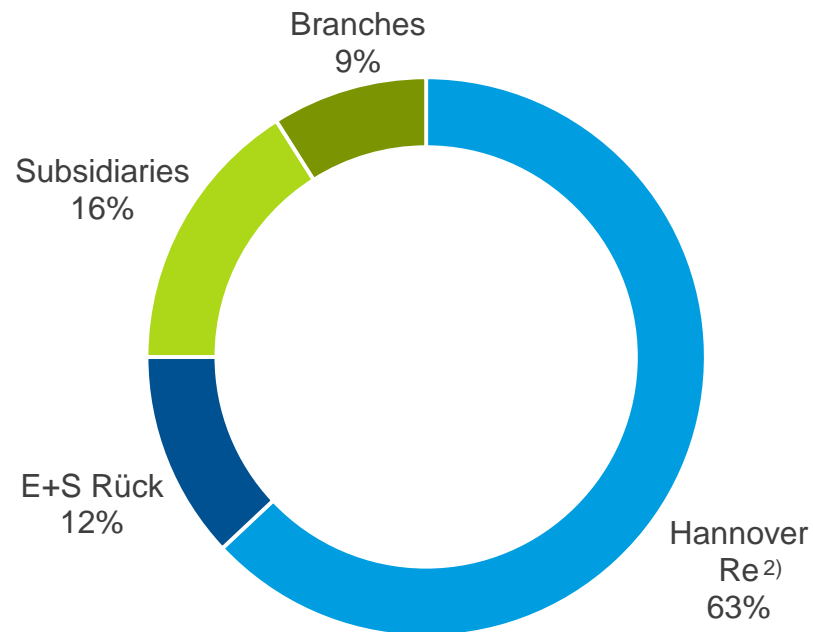
## No change in reserving policy in 2015

# Consistent group-wide steering of reserving level

## HR Group: Property & Casualty – gross loss reserves<sup>1)</sup>

Total: EUR 22,823 m.

Hannover Re	14,430
Subsidiaries	3,670
E+S Rück	2,770
Branches	1,953
<b>Total</b>	<b>22,823</b>



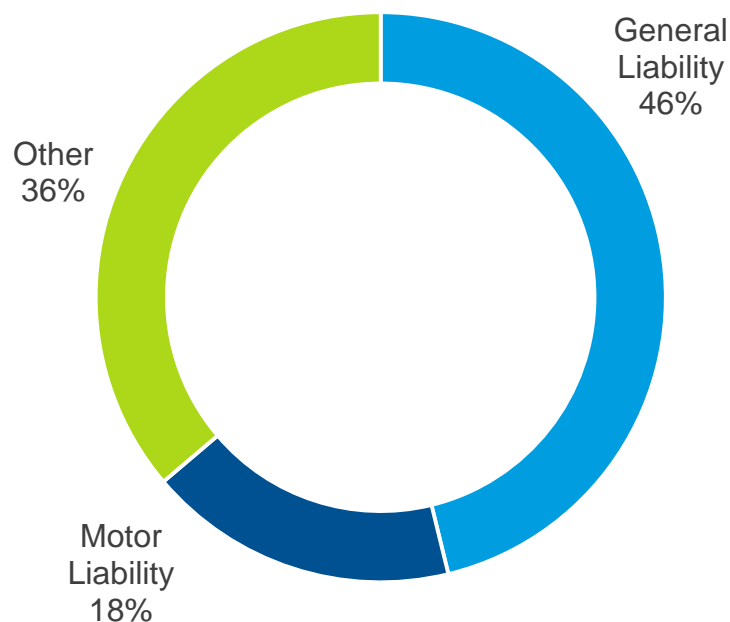
1) As of 31 December 2015, consolidated, IFRS, in m. EUR, Loss and loss adjustment expense reserves as originated

2) Excluding branches and subsidiaries

# Significant share of liability reserves from hard market U/Ys

One main source of redundancies

**Total gross reserves<sup>1)</sup>** in %



in m. EUR

No.	Line of business	Total reserves <sup>2)</sup> U/Y 1979 - 2003	Total reserves <sup>2)</sup> U/Y 2004 - 2015
1	General liability non-prop.	722.7	4,876.5
2	Motor non-prop.	492.8	1,876.8
3	General liability prop.	160.2	2,017.8
4	Motor prop.	179.5	785.5
5	Property prop.	24.5	1,157.2
6	Property non-prop.	14.6	1,054.7
7	Marine	22.2	1,080.7
8	Aviation	240.7	953.9
9	Credit/surety	49.9	1,027.7
<b>All lines of business</b>		<b>1,907.1</b>	<b>14,830.8</b>

1) As at 31 December 2015, consolidated, IFRS figures, Loss and loss adjustment expense reserves as originated

2) Hannover Re and E+S Rück excluding other subsidiaries & branches

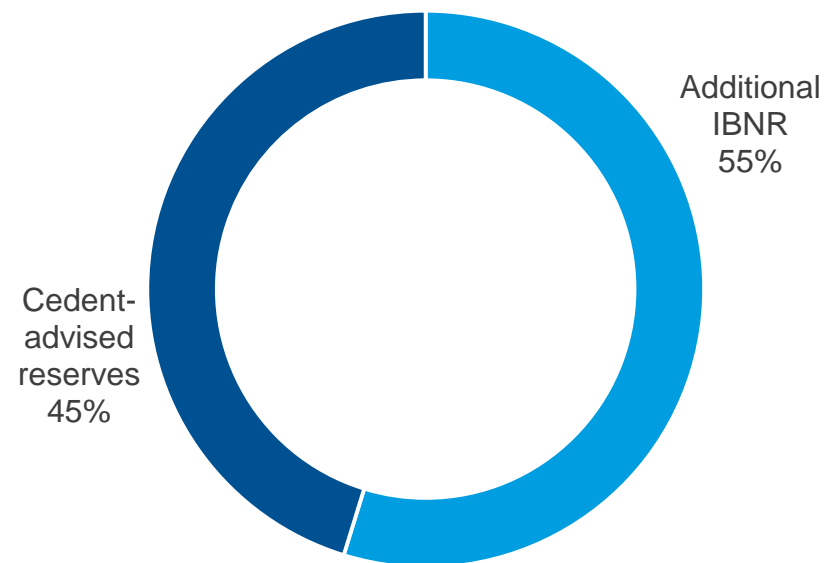
# More than one half of reserve is own IBNR

## Reflects prudent reserving policy

HR/E+S Rück: Property & Casualty, IBNR\*

Total: EUR 17,200 m.

Additional IBNR	9,418
Cedent-advised reserves	7,782
<b>Total</b>	<b>17,200</b>

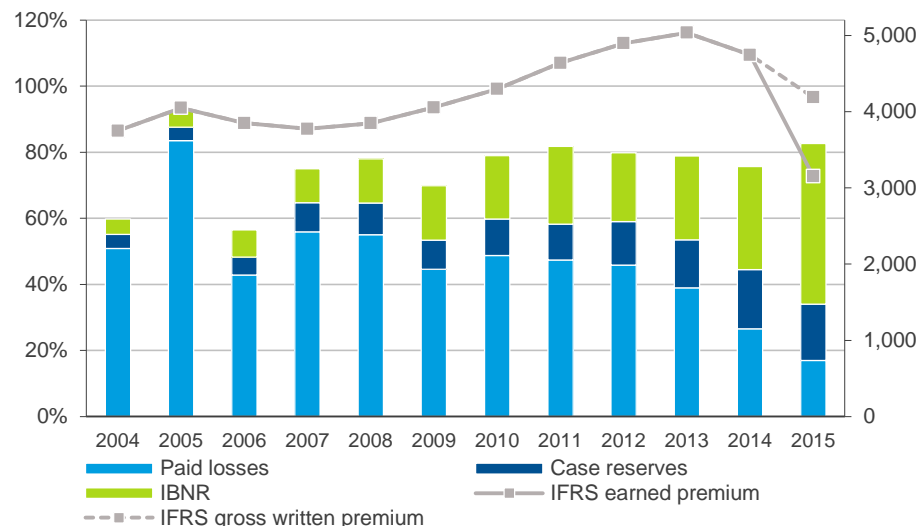
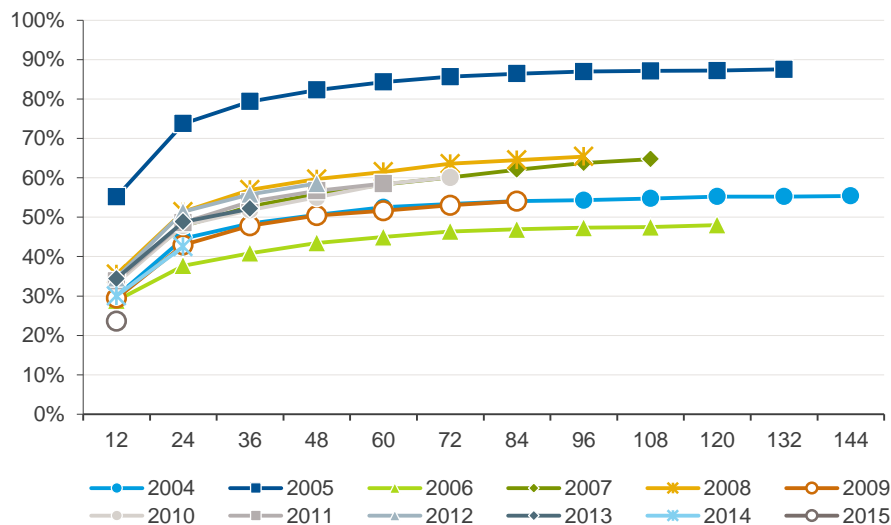


\* As at 31 December 2015, consolidated, IFRS figures, Loss and loss adjustment expense reserves as originated; Hannover Re and E+S Re excluding other subsidiaries & branches

# Stable loss ratios in recent U/Y despite soft markets

## IBNR remains at high level

U/W 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
2004	3,749	29.9%	44.6%	48.4%	50.6%	52.5%	53.4%	54.1%	54.3%	54.8%	55.2%	55.2%	55.4%	59.8%	50.9%	4.3%	4.6%
2005	4,048	55.2%	73.8%	79.4%	82.3%	84.3%	85.6%	86.4%	87.0%	87.1%	87.2%	87.5%		92.8%	83.5%	4.1%	5.2%
2006	3,850	28.8%	37.7%	40.9%	43.5%	45.0%	46.4%	46.9%	47.3%	47.5%	48.0%			56.5%	42.8%	5.4%	8.2%
2007	3,775	34.2%	47.7%	52.7%	55.9%	58.3%	60.1%	62.1%	63.8%	64.8%				75.0%	55.9%	8.8%	10.3%
2008	3,847	35.5%	51.4%	56.9%	59.7%	61.5%	63.6%	64.5%	65.4%					78.0%	55.0%	9.6%	13.4%
2009	4,054	29.4%	42.9%	47.8%	50.4%	51.6%	53.0%	54.1%						69.9%	44.6%	8.8%	16.5%
2010	4,296	33.2%	47.9%	51.8%	55.0%	58.4%	60.1%							79.0%	48.7%	11.1%	19.2%
2011	4,639	33.8%	48.6%	53.9%	56.7%	58.5%								81.8%	47.4%	10.9%	23.6%
2012	4,896	34.6%	51.4%	55.8%	58.5%									79.8%	45.9%	13.1%	20.8%
2013	5,035	34.4%	48.8%	52.2%										78.9%	39.0%	14.5%	25.4%
2014	4,742	30.0%	42.5%											75.7%	26.6%	17.9%	31.3%
2015	3,152	23.6%												82.6%	17.0%	17.0%	48.6%



\* As at 31 Dec 2015 (in m. EUR), consolidated, IFRS, development in months, Hannover Re and E+S Re w/o other subsidiaries & branches



# Almost all years with positive run-off

## Reflects prudent reserving policy

U/Y	Ultimate loss ratio 2009	Ultimate loss ratio 2010	Ultimate loss ratio 2011	Ultimate loss ratio 2012	Ultimate loss ratio 2013	Ultimate loss ratio 2014	Ultimate loss ratio 2015	Paid losses 2015	Case reserves 2015	IBNR balance 2015
2004	65.8%	65.1%	63.8%	62.8%	62.6%	61.1%	59.8%	50.9%	4.3%	4.6%
2005	96.2%	96.2%	95.8%	94.1%	92.7%	93.3%	92.8%	83.5%	4.1%	5.2%
2006	65.2%	63.3%	62.1%	60.9%	59.5%	57.5%	56.5%	42.8%	5.4%	8.2%
2007	80.2%	78.3%	77.1%	77.5%	77.2%	75.6%	75.0%	55.9%	8.8%	10.3%
2008	84.8%	83.2%	84.1%	81.8%	80.9%	80.3%	78.0%	55.0%	9.6%	13.4%
2009	78.8%	78.3%	75.8%	73.1%	72.7%	70.1%	69.9%	44.6%	8.8%	16.5%
2010		81.2%	84.1%	81.4%	78.9%	80.0%	79.0%	48.7%	11.1%	19.2%
2011			85.6%	82.4%	81.9%	80.9%	81.8%	47.4%	10.9%	23.6%
2012				89.1%	83.1%	79.1%	79.8%	45.9%	13.1%	20.8%
2013					82.8%	80.1%	78.9%	39.0%	14.5%	25.4%
2014						79.0%	75.7%	26.6%	17.9%	31.3%
2015							82.6%	17.0%	17.0%	48.6%

As at 31 December 2015 (in m. EUR), consolidated, IFRS, development in years, Hannover Re and E+S Rück w/o other subsidiaries & branches

somewhat  
different

# Appendix

## High survival ratio for A & E reserves maintained

### While payout has slightly increased in recent years

Financial year	Case reserves (in TEUR)	HR additional reserves for A&E (in TEUR)	Total reserve for A&E (in TEUR)	3-year-average paid (in TEUR)	Survival ratio	IBNR factor = add. reserves/case reserves
2008	22,988	127,164	150,152	6,008	25.0	5.5
2009	26,216	171,363	197,579	8,130	24.3	6.5
2010	29,099	182,489	211,588	9,270	22.8	6.3
2011	28,422	193,957	222,379	8,574	25.9	6.8
2012	27,808	182,241	210,049	7,210	29.1	6.6
2013	28,839	170,805	199,643	6,224	32.1	5.9
2014	33,755	189,306	223,061	7,922	28.2	5.6
2015	35,964	203,345	239,309	8,912	26.9	5.7

\* F/x rates: 12/2014: 1 EUR = 1.2155 USD, 12/2015: 1 EUR = 1.0927 USD

**Increase in total reserves 2015 affected by 11.2% strengthening of USD vs. EUR**

# 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 2015, 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 Willis Towers Watson's range of reasonable estimates.
  - Life reinsurance and health reinsurance business are excluded from the scope of this review.
  - Willis Towers Watson's review of non-life reserves as at 31 December 2015 covered 98.2% / 98.1% of the gross and net held non-life reserves of €22.8 billion and € 21.8 billion respectively. Together with life reserves of gross €3.7 billion and net €3.4 billion, the total balance sheet reserves amount to €26.6 billion gross and €25.2 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 2015. 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, the 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, Willis 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.
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50  
years

somewhat  
different

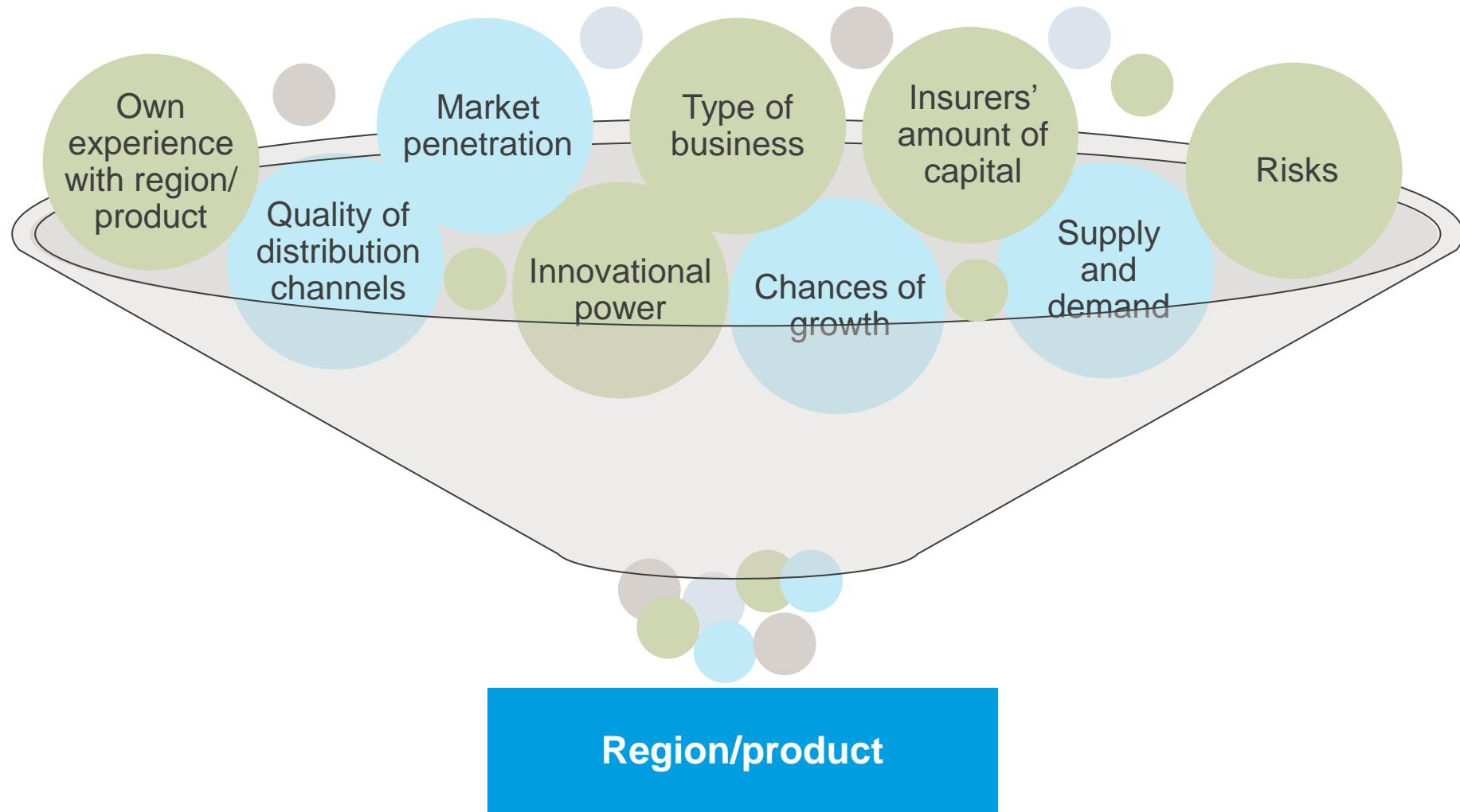
# Managing our P&C book of business

Growth opportunities and retrocession

Jürgen Gräber, Member of the Executive Board

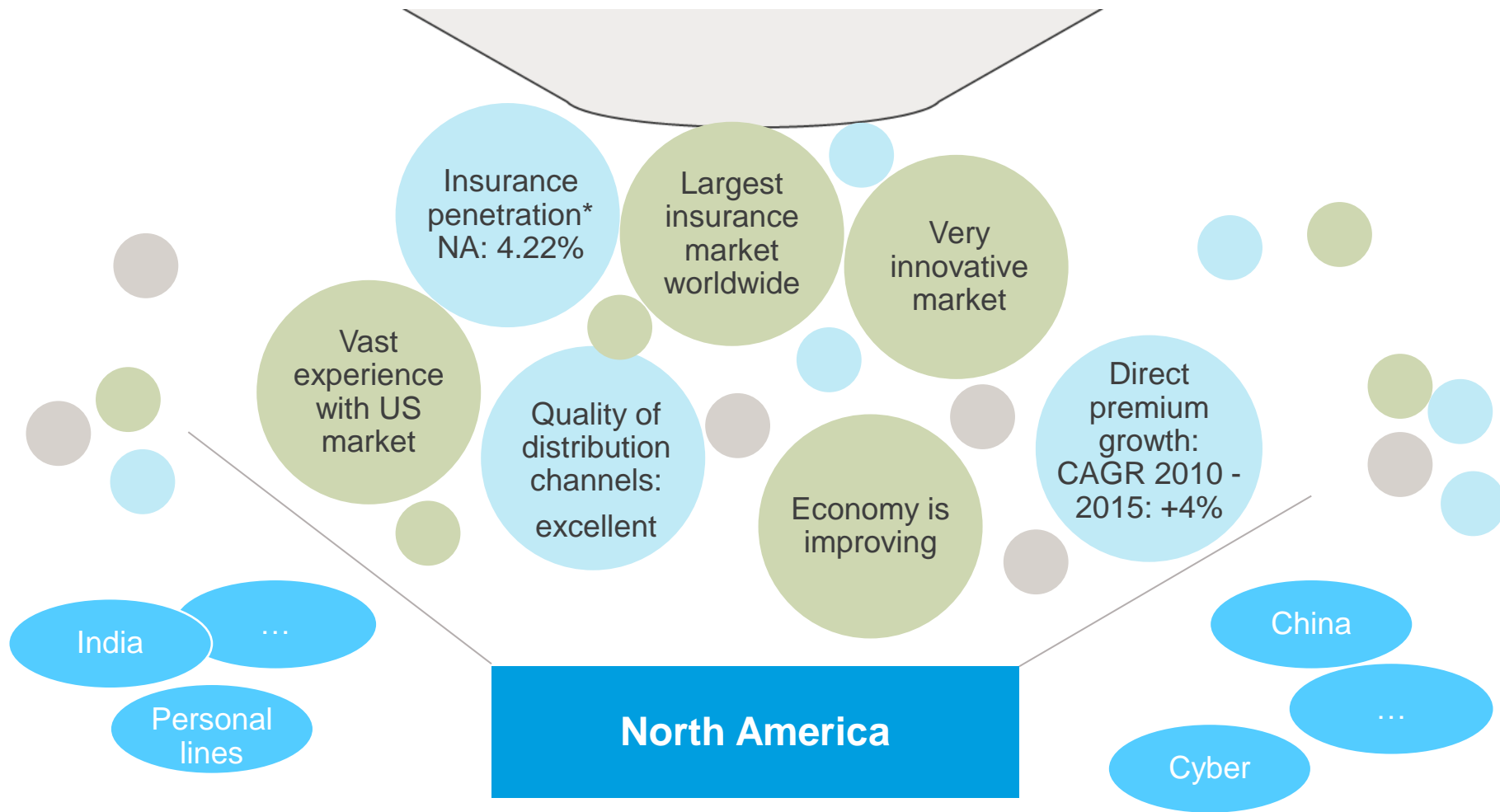
# Concentrate on key parameters for selecting opportunities ...

... to ensure a positive business development and innovation



# In the past, we spoke about other opportunities ...

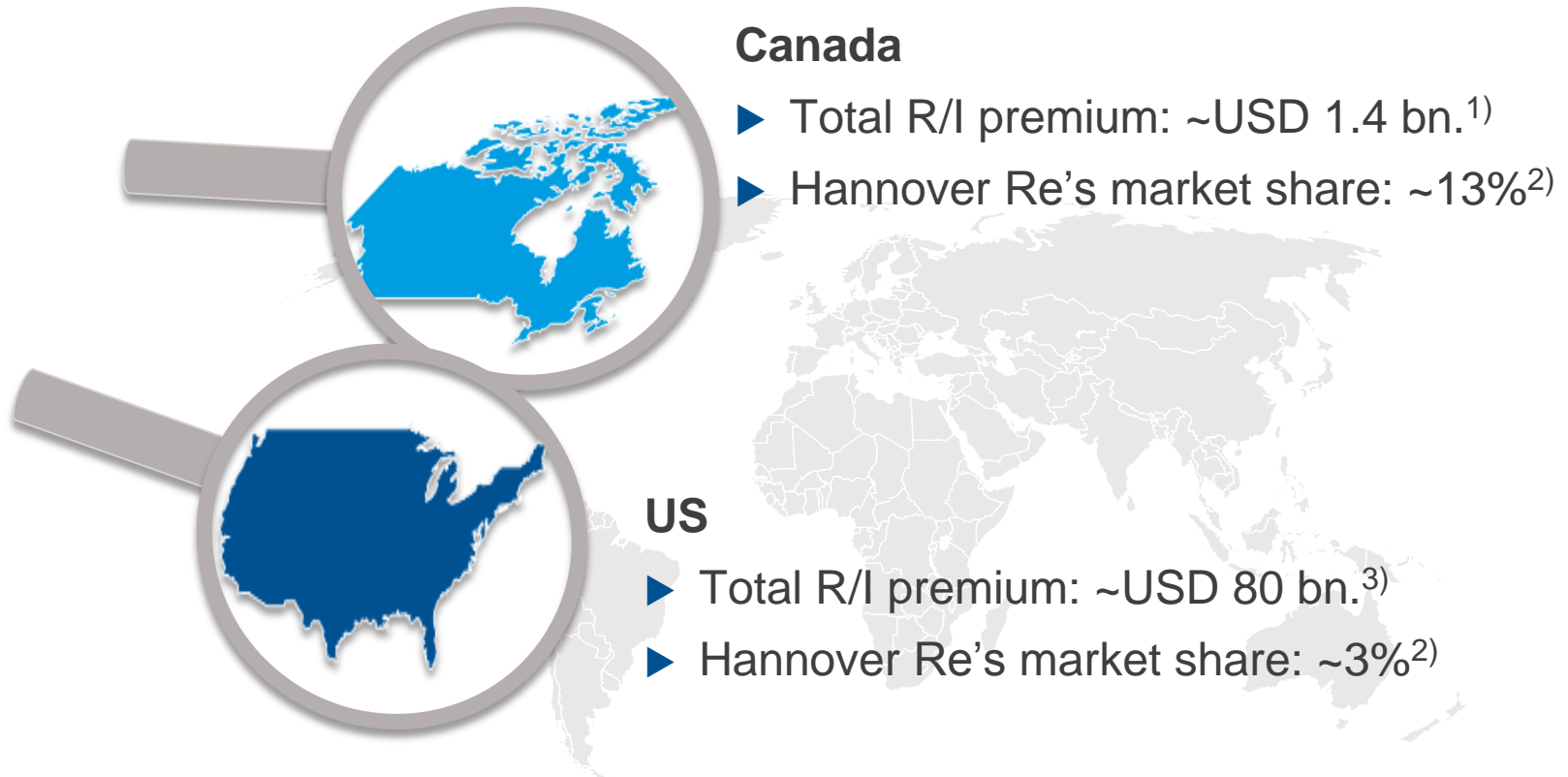
... today we want to focus on North American markets



\* Source: SR Sigma world insurance in 2015 (No. 3/2016); figures count for North America



# We have a strong presence in the North American markets ...



1) CAD 1.84 bn. net reinsurance premium written (Source: Canadian Underwriter 2016) and using exchange rate USD = CAD 1.28

2) Own estimation

3) Source: A.M. Best for 2015 (non-affiliated ceded premium)

... with a higher upward potential in the US

# Challenges and opportunities in the US market

- Strong capitalisation/excess capacity
- Intense competition (even via alternative capital - ILS)
- Further pressure on investment income due to ongoing low interest levels

- + GDP growth
- + Increase in weather extremes
- + Demographic change
- + New and developing products (e.g. cyber)
- + New risks (e.g. autonomous cars)
- + Four “home-grown” rating agencies monitoring financial performance
- + Broker market share increasing

**Carefully selected opportunities outweigh the general threats**

# What makes us different in the US market?

Hannover Re: best reinsurer in the broker market over the last decade\*



Centralised underwriting expertise in Hannover (low-cost environment)



~70 travelling underwriters with ~670 clients and ~1,800 client meetings per year



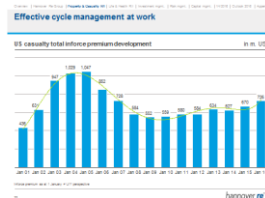
Extremely high staff retention with an average expertise of 17 years



Hannover Re is a **trusteed R/I** in 51 US jurisdictions and provides US collateral via multi-beneficiary trust funds; a **certified R/I** in 25 US states and thus eligible to offer reduced collateral (10%)

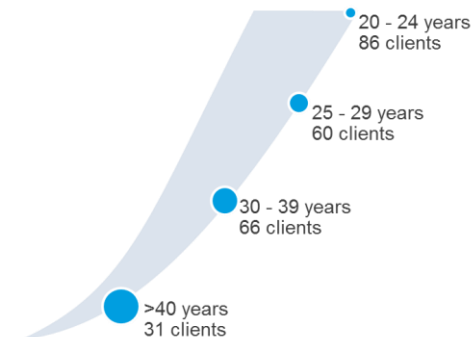


We are a dedicated broker market



Active cycle management in casualty

Customer relationships Treaty US



\* Flaspöhler US P&C Survey

# We mainly see opportunities in six areas

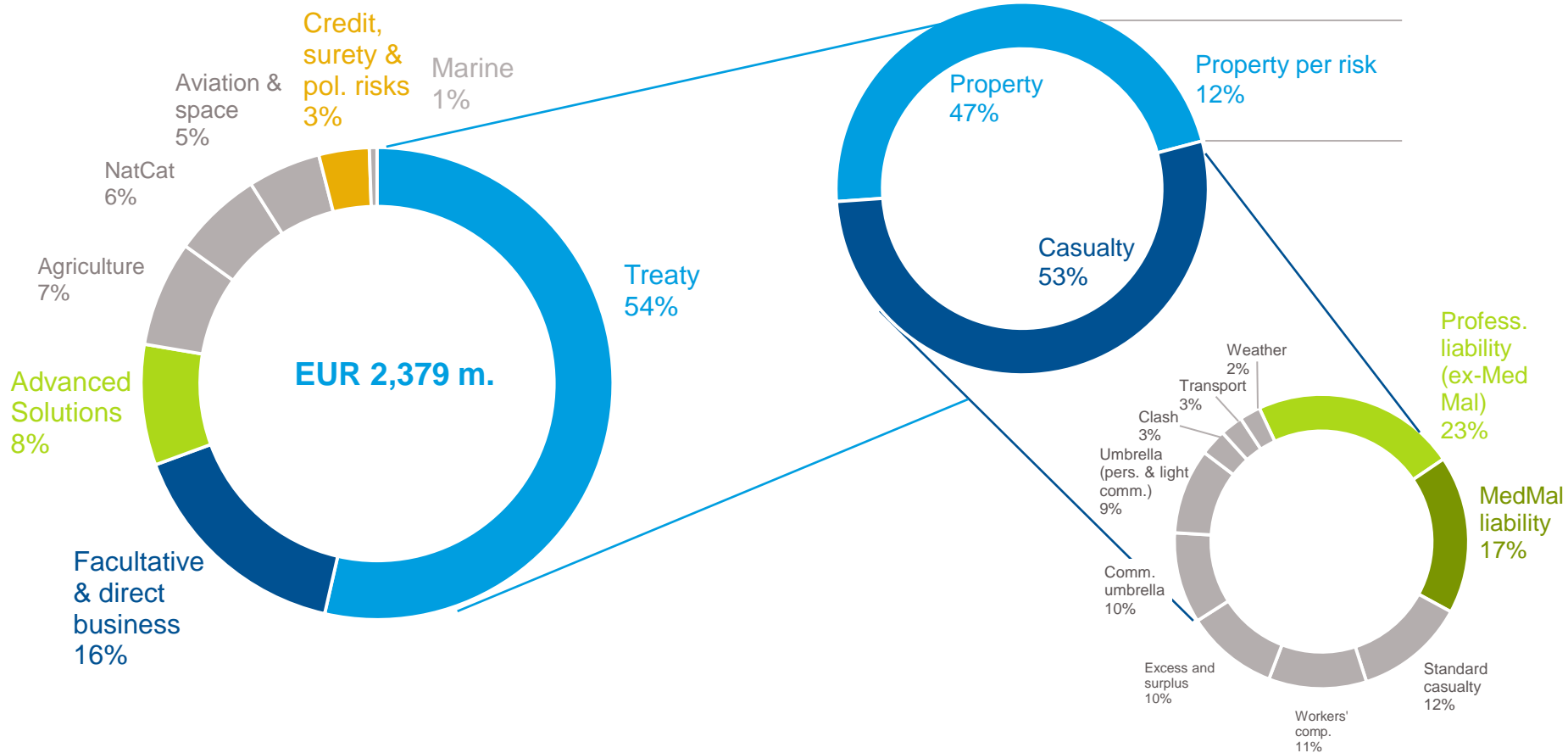
Hannover Re's US business split: dominated by treaty business

GWP US business segment split

FY 2015

GWP US treaty lines of business split

FY 2015

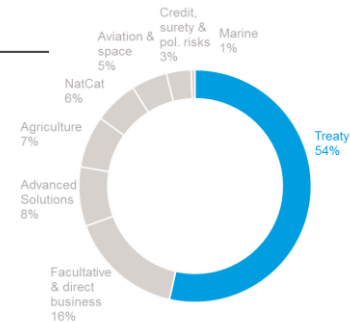


# As the economy improves property values increase

Treaty property: US property per risk

## Market opportunities

- ▶ Robust and expanding primary market for both private and commercial property insurance offers solid growth potential
- ▶ Weather extremes and higher property values are further drivers for market growth



## Hannover Re

- ▶ We are a leading reinsurance provider in the US in this line of business

## Our strengths when handling opportunities

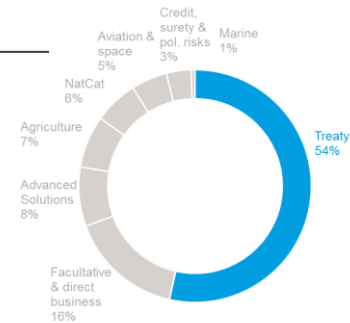
- ▶ We are a preferred, loyal reinsurance partner offering meaningful line-size capacity
- ▶ Dedicated broker reinsurance market
- ▶ We can write all lines and offer lead terms
- ▶ Ability and willingness to pay claims, known in the market

# More cover needed in a more complex world

Treaty casualty: US professional liability business (ex-MedMal)

## Market opportunities

- ▶ Increased demand for D&O, E&O and ancillary lines
  - E.g. cyber, representations + warranties, M&A



## Hannover Re

- ▶ Long-term and broad support of professional indemnification business with meaningful capacity from both treaty and facultative reinsurance

## Our strengths when handling opportunities

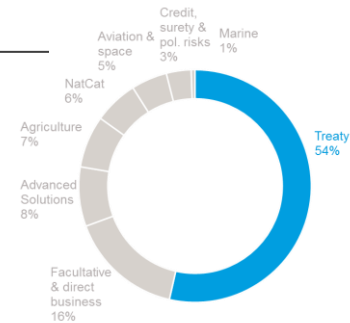
- ▶ We are in a position to design tailor-made reinsurance solutions for the specific needs of professions for large and small clients
- ▶ Broad capacity for D&O exposures
- ▶ Willing to work on specific solutions for new/unique exposures (i.e. tech. risks, etc.)

# We are in an excellent position to design tailor-made solutions

Treaty casualty: US Medical Malpractice (MedMal) liability

## Market opportunities

- ▶ Demographic trends imply an increase in healthcare needs and infrastructure
- ▶ Specialisation and integration of healthcare providers



## Hannover Re

- ▶ We have accumulated know-how about the US healthcare industry
  - Including expertise for physicians and facility exposures

## Our strengths when handling opportunities

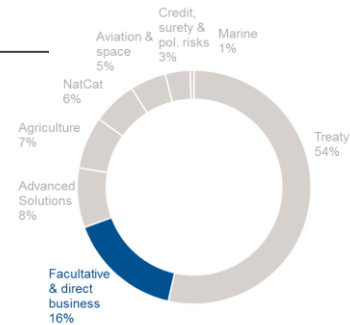
- ▶ 40 years of consecutive commitment to US medical professional liability
- ▶ Ability to blend MedMal liability with other insurance lines of business
- ▶ We can provide full risk transfer as well as structured reinsurance solutions

# US: an important strategic territory now and in the future

## Facultative business

### Market opportunities

- ▶ Casualty and specialty market still offers good opportunities
- ▶ Biggest builders risk market worldwide
- ▶ Growing middle-market segment



### Hannover Re

- ▶ We cultivate long-term partnerships with a strong local presence

### Our strengths when handling opportunities

- ▶ Combine local and Home Office forces to offer best service to our clients
- ▶ Investment in know-how, resources and tools to cover the reinsurance demand of our clients
- ▶ We offer automatic reinsurance solutions (e-business) to increase efficiency for our clients
- ▶ We actively participate in new developed product & innovative coverage concepts

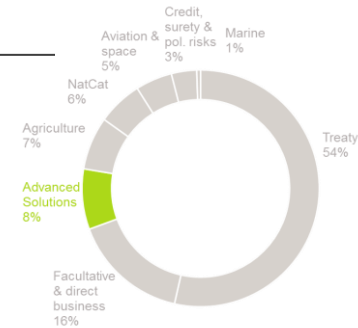


# Capital optimisation: currently the most challenging task

## Advanced Solutions

### Market opportunities

- ▶ Increasing demand for aggregate excess of loss protections
- ▶ Capital relief quota shares



### Hannover Re

- ▶ We are one of the leading providers worldwide for tailor-made solutions

### Our strengths when handling opportunities

- ▶ We complement our traditional business with structured and tailor-made reinsurance solutions as well as aggregate covers
  - Multi-year multi-line excess of loss
  - Aggregate excess of loss (single line, multi-year multi-line)
  - Aggregate covers (multi-line, single year)
  - Tailor-made quota-share contracts

# Expected growth in the US economy leads to opportunities

Credit, surety and political risks

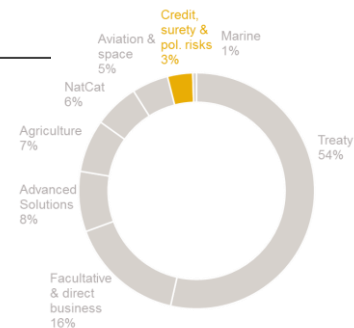
## Market opportunities

### ▶ Surety

- Organic growth from existing clients
- New opportunities from established and new surety players

### ▶ Trade credit & political risks

- Increasing demand due to new market entrants



## Hannover Re

- ▶ We are a long-term and reliable partner in good times and bad

## Our strengths when handling opportunities

- ▶ We focus on reinsurance and don't compete with our clients
- ▶ We write new accounts selectively
- ▶ We focus on our core products

somewhat  
different

# Retrocession

# What we said in 2010 - why retrocession?

## What we said still counts today

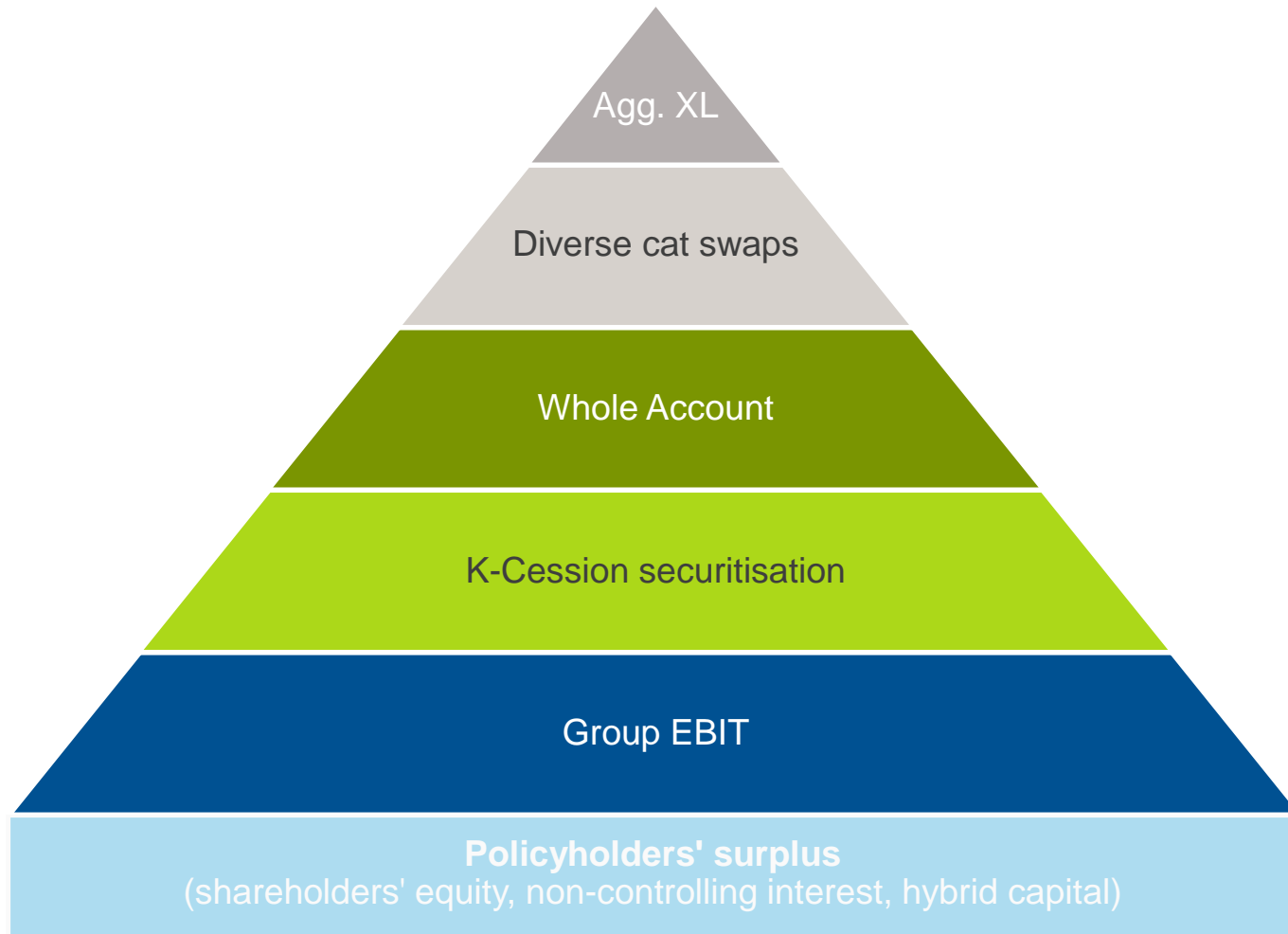
### ▶ Retrocessions ...

- increase Hannover Re's capacity for catastrophe business
- increase Hannover Re's EBIT
- enhance our ERM (Enterprise Risk Management)
- are a flexible source of capital, whilst expensive at times
- allow us to exactly deploy capacity according to our risk mandate
- allow for accurate steering of our cat. budget
- allow us to steer our exceedance probability curves
- function somewhat like a back-stop with limited credit counterparty risk
- support our cycle management
- allow for a flexible retention policy

▶ ... and are part of our capital cascading and capital costs optimisation process

# Several levels of protection provide more NatCat capacity ...

... and thus create additional earnings at a defined risk appetite

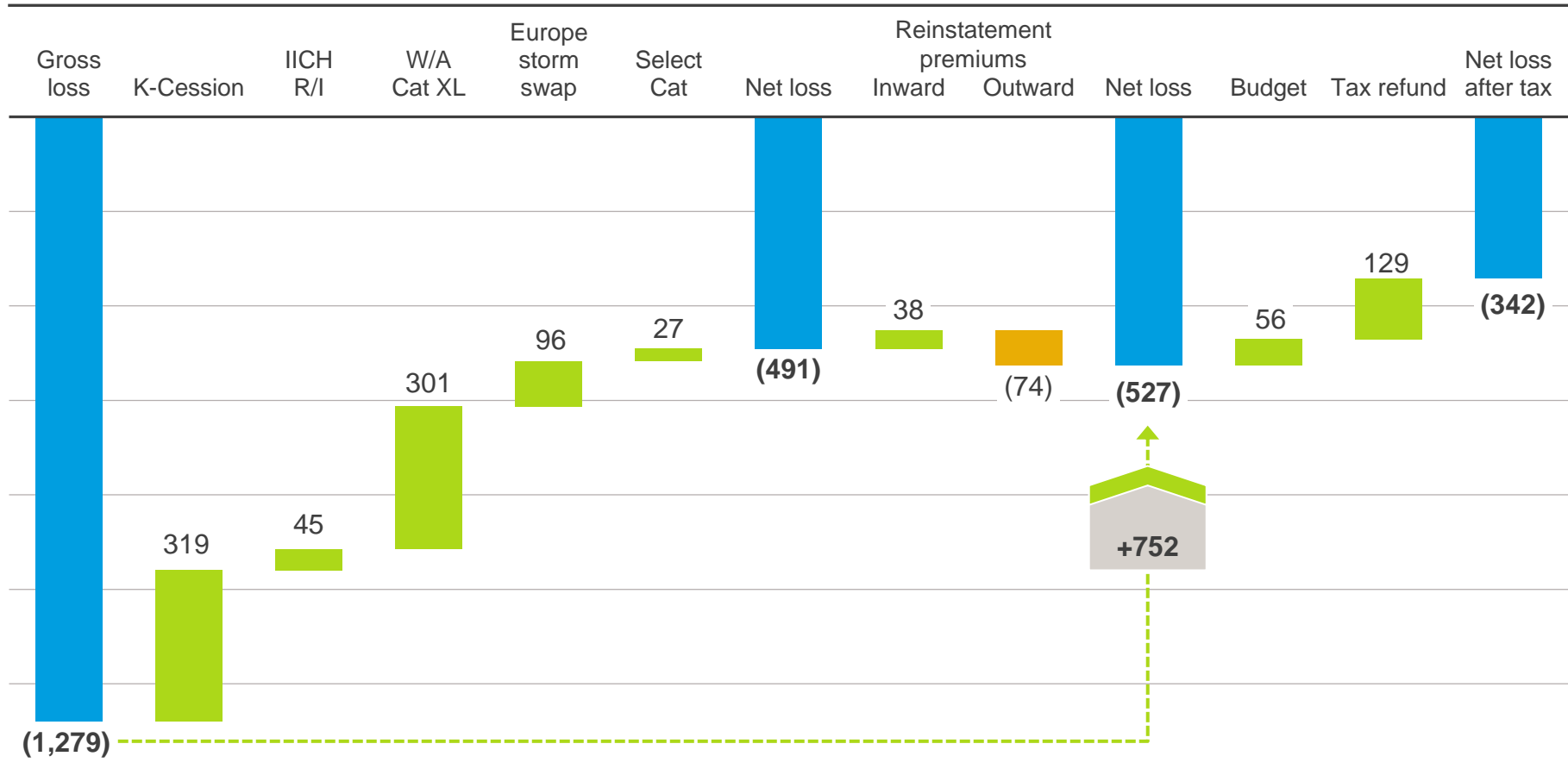


As at May 2016

# Retrocessions greatly reduce NatCat exposures

## 200-year Europe winter storm

in m. EUR



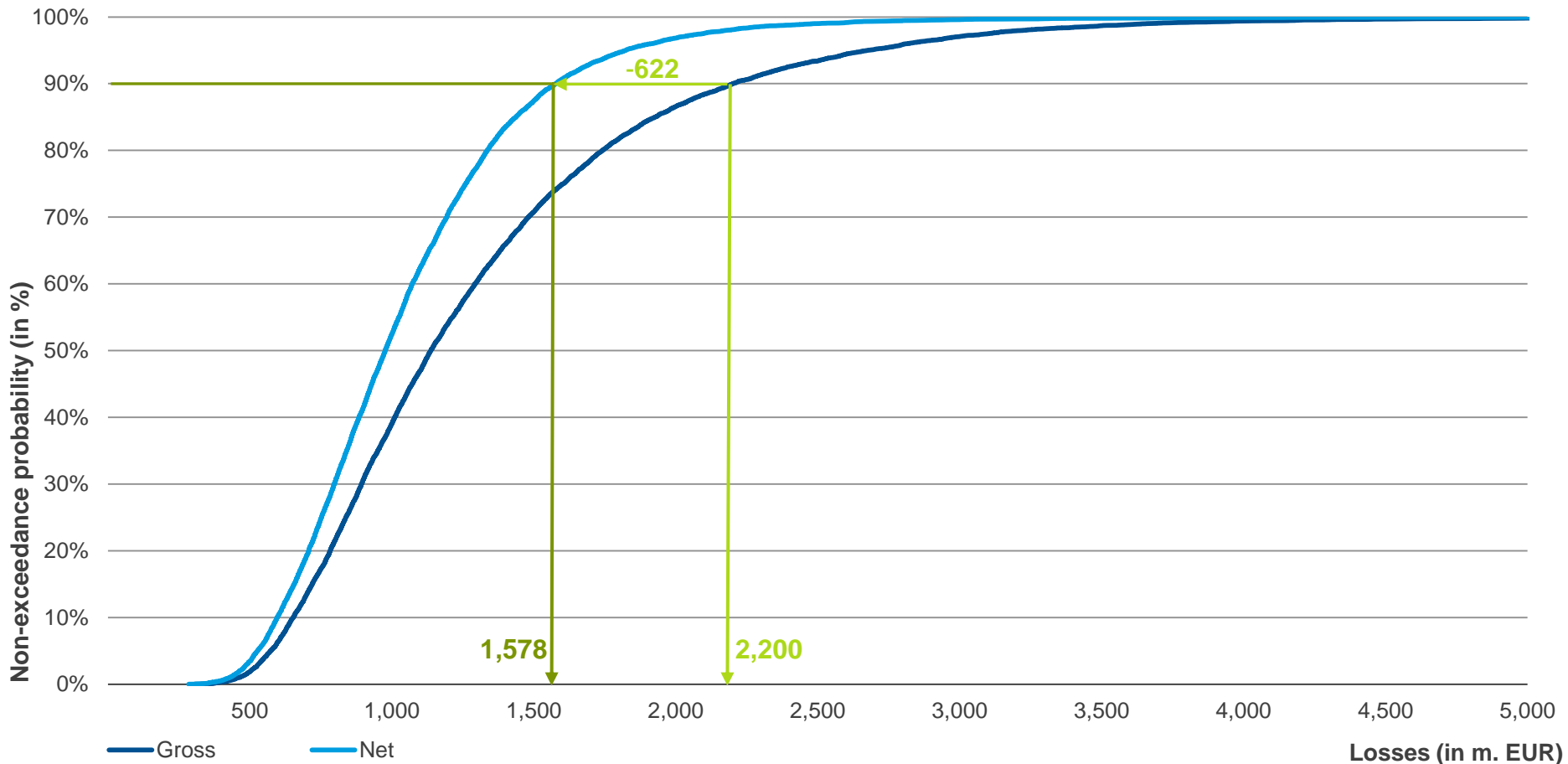
Figures based on Hannover Re's portfolio and retrocessions as of 1 April 2016

# Group gross to net

## Total Hannover Re NatCat exposure

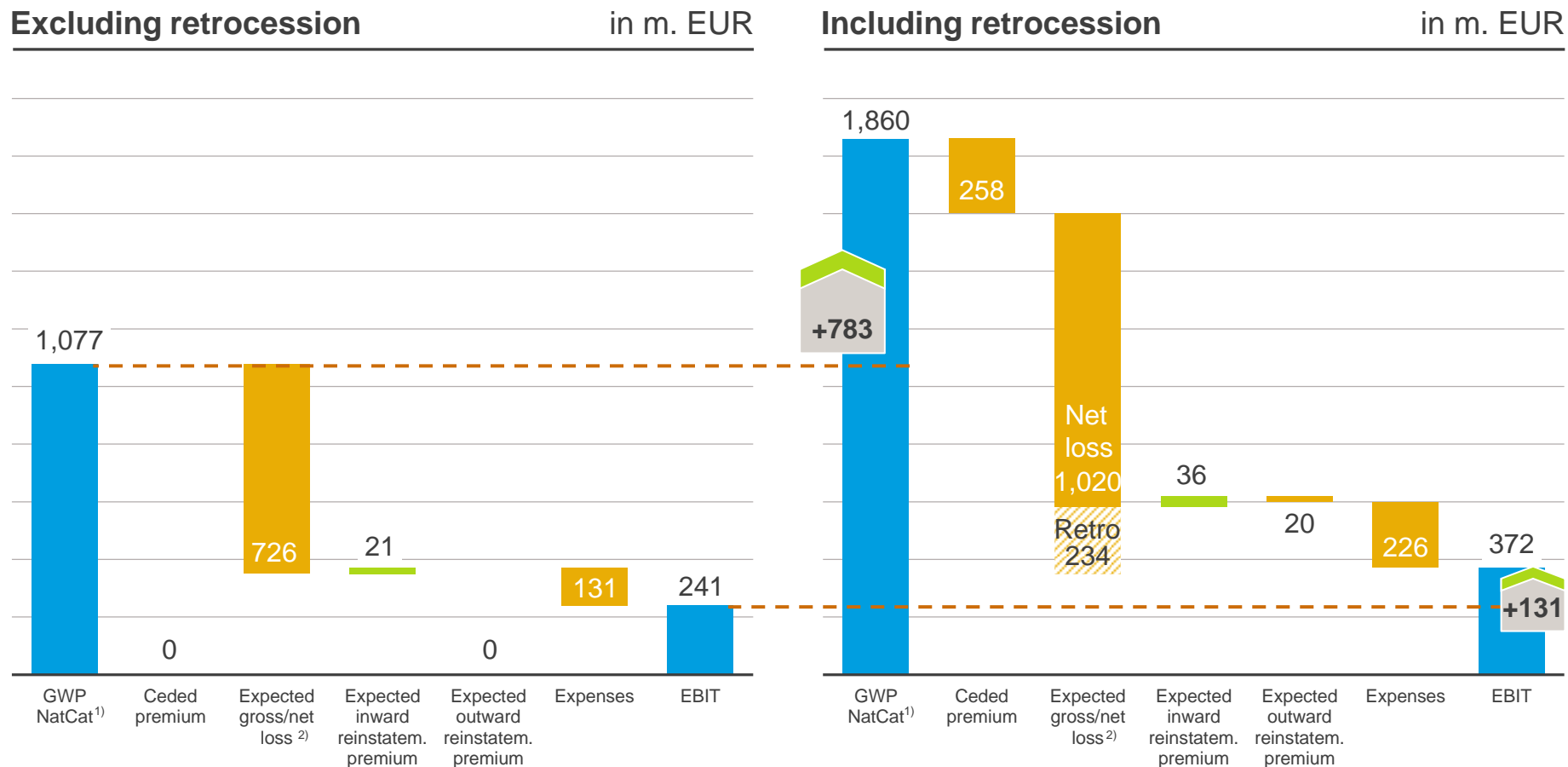
Annual Exceedance Probability (EP) curve as at 1 April 2016

in m. EUR



# Higher GWP and EBIT due to retrocessions

Based on expected loss at same level of risk appetite











Calculated figures based on Hannover Re's total NatCat portfolio and retrocessions as if 1 April 2016

1) Premium allocated to NatCat, including Cat XL premium

2) Expected gross/net loss including all losses below EUR 10 m.



# Our capital is further protected by our diversified underwriting ... ... and strong investment income

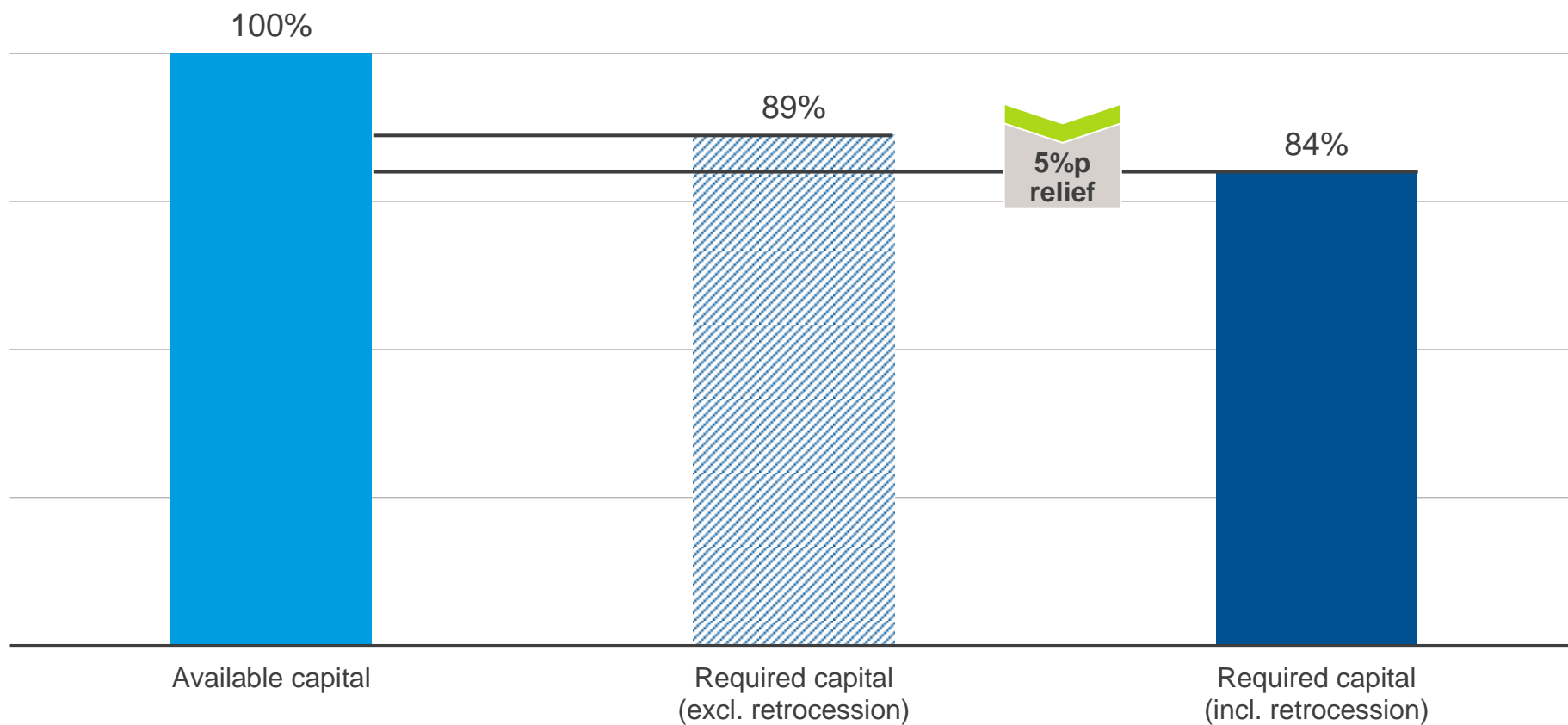
in m. EUR	2001		2011
Net premium earned	6,496		10,752
<b>Gross loss (major losses &gt; EUR 5 m. gross)</b>	<b>1,775</b>		<b>1,730</b>
Retrocession recovery	1,110		749
Net loss	665		981
Underwriting result	(878)		(536)
Net investment income	946		1,384
EBIT	109		841
<b>Net income</b>	<b>11</b>		<b>606</b>

2001 US GAAP figures, 2011 IFRS figures

# NatCat retrocession provides capital relief in rating models ...

... to the extent of a high three-digit million amount of capital

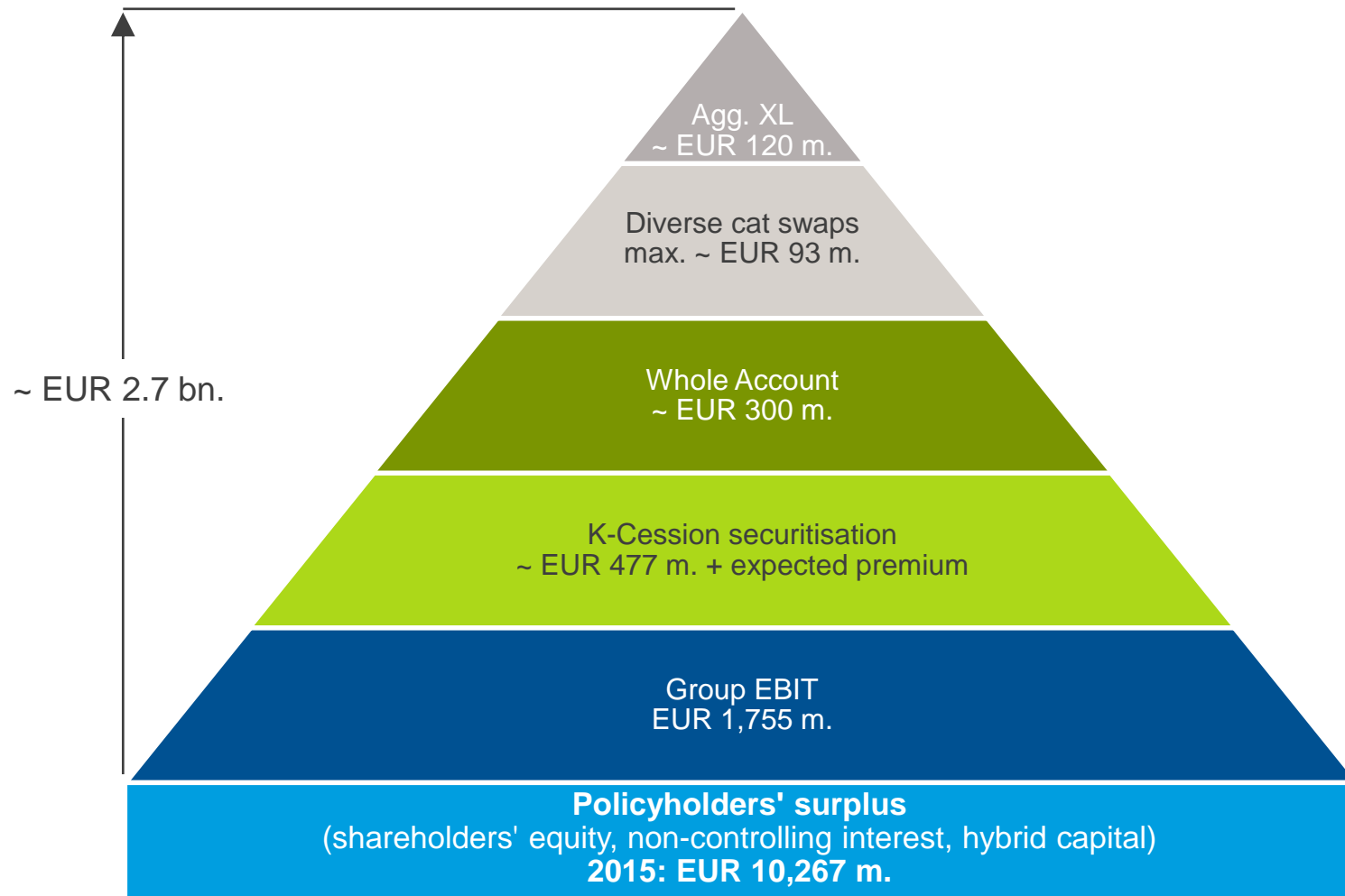
## Rating capital



Required capital incl. 5% internal safety margin on top and excluding consideration of M factor

# Several levels of protection provide more NatCat capacity ...









... and thus create additional earnings at a defined risk appetite



As at May 2016

# Which targets were met for 2016?

## Strategic objectives and measures

Strategic objective	Measures	Achieved
Capital protection	Ensure that the Hannover Re Group is in a position to fully profit from hard markets, i.e. that there is sufficient capital available after a market-changing event	
Risk tolerance	Risk appetite based on a 200-year underwriting result	
Financial measures	The net loss from a NatCat event shall not exceed 50% of NatCat large loss budget	Non-peak 
		Peak 
Requirements	Measures	Achieved
Balance of gross earnings with ceded margins	Placements at adequate pricing level	
Risk transfer	>40% for non-proportional protections	
Independence from reinsurers	Overall retro involvement per reinsurer shall be limited to a max. of EUR 200 m.	
Independence from retrocession	Access various sources of retro capacity by making use of both traditional R/I and capital market	

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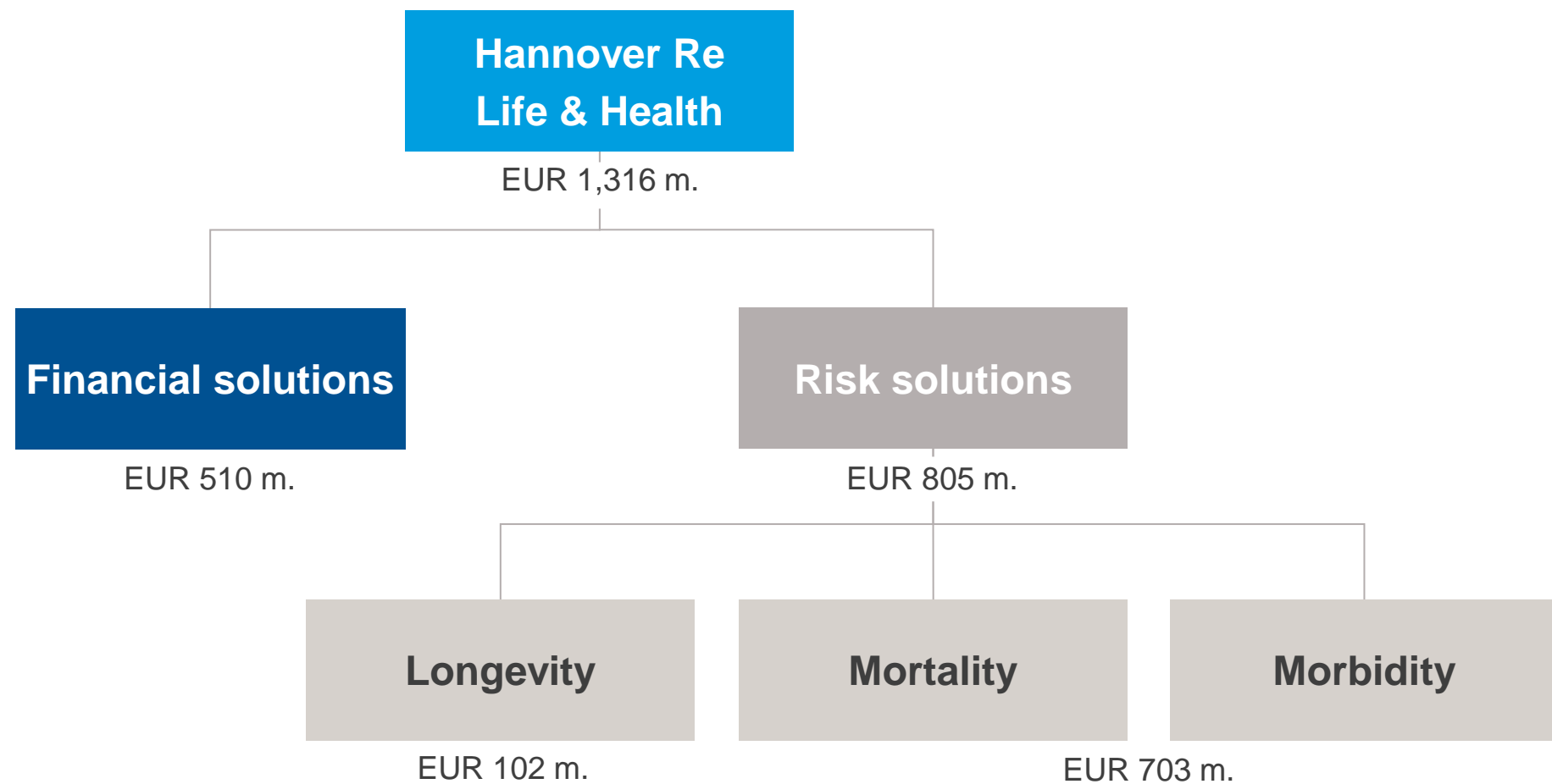
## Financial solutions

Sustainable and profitable business well worth the price

**Dr. Klaus Miller, Member of the Executive Board**

# Financial solutions: a solid contributor to our bottom line

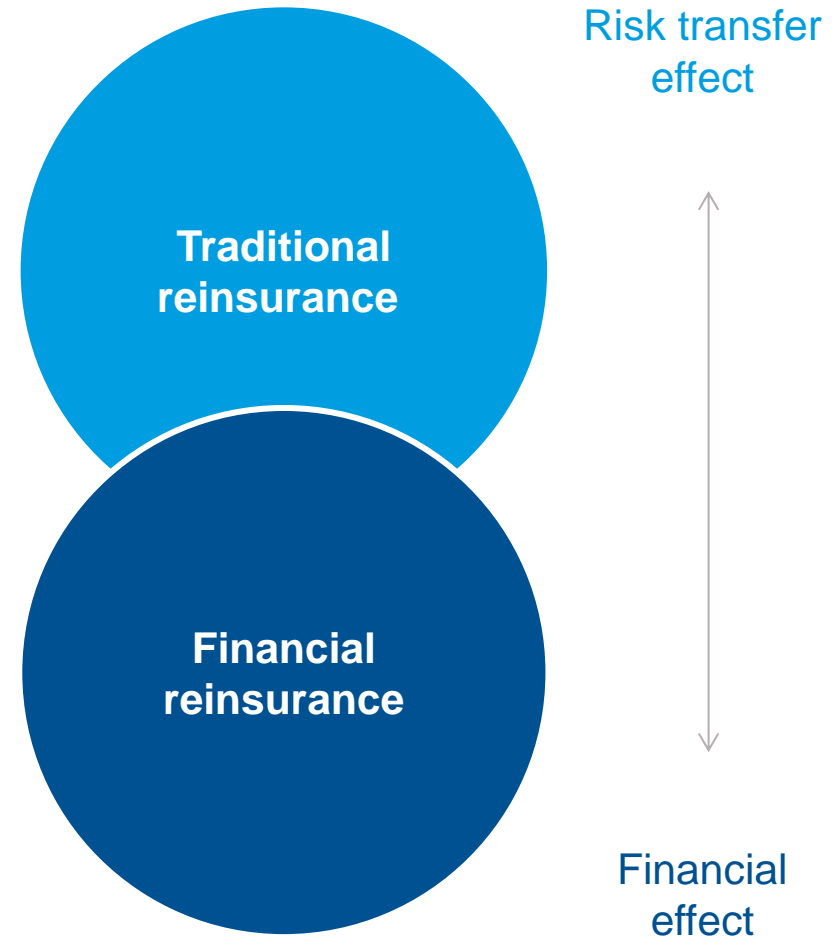
EBIT contribution 2011 - 2015



# Financial solutions: reinsurance transactions ...

... including transfer of biometric risks and financing components

- ▶ Financial and traditional reinsurance
  - Achieving risk transfer and financial objectives
- ▶ Traditional reinsurance
  - Transferring insurance risk to reduce the risk and volatility in the ceding company's results
- ▶ Financial reinsurance
  - Structured reinsurance agreement going beyond risk management and aiming to achieve one or more specific financial objectives for the ceding company





# Financial solutions: an alternative means to access capital ...

... to pursue new business, increase capital reserves, etc.



## Reinsurer's toolbox

Capital  
optimisation

Easing investment  
restrictions

Financing redundant  
reserves

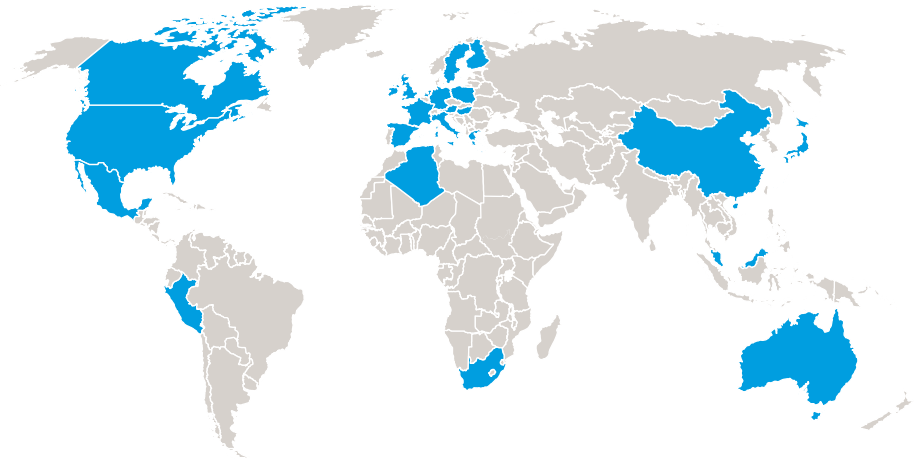
Liquidity  
increase

**Risk is the currency in which we get paid for our service**

# Our extensive track record

We have successfully facilitated structured transactions right around the world

Algeria		Italy	
Australia		Japan	
Austria		Liechtenstein	
Barbados		Luxembourg	
Bermuda		Malaysia	
Canada		Mexico	
China		Netherlands	
Finland		Poland	
France		Singapore	
Germany		South Africa	
Gibraltar		Spain	
Hong Kong		Sweden	
Hungary		United Kingdom	
Ireland		United States	



- ▶ Cash financing (acquisition costs & BATs)
- ▶ Start in Germany, UK, US followed by a worldwide roll-out
- ▶ XXX, AXXX, Solvency I relief, Solvency II, C-Ross, AG48, etc.

# One important distinction: cash vs. non-cash

Depending on the client's objectives and required liquidity



## Cash financing

- ▶ Transaction starts with one or more cash payments from reinsurer to ceding company
- ▶ Initial amount is recuperated in the following years (incl. reinsurer's expected margin) or not if profits are not high enough due to higher claims or lapses than anticipated



## Non-cash financing

- ▶ Transaction just starts with an initial claim against the reinsurer
- ▶ Claim reduces over time if and when profits emerge: outstanding amount (if any) at the end of the agreed treaty term will be settled in cash

# 16.4% of total gross L&H premium

Financial solutions 2015

3.5

billion EUR

Cash financing

940

million EUR

Outstanding financing

7.3

percent

Expected rate of return

- ▶ As at 2015
- ▶ Gross figure

- ▶ As at 2015<sup>1)</sup>
- ▶ 2014: EUR 961 m.

- ▶ Before costs
- ▶ Altern. RoR: 5.3%<sup>2)</sup>

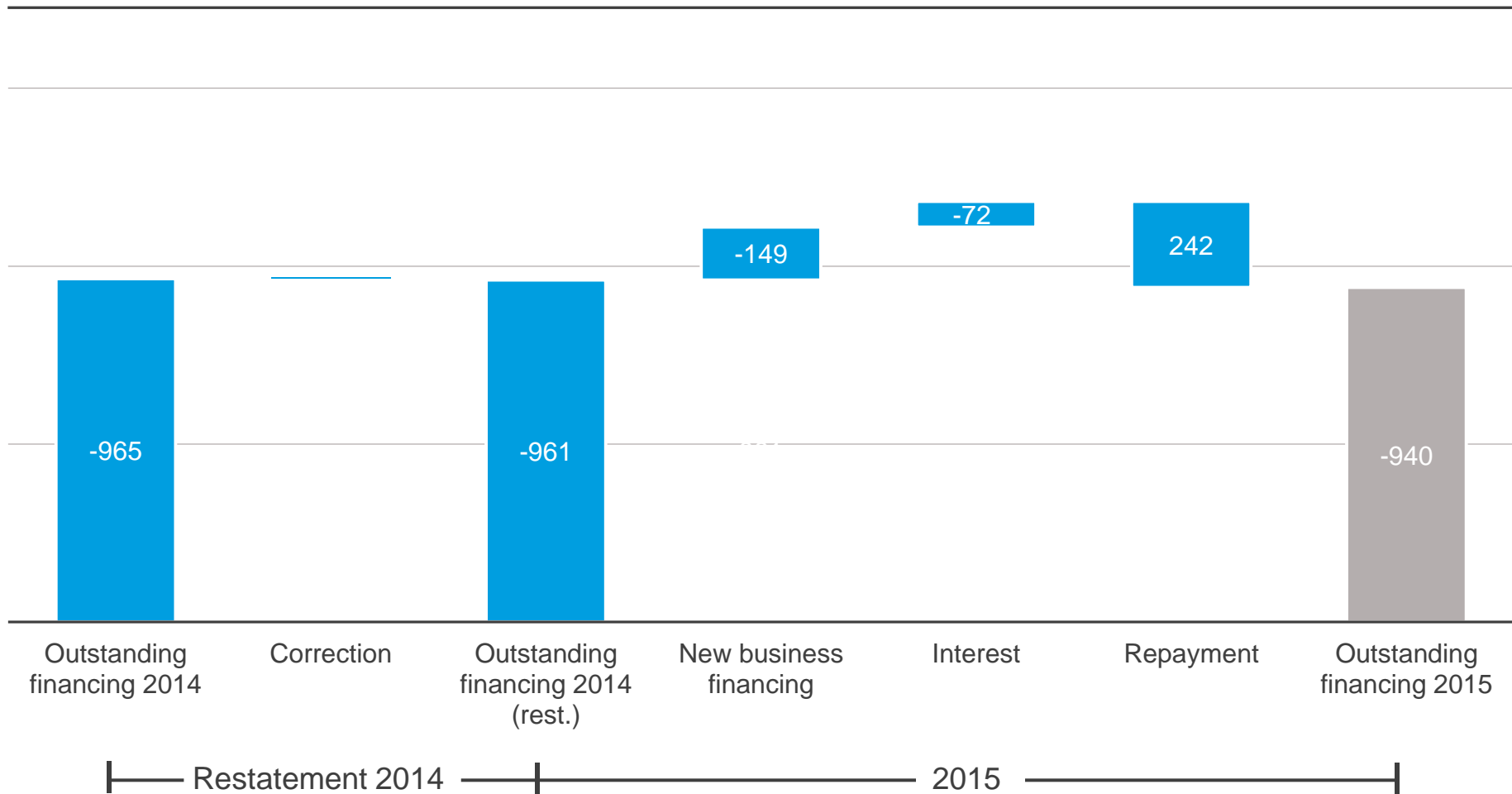
1) New business 2015: EUR 149 m.

2) Incl. failure

**Same business but different markets over the years**

# Development of cash financing business life and health

in m. EUR



# Decrease in outstanding financing (OF) of EUR 21 m.

## Analysis of change for the financial year 2015

in m. EUR

Underwriting year	OF 31 Dec 2014 (rest.)	Calculated interest 2015 <sup>1)</sup>	Actual repayment 2015 <sup>2)</sup>	OF 31 Dec 2015	Actual expected RoR	Alternative RoR incl. failure
≤ 2006	-147	-17	48	-116	6.63%	5.49%
2007	-8	0	1	-6	5.35%	4.61%
2008	-178	-6	19	-166	7.95%	7.73%
2009	-43	-2	23	-22	9.41%	6.54%
2010	-51	-10	28	-33	8.77%	4.43%
2011	-118	-13	55	-77	10.09%	4.28%
2012	-124	-6	30	-100	7.31%	3.92%
2013	-110	-4	7	-107	8.65%	3.30%
2014	-182	-13	32	-163	7.56%	5.24%
2015	0	0	0	-149	4.94%	4.07%
<b>Total</b>	<b>-961</b>	<b>-72</b>	<b>242</b>	<b>-940</b>	<b>7.29%</b>	<b>5.32%</b>

$$- 961 - 72 + 242 - 149 = - 940$$


1) Incl. change of actually expected IRR in comparison to previous year

2) Partly preliminary figures

# Alternative capital sources

Financial solution repayments are subject to business performance

## Financial reinsurance



Debt

Hybrid capital

Equity

Securitisation

### What sets reinsurance apart:

- + Covers losses above capital provided
- + Reduces risk-based capital
- + Rapid implementation
- + Low transaction cost
- + Low minimum size

# Individual life insurance financing landscape

A general timeline of the past 15 years in the US

## Recent evolution capital financing

● 2000 - 2005  
Life financing  
via coinsurance

● 2005 - 2007  
Captives fund  
XXX reserves  
within the capital  
markets via  
securitisations

● 2008  
Financial crisis:  
funded structures  
become very  
difficult to execute

● 2009 - 2010  
Regulators open to  
alternative financing  
solutions  
  
Banks offer  
conditional LOC  
solutions but need  
to hedge risks

● 2011 - 2014  
Increased use of  
captive structures  
and varying forms  
involving unfunded  
structures

● Going forward  
AG48 will provide  
extra guidance:  
use of captives  
and alternative  
forms of capital  
financing

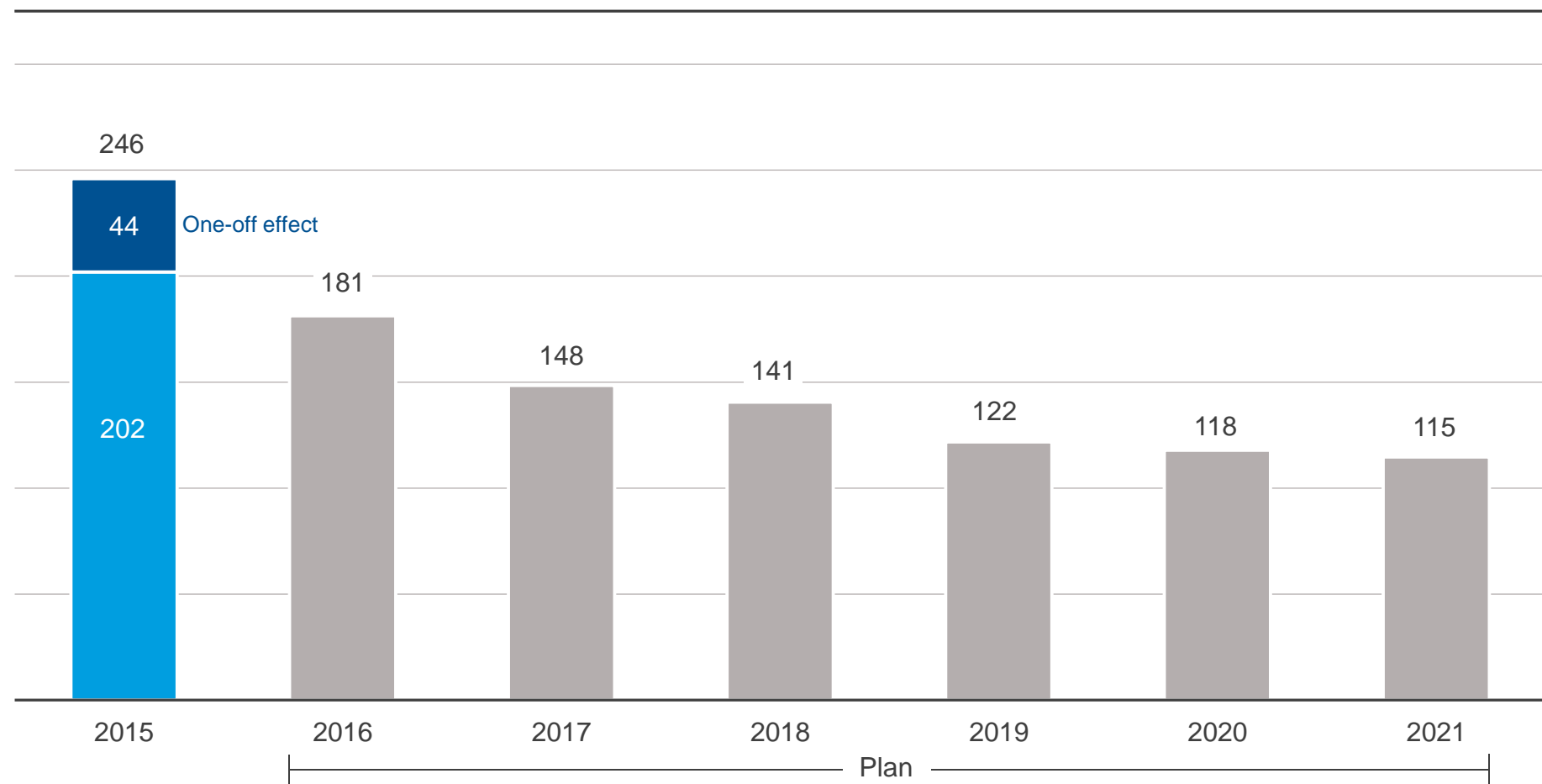


# Development of in-force US financial solution business

Spike in 2015 due to one-off effect

## Run-off profits of current in-force block

in m. USD



No new business or renewals, before internal expenses

# Hannover Re is 4 x "best in class by transaction type"

Reinsurer capability differentiation, US only 2015

Company	XXX	AXXX	Surplus relief	RBC	EV monetisation	Cash financing	Cont. capital
<b>Hannover Re</b>	<b>48%</b>	<b>43%</b>	<b>18%</b>	<b>15%</b>	<b>3%</b>	<b>8%</b>	<b>3%</b>
Peer 1	40%	23%	13%	13%	5%	5%	✗
Peer 2	15%	13%	3%	3%	✗	3%	✗
Peer 3	18%	20%	18%	20%	3%	3%	5%
Peer 4	✗	✗	✗	3%	✗	3%	✗
Peer 5	3%	✗	✗	✗	✗	✗	✗
Peer 6	8%	✗	3%	✗	✗	✗	✗
Peer 7	✗	3%	3%	✗	3%	3%	✗
Peer 8	✗	✗	✗	✗	5%	✗	✗

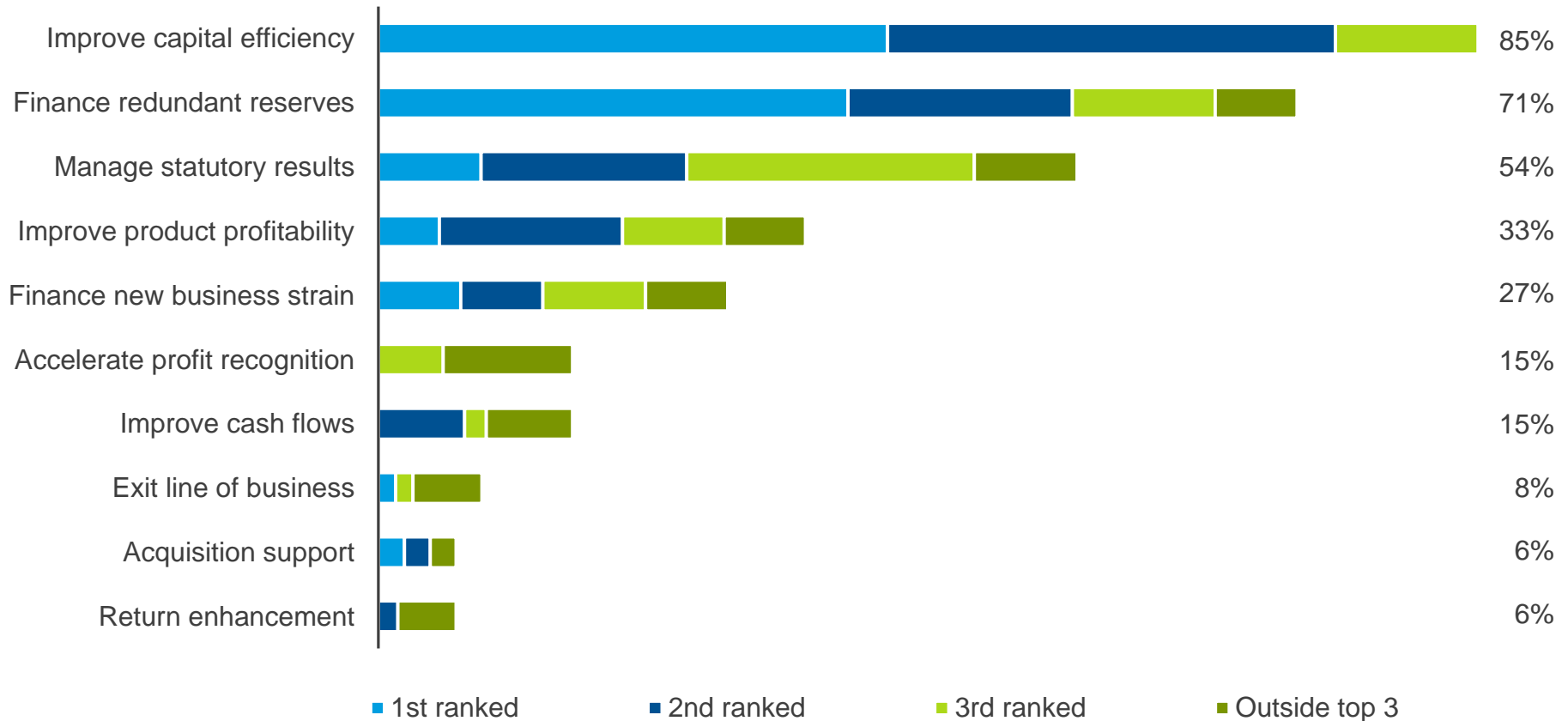
Source: NMG survey; ✗ = no citations

Percentages represent the total number of 'Best in Class' nominations for each reinsurer divided by the total number of respondents who answered this question.

# Main motivation: improvement of capital efficiency

Structured financial solution usage, US only 2015

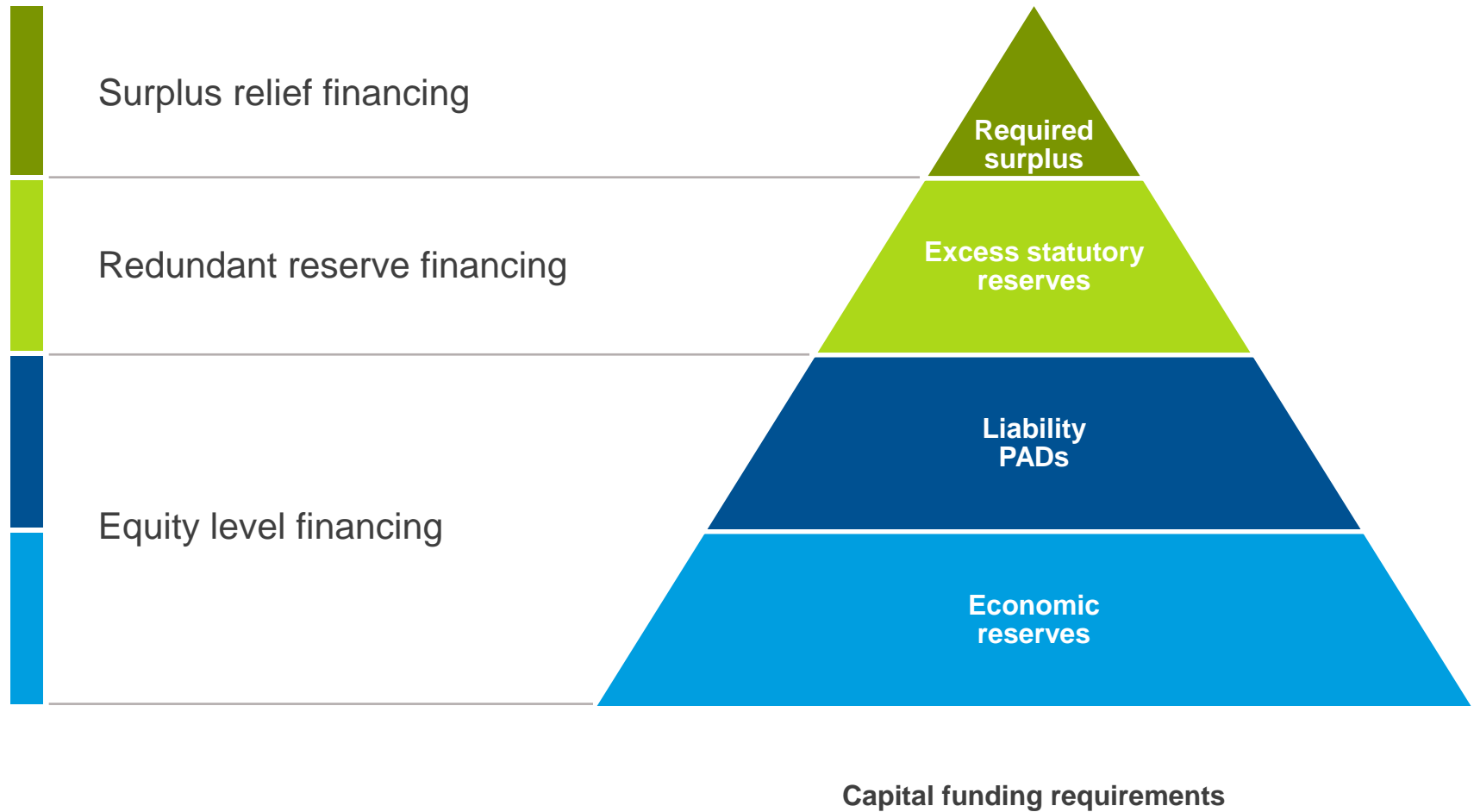
## All respondents



Source: NMG survey  
Only factors cited by more than one key decision maker are shown

# Capital funding has varying costs

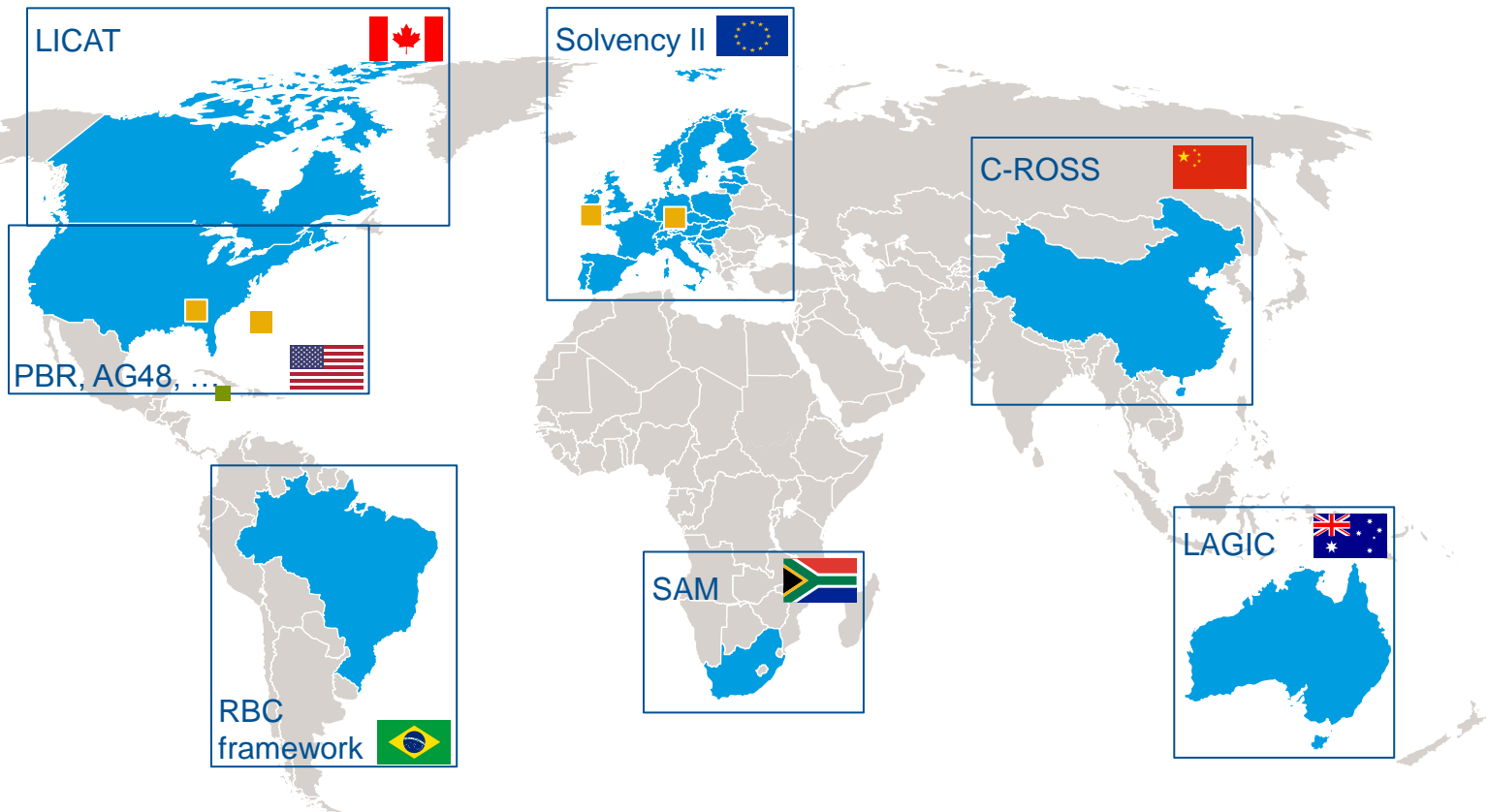
Asset subordination view



Maslow's hierarchy of needs

# Business opportunities in a dynamic global environment

Our clients benefit from our deep knowledge of local markets and regulations



■ Hannover Re entities with special financial solutions expertise and offerings (Bermuda, Germany, Ireland, USA)

AG: Actuarial Guideline

C-ROSS: China Risk Oriented Solvency System

LAGIC: Life & General Insurance Capital Standards

LICAT: The Life Insurance Capital Adequacy Test

PBR: Principle-Based Reserving

RBC: Risk-Based Capital

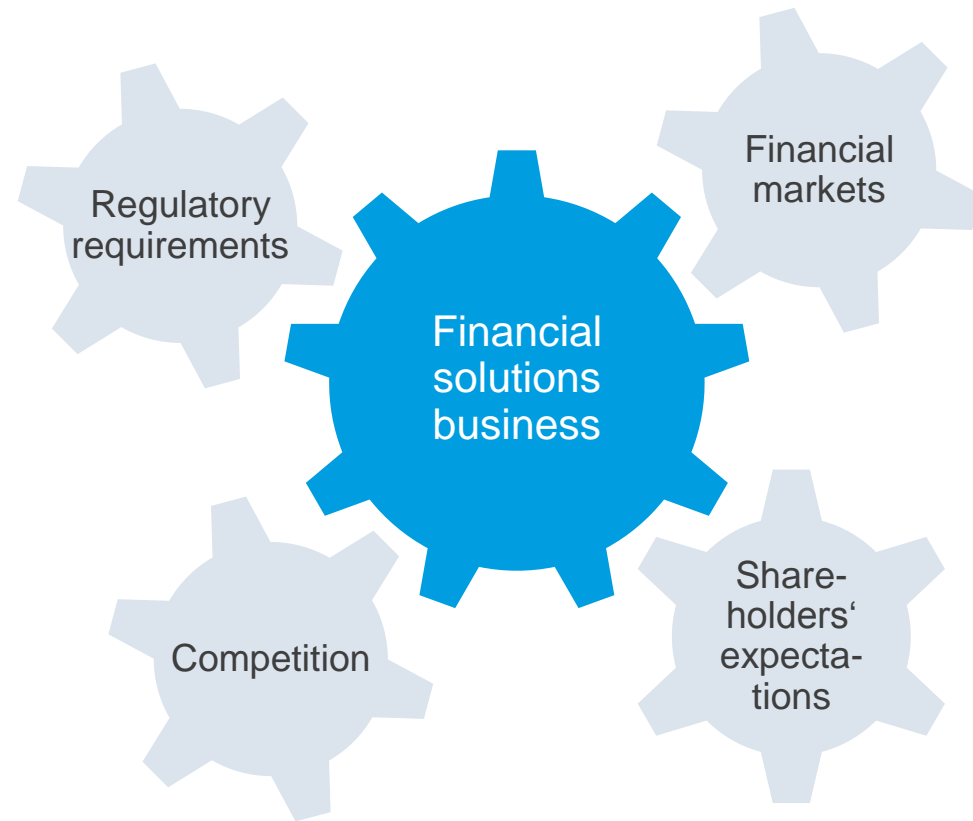
SAM: Solvency Assessment and Management

# We are confident about the further development

## Biggest “threats”:

- ▶ Financial markets become predictable and stable
- ▶ Shareholders are happy with lower RoEs
- ▶ Competition decreases (FinTechs never take off)
- ▶ Regulators relax their requirements significantly

↳ Not the most likely scenario



**A success story with a promising future**

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## Concluding remarks and outlook

**Ulrich Wallin, Chief Executive Officer**



## Key takeaways

- ▶ Hannover Re is well capitalised and has flexibility to manage its capital position
- ▶ Further special dividends will be paid in years with flat earnings expectations
- ▶ Premium growth and increasing earnings in the medium and long term
- ▶ Low yield environment is manageable, esp. due to continued positive cash flow
- ▶ High level of reserve redundancies safeguards profitability of our P&C business
- ▶ Growth in Property & Casualty is protected by expert knowledge and strong market position
- ▶ Retrocession continues to increase earnings within defined risk appetite
- ▶ Increasing profits expected from Life & Health reinsurance in the medium term, strong contribution from Financial Solutions business

**Continuing successful development to the benefit of our shareholders**

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