21st International Investors' Day

London, 18 October 2018

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Content

somewhat different

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Creating value through reinsurance

Ulrich Wallin, CEO

21st International Investors' Day
London, 18 October 2018

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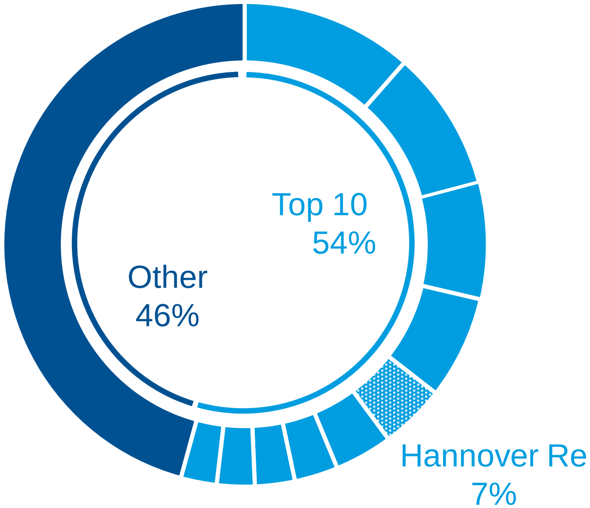
Reinsurance market and outlook

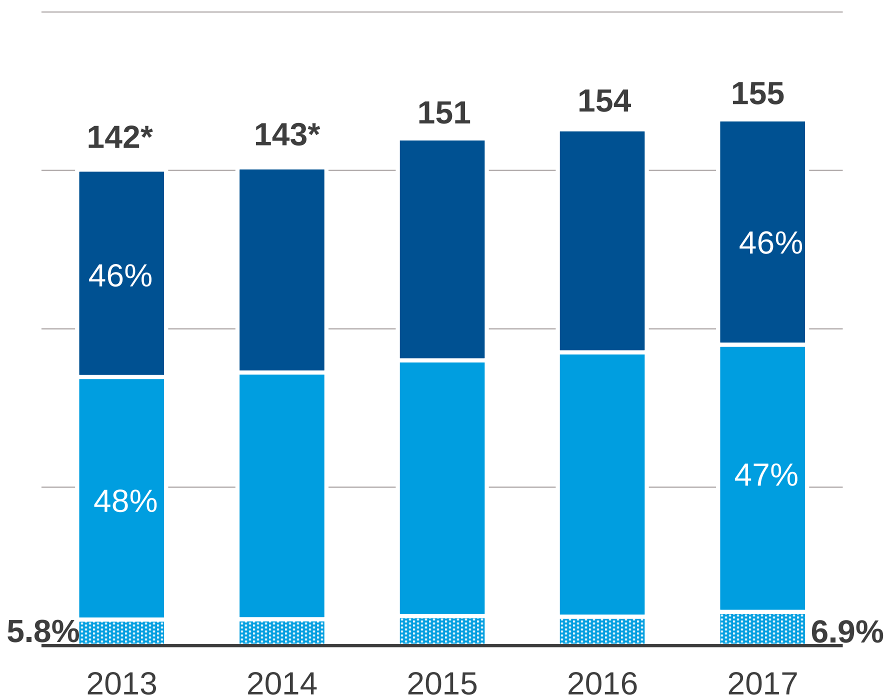
Growing Property and Casualty reinsurance market

Hannover Re outperforms the market

Market size and concentration 2017

in bn. EUR





4-year CAGR

Market	**+2.3%**
Other	+2.1%
Top 10	+2.4%
HR	**+6.7%**

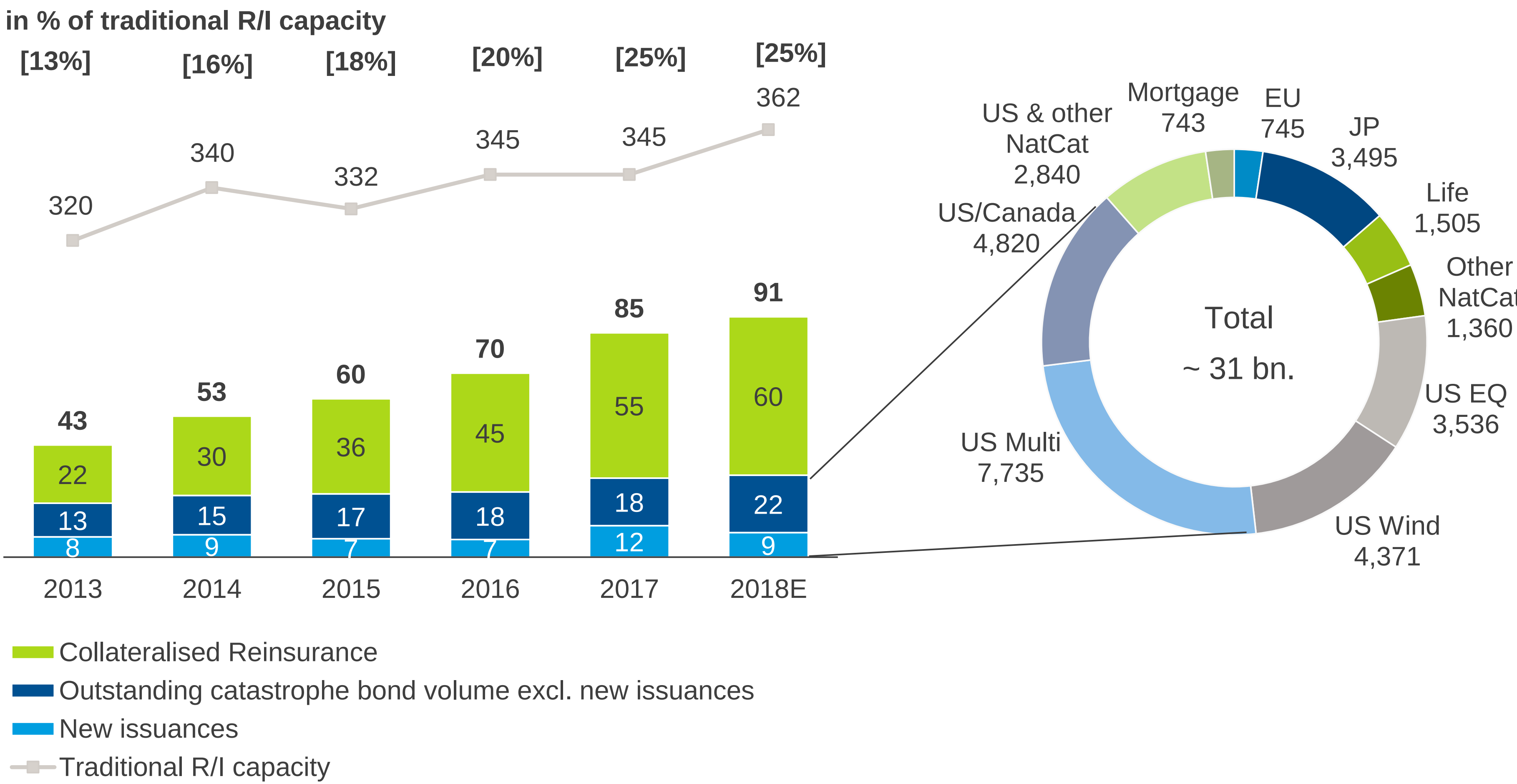
Source: own research as at May 2018
Top 10 in 2017: Munich Re, Swiss Re, Lloyd's, Hannover Re, Berkshire Hathaway (excl. AIG deal), SCOR, Everest Re, XL Catlin, GIC India, Alleghany
Top 10 ranking for each year
* F/x adjusted (2015 rates)

ILS market: more than catastrophe bonds

Strong growth of Collateralised Reinsurance

ILS market volumes vs. total traditional reinsurance capacity*

in bn. USD



* Source: A.M. Best data and research working in conjunction with Guy Carpenter; ILS market volumes: own analysis

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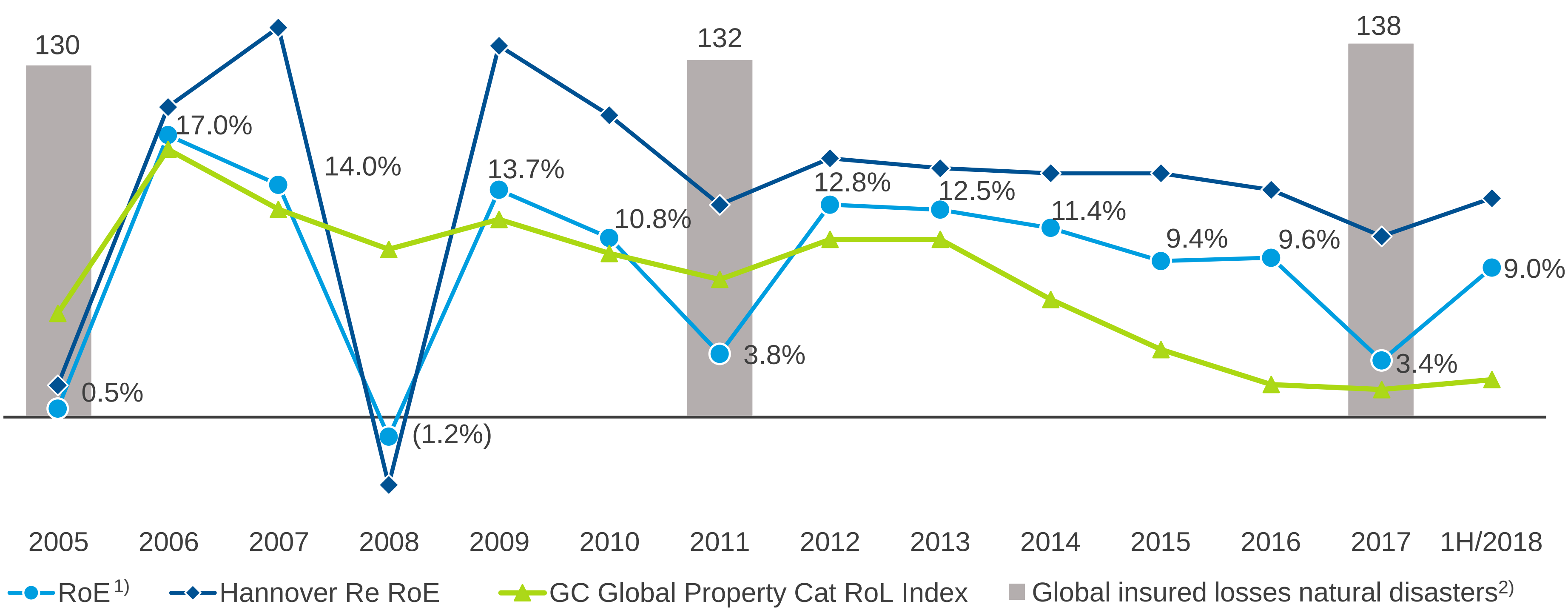
Riding hard market cycles is becoming more difficult

Recent rate increases have been less pronounced after large loss occurrence

Development of return on equity (RoE) and Guy Carpenter Global Property Cat RoL index



1) Return on equity based on company data (Top 10 of the Global Reinsurance Index (GloRe), own calculation, 1H/2018 excl. Validus Holdings

2) Source: Swiss Re Sigma No. 1/2018; in bn. USD

Returns must be achieved in any time of the cycle

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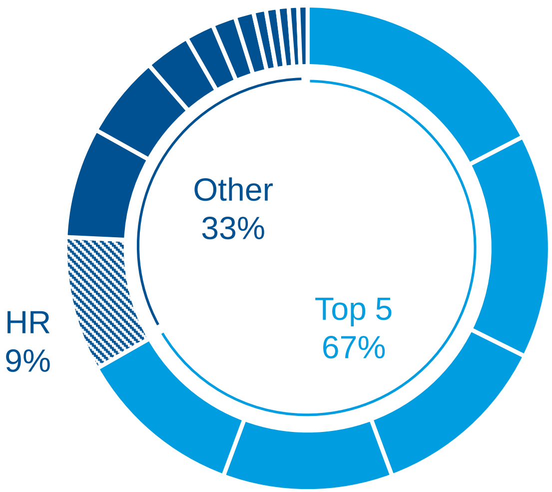
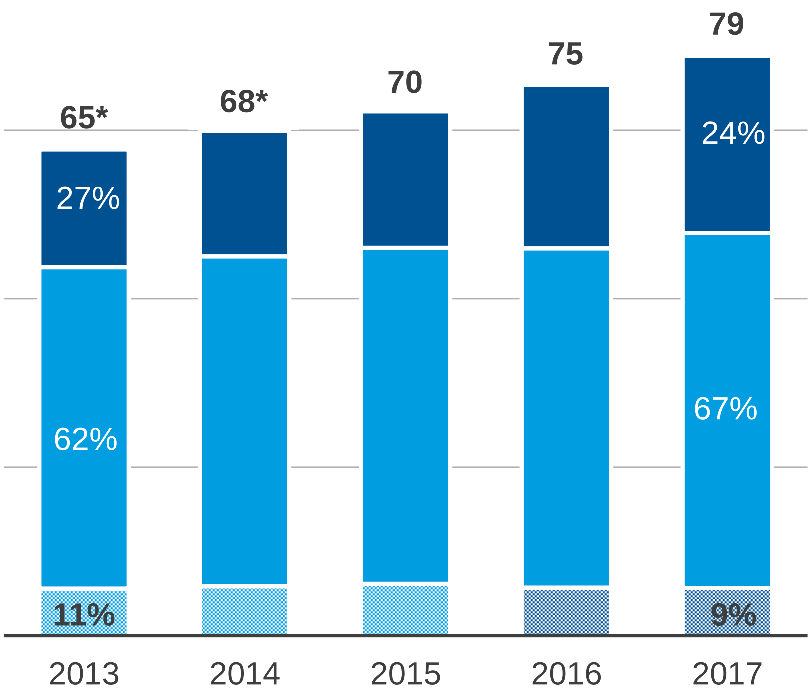
Life and Health reinsurance in a global perspective

Concentrated market due to high entry barriers

Market size and concentration 2017

in bn. EUR





4-year CAGR

Market	**+4.9%**
Other	+10.7%
Top 5	+2.5%
HR	**+0.4%**

Source: own research as at May 2018
Top 10 in 2017: Munich Re, Swiss Re, RGA, Great-West Lifeco, SCOR, Hannover Re, China Re, Berkshire Hathaway, Korean Re, Pacific Life
Top 10 ranking for each year
* F/x adjusted (2015 rates)

The reinsurance business is an attractive market ...

... offering us the opportunity to create value for our clients

Primary insurance

New risks need to be covered: cyber, BI, telematics etc.	Earnings volatility needs to be managed	Cost of capital needs to be competitive	Capital requirements are challenging
↑	↑	↑	↑
We provide services to assess new risks/to move into new markets	We provide risk-mitigating instruments/ capacity for individual or aggregated risks	We provide risk-transfer solutions to reduce cost of capital	We provide solutions to meet regulatory/ capital needs

Reinsurance

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Hannover Re's positioning in the R/I market

Successful as pure play reinsurer

Our competitive advantages enable us to increase market share

- Lower expense ratio than our competitors

We have a lower expense ratio than our competitors

Centralised underwriting
in P&C reinsurance

Lean structures

➥ Delegation of responsibility and decisions, no matrix organisation

Operating in low-cost locations

➥ not only Hannover, but worldwide

High
staff retention

Offering services

➥ only connected to business and premium revenues or strategic client relationships

Defined distribution channels in P&C; high share of brokers

No recent M&A deals with transformational character

Homogeneous IT infrastructure

➥ re7 in 95% of our locations

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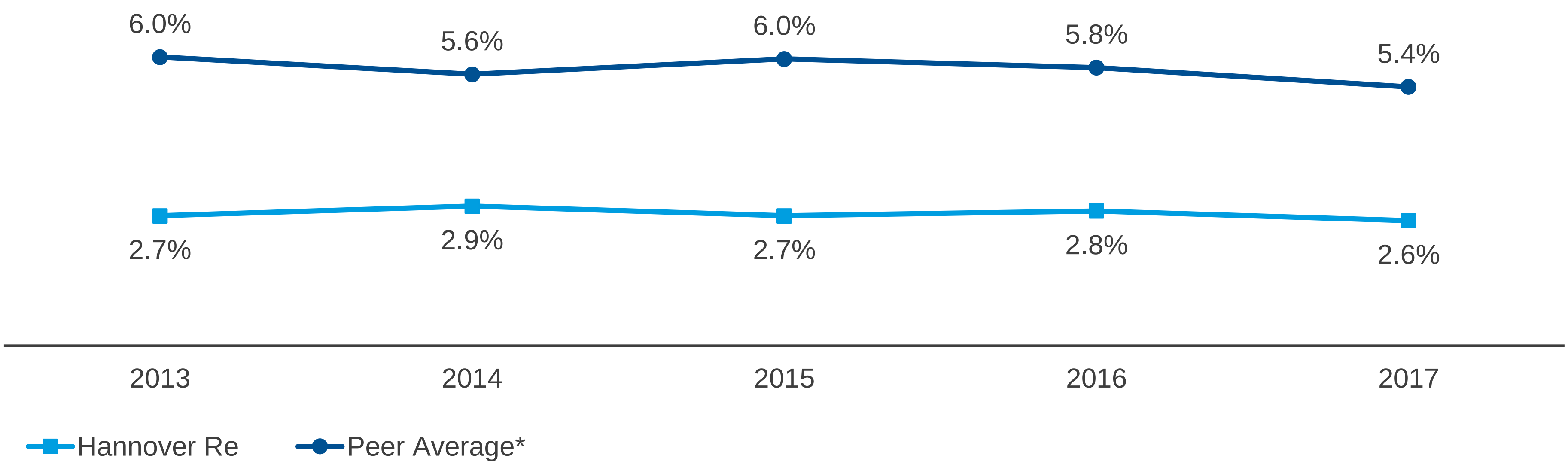
Low expense ratio is an important competitive advantage

Administrative expense ratio



* Peers: Munich Re, Swiss Re, Scor, Everest Re, RGA; own calculation

Our competitive advantages enable us to increase market share

- Lower expense ratio than our competitors
- Consistent U/W approach (no surprises for our clients) and long-dated client relationships

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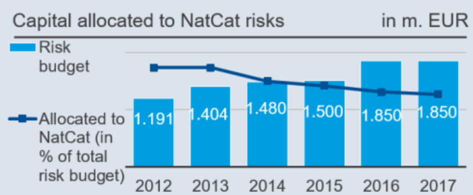
We ensure a consistent and no-surprises U/W approach ...

... in P&C and L&H reinsurance

Our NatCat capacity to our clients has not been reduced



Very short decision-making processes combined with a high speed of execution

Our margins are predictable/stable and transparent

Exceptional expertise in financial solutions and longevity combined with a high certainty of execution

Our clients have long-lasting relationships with our underwriters due to our high staff retention

Focus on value-adding services such as automated underwriting systems

hr ReFlex
Underwriting automation

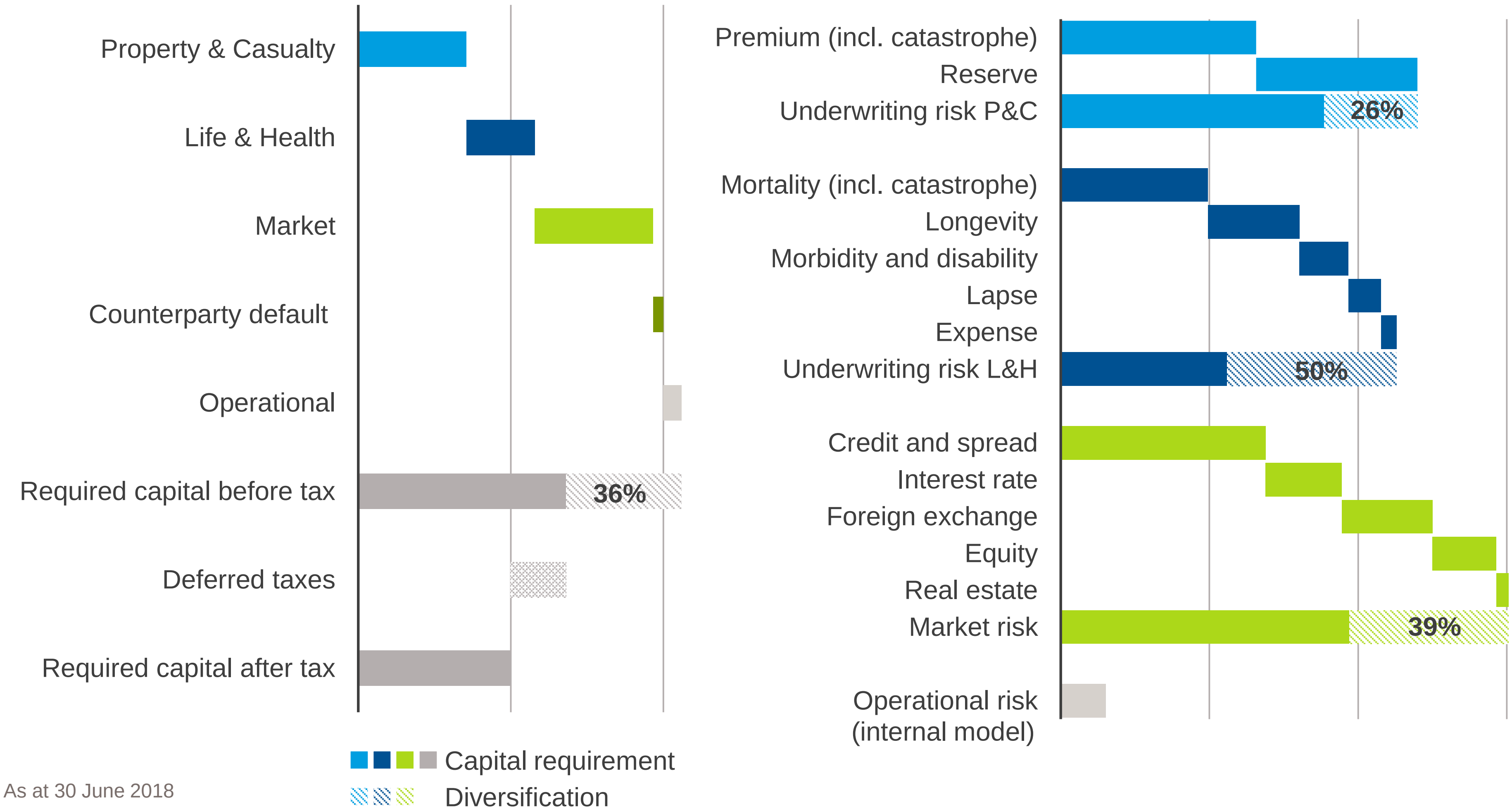
hr QUIRC

Our competitive advantages enable us to increase market share

- Lower expense ratio than our competitors
- Consistent U/W approach (no surprises for our clients) and long-dated client relationships
- Top tier reinsurer with benefit from diversification by line of business and global reach

High diversification benefit due to global reinsurance portfolio
Well diversified within each risk category

Risk capital for the 99.5% VaR (according to economic capital model)



As at 30 June 2018

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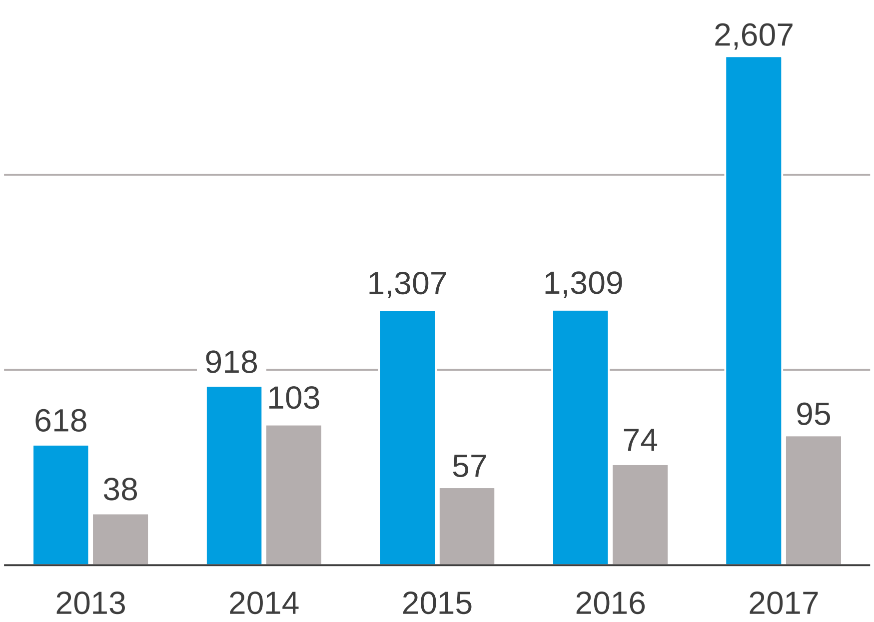
Our competitive advantages enable us to increase market share

- Lower expense ratio than our competitors
- Consistent U/W approach (no surprises for our clients) and long-dated client relationships
- Top tier reinsurer with benefit from diversification by line of business and global reach
- Efficient offering of tailor-made solutions with short time to market and high deal certainty

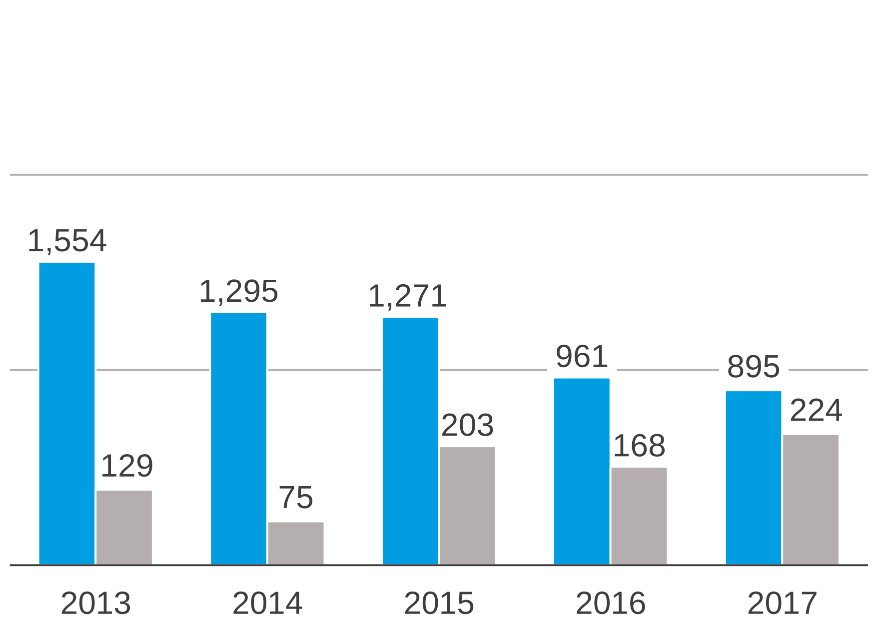
Growing EBIT contribution from tailor-made solutions

Successful development driven by high expertise and efficient execution

Structured R/I & ILS in m. EUR



Financial Solutions in m. EUR



■ Gross written premium ■ EBIT

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Our competitive advantages enable us to increase market share

- Lower expense ratio than our competitors
- Consistent U/W approach (no surprises for our clients) and long-dated client relationships
- Top tier reinsurer with benefit from diversification by line of business and global reach
- Efficient offering of tailor-made solutions with short time to market and high deal certainty
- Strategic focus on reinsurance to avoid conflict of interests with primary insurers

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Our strategic focus is on reinsurance

New joint venture to establish a focused provider in an attractive market

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P&C reinsurance

L&H reinsurance

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New joint venture

HDI Global Specialty

„Specialty insurance solutions – customized“

HDI Global

Casualty Lines

Property Lines

Specialty Lines

- Avoid conflict of interests between primary insurance and reinsurance within Hannover Re viewed with an increasingly critical eye by clients
- Stronger participation in primary insurance premium growth
- Access to HDI Global network and associated unlocking/freeing up of growth potential
- Benefit from HDI Global's excellent claims management

Continued access to profitable earnings via our core competence – reinsurance

Our competitive advantages enable us to increase market share

- Lower expense ratio than our competitors
- Consistent U/W approach (no surprises for our clients) and long-dated client relationships
- Top tier reinsurer with benefit from diversification by line of business and global reach
- Efficient offering of tailor-made solutions with short time to market and high deal certainty
- Strategic focus on reinsurance to avoid conflict of interests with primary insurers

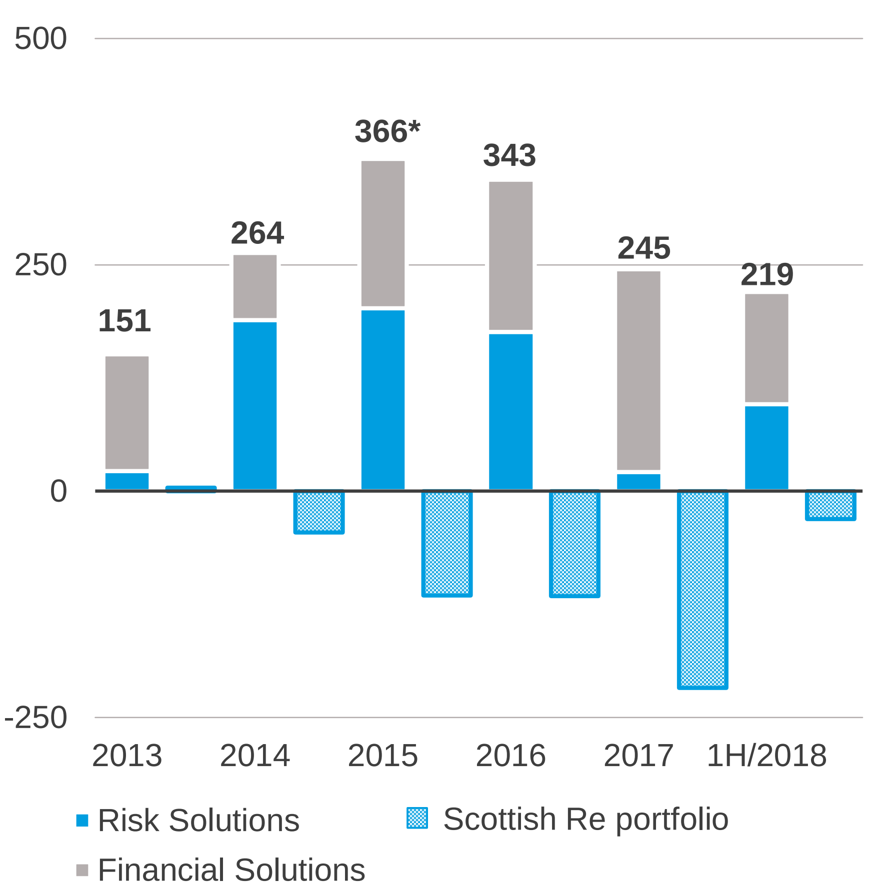
We are a Top-Tier player growing stronger than the market

Update on US mortality business

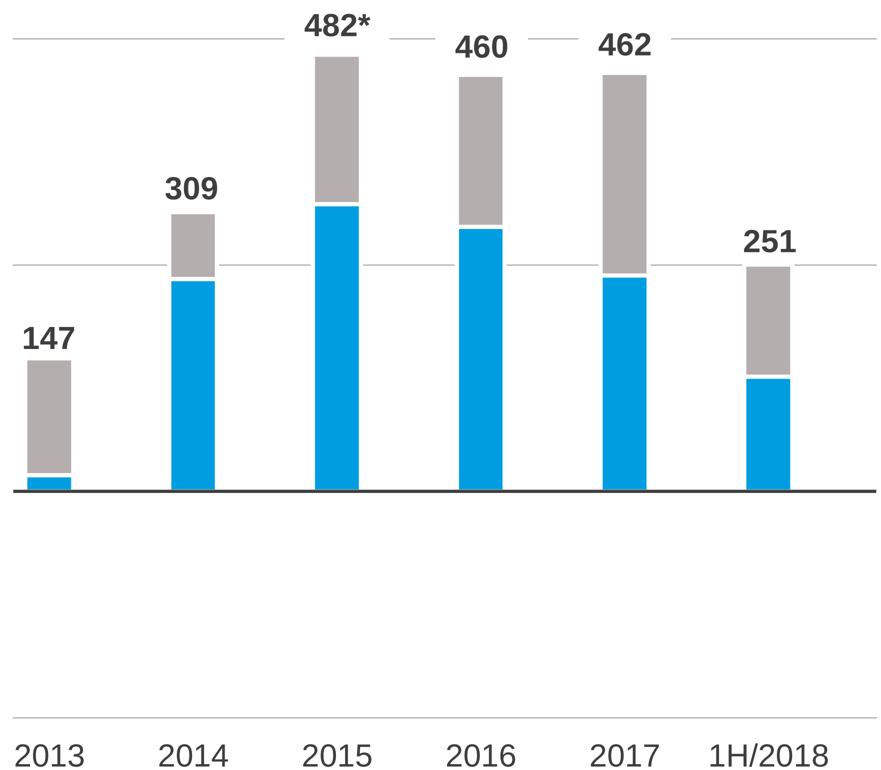
Resolving the issue of legacy US mortality business...

... will have a significant positive effect on L&H EBIT in the future

L&H EBIT by reporting category — in m. EUR



L&H EBIT excl. Scottish Re portfolio — in m. EUR



* Excluding EUR 38.7 m. positive one-off from termination fee for Financial Solutions treaty

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Expectation for US mortality business

- Rate increase notification sent out on 1 May 2018
- Recaptures by cedants will result in a significant EBIT burden in 2018 (USD 264 m. already advised after Q2/2018)
- Reserve sufficiency for US mortality business has improved
  - ➥ unlocking of IFRS reserves has become unlikely
- Significantly improved profitability from 2019 onwards

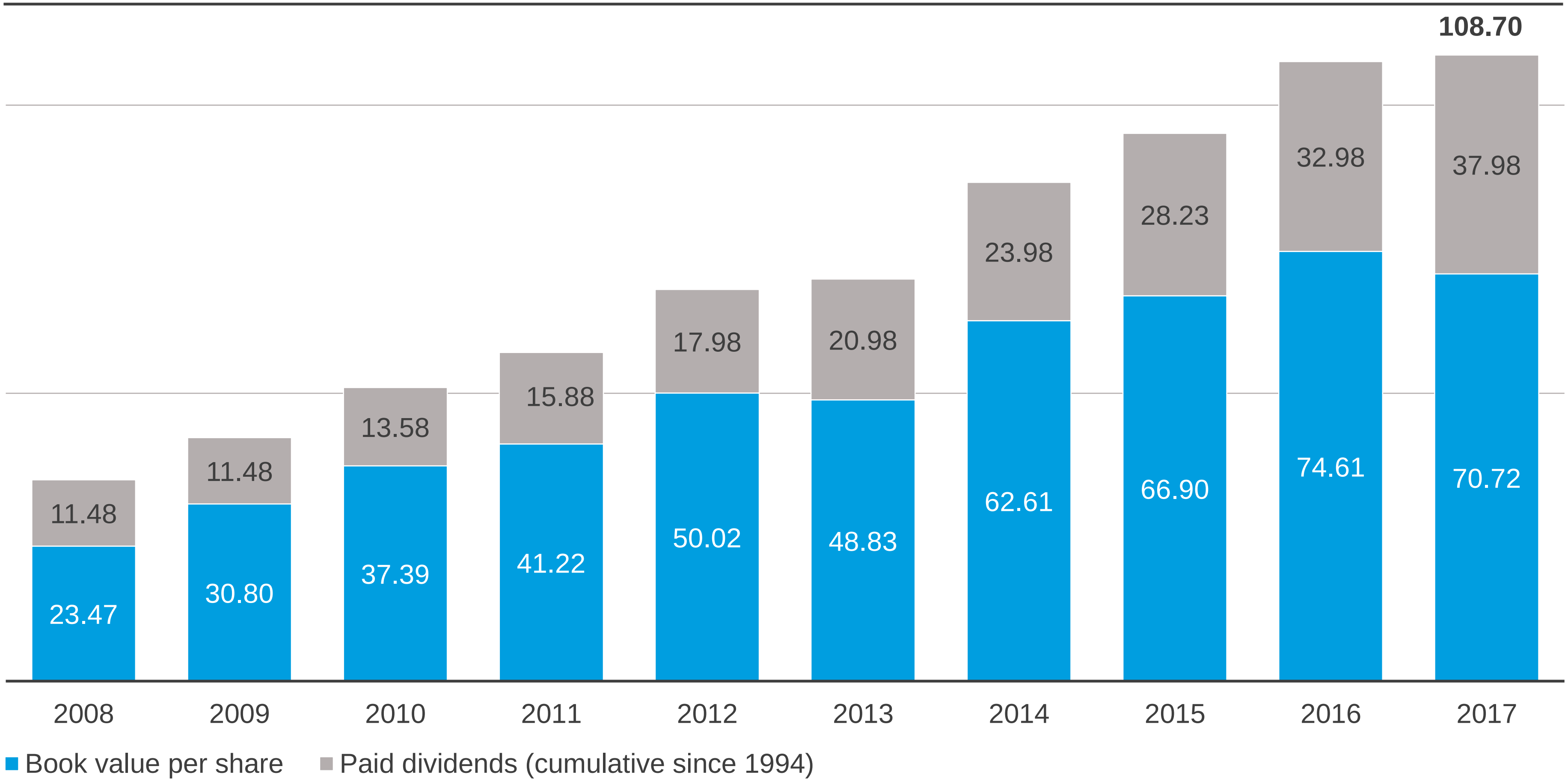
Value creation and distribution

Hannover Re outperformed its target of 6.5% value creation

5y CAGR: +9.8 %; 10y CAGR: +11.4%

Increase of book value and accumulated paid dividends

in EUR



As at 31 December

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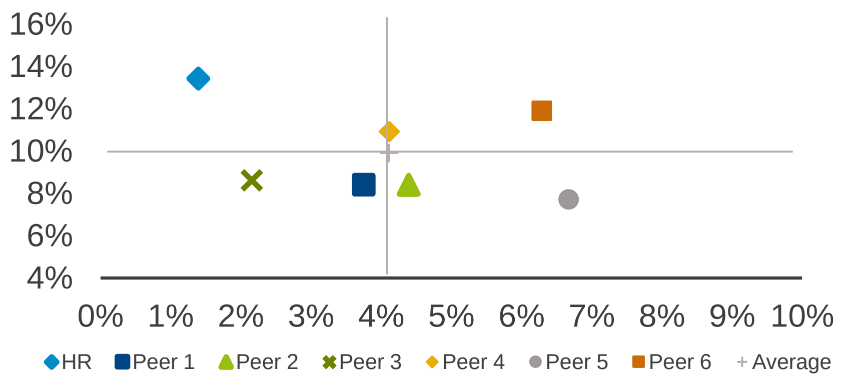
Superior return with relatively low volatility

Return on Equity: average and standard deviation

5 years (2014 –1H/2018 annualised) in %



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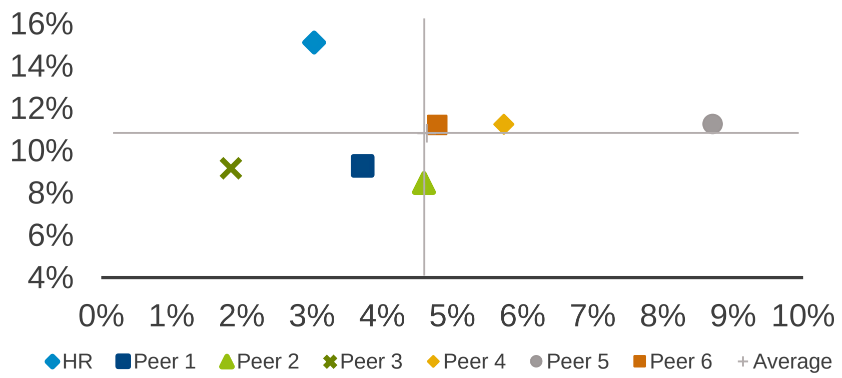
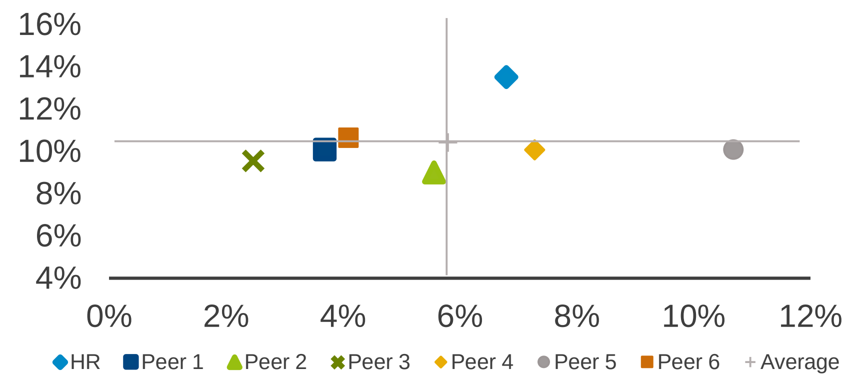
- Highest average RoE throughout all observed periods
- Volatility of RoE is decreasing in both absolute terms and relative to peers

10 years (2009 –1H/2018 annualised) in %



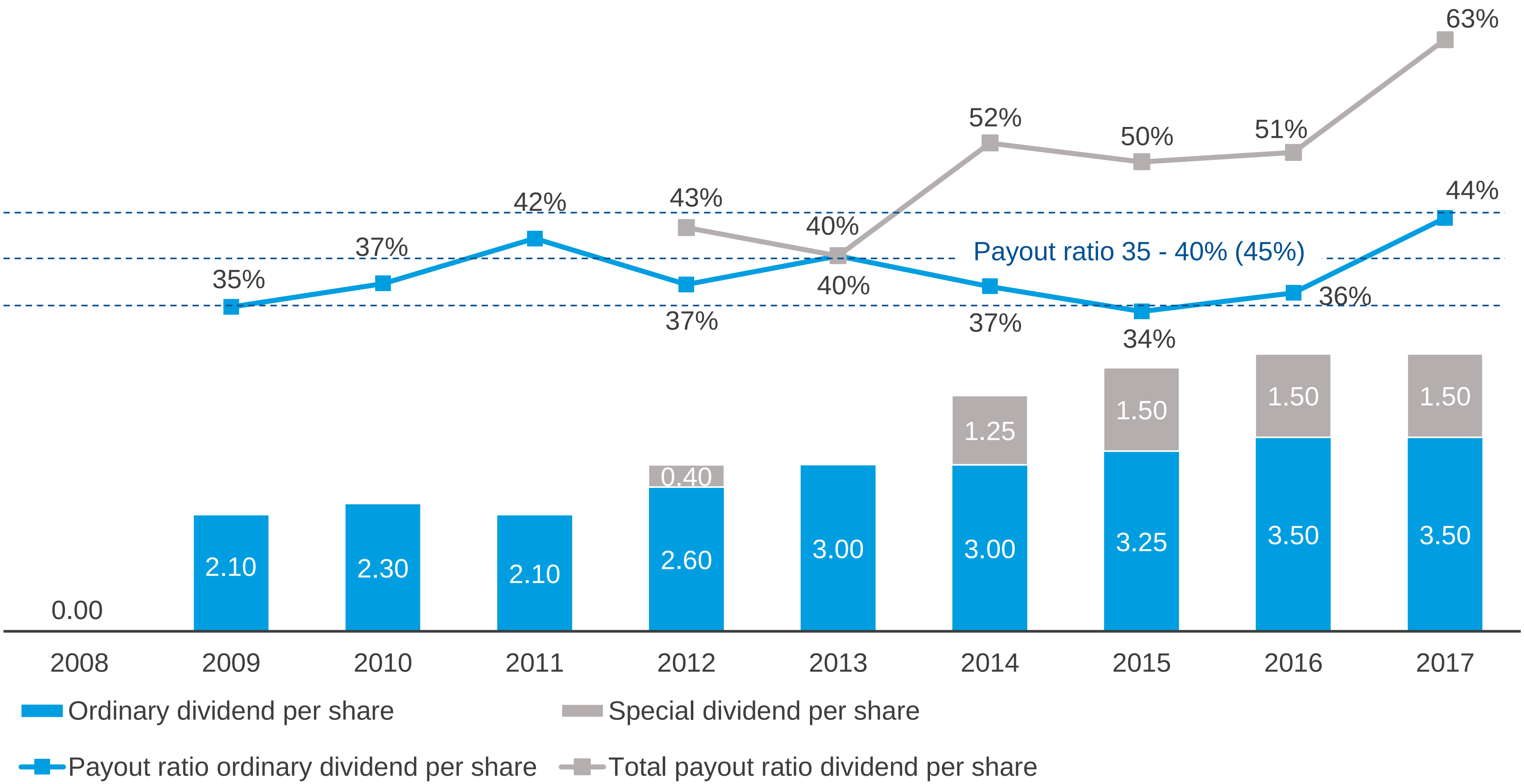
15 years (2004 – 1H/2018 annualised) in %



Target payout ratio for ordinary dividend increased to 35 - 45%

Dividend per share

in EUR



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Creating value through reinsurance is our strategic driver

Three profit sources play their part in fuelling our future success

P&C reinsurance

- Market growth in line with or slightly below primary P&C market
- Structurally competitive due to low entrance hurdle resulting in supply and demand imbalance, however competition is rational because participants are disciplined
- We are confident of growing our market share top and bottom line based on our competitive advantages

Positioned to outperform

L&H reinsurance

- We enjoy good profitability on our US Financial Solutions business and our business outside the US
- US mortality has masked the good underlying profitability
- We expect significantly increased EBIT growth from 2019 onwards as we are resolving the problems with US mortality legacy book

Growing EBIT contribution

Investments

- AuM are expected to rise further due to continued positive cash flow from operations
- Return on investment will be flat in the medium term due to low interest rate environment; further rise in US interest rates will depress our ability to realise gains from valuation reserves
- Rising interest rates will contribute to increasing investment income in the medium to long term

Higher Net Investment Income

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From the CFO's desk

Roland Vogel, Chief Financial Officer

21st International Investors' Day
London, 18 October 2018

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Main changes between IFRS 4 and IFRS 17
Our perspective

- IFRS 17 allows less flexibility in preparation of financial statements due to …
  - stricter regulations under the standard, more granular disclosures and
  - process-related restrictions, esp. driven by the more granular accounting on the level of GICs (Groups of Insurance Contracts)

- The accounting guidance of IFRS 17 partially enables benchmarking with Solvency II figures such that flexibility is also limited in this regard
  - Measures taken under one regime influence handling under the other regime

- Nevertheless, IFRS 17 requires accounting decisions which apply on or after transition (from IFRS 4 to IFRS 17)
  - A (quantitative) comprehensive impact assessment will be available in 2019, with lots of single analysis on the way, qualitative analysis has been considered up to now – but perhaps the target is still moving

Transition: IFRS 17 accounting decisions

Potential future decision-making principles and steering options

Accounting decision	Pro's & Con's
More or less equity? e.g. impacted by transition approach chosen, measurement of cash flows	+ High equity: higher equity ratio, buffer for onerous business at inception - Higher equity means lower CSM* going forward, less buffer for onerous contracts - High equity leads to lower RoE
High profits after transition? e.g. impacted by determination of risk adjustment, amount of CSM at transition, coverage units	+ High profits from already existing business - High pressure on required profit from new business to show attractive future return
Presentation of onerous contracts? e.g. use of conservative options (?)	+ Profits can be shifted into the future by showing more onerous contracts at inception - Onerous contracts issued will be disclosed in the annual report
High discount rates?	+ High CSM due to high discounting effect + Lower fulfillment CF (for LRC* compensated by the higher CSM; see above) - High insurance finance expenses (hence, primarily a shift within P&L = higher insurance service result, lower insurance finance result)
IFRS 17 reserves similar to Solvency II?	+ Solvency II reserves are a known measure and may facilitate the understanding of IFRS reserves - Link to Solvency II reserve prevents exploitation of potential positive effects of IFRS 17 - May result in higher volatility of future P&C earnings due to loss of smoothing redundancy cushion
P&L or OCI*?	+ OCI* smoothens P&L - High ALM requirements dependent on IFRS 9 - Operationally highly complex
Disclosure granularity – IFRS 8 segments?	+ IFRS 8 segments are determined and known - Disclosure of very detailed information

* Contractual Service Margin (CSM); Liability for Remaining Coverage (LRC); Other Comprehensive Income (OCI)

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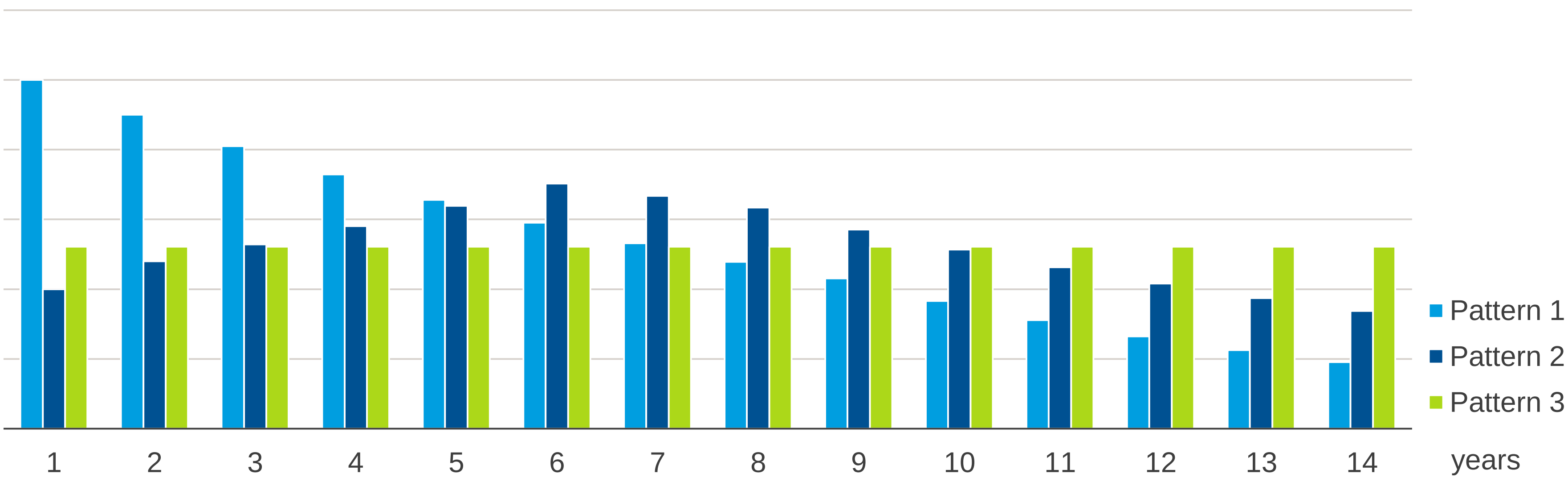
Future emergence of earnings

Release of the Contractual Service Margin (CSM)

- No predetermined technique in IFRS 17 regarding the release of the CSM
- The release pattern (front-ended or back-ended) will influence the expected emergence of earnings
- A strong front-ended approach could increase the likelihood of a cohort of contracts becoming onerous in case of adverse changes due to experience or assumption changes in subsequent years



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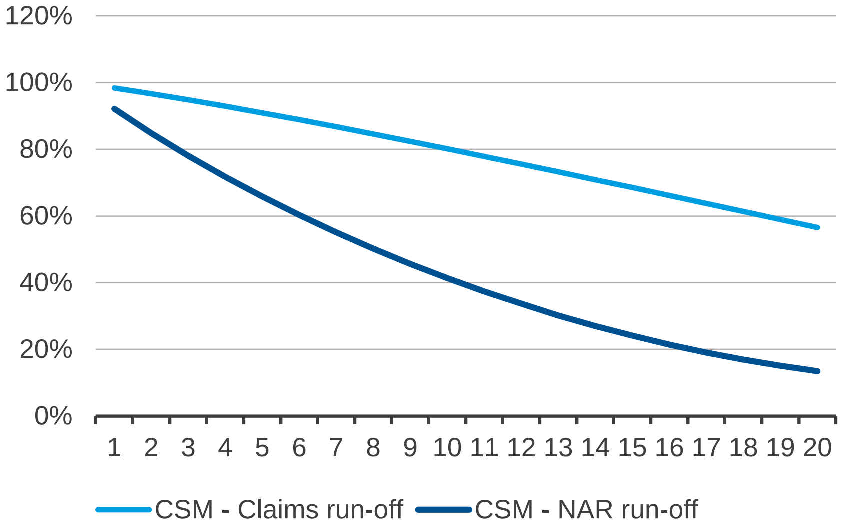
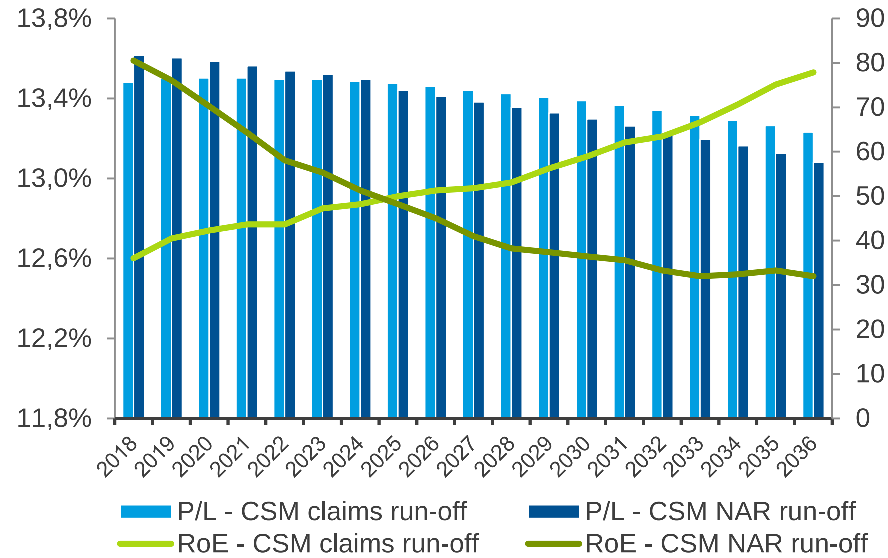
Example 1: CSM release pattern for mortality business

Use of claims or Net Amount at Risk (NAR) results in different earnings emergence

Potential CSM release patterns



P&L & RoE under different CSM release patterns



- Use of NAR as CSM run-off driver appears to be too aggressive, relatively small portion of CSM remains in the later years to provide buffer against claims experience volatility
  - Likewise, RoE is front-loaded when using Net Amount at Risk (NAR) to run off CSM

	2018	2019	2020	2021	2022	2027	2032	2037	2042	2047	2052
RoE – Claims	12.60%	12.70%	12.74%	12.77%	12.77%	12.95%	13.21%	13.55%	14.37%	15.13%	16.05%
RoE - NAR	13.59%	13.49%	13.36%	13.23%	13.09%	12.71%	12.54%	12.45%	12.97%	13.43%	14.14%

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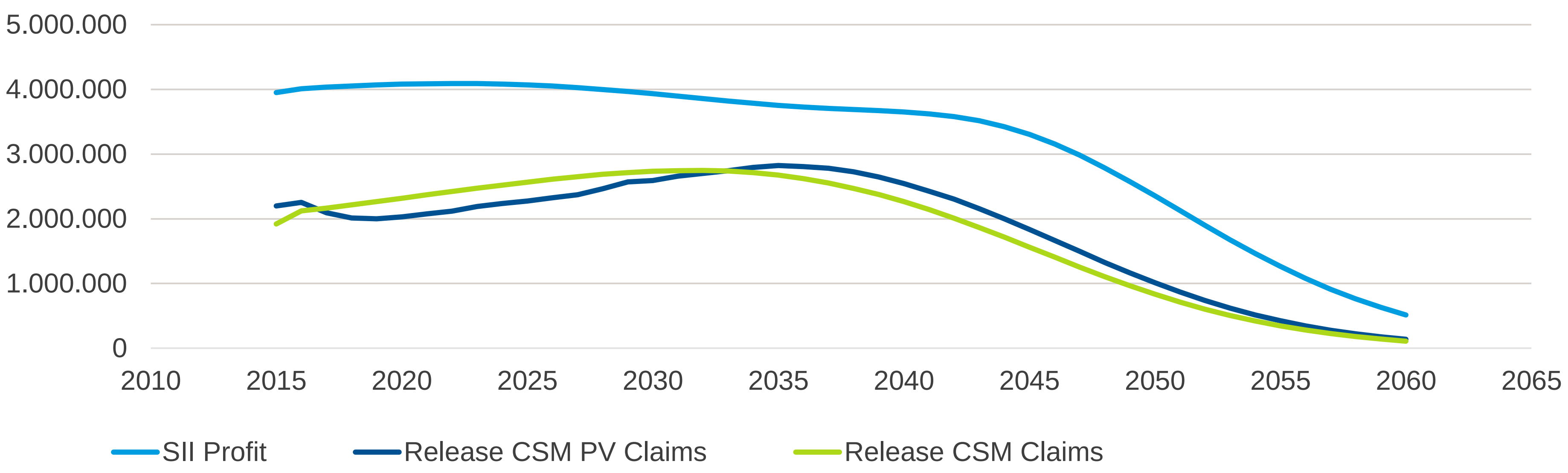
Example 2: CSM release pattern for longevity business

Profit vs. CSM Release



- Assumption: SII profit shown here equals the current IFRS 4 technical result (net of administration expenses)
- CSM release excludes the future explicit risk adjustment release
- Preliminary assessment implies use of the present value claims as a CSM run-off pattern to ensure an emergence of earnings comparable with current IFRS 4

IFRS 17 political developments

Identified conceptual weaknesses - challenges for EU endorsement

EFRAG initiated field test
(full study with 11 participants;
simplified study with 49 participants)

! Complex transition/implementation

! High implementation costs

- EFRAG has identified the following issues meriting further consideration and informed the IASB accordingly on 3 September 2018
  - Acquisition costs
    (for costs incurred in expectation of contract renewals)
  - CSM amortization
    (impact on contracts that include investment services)
  - Reinsurance (several inconsistencies)
  - Transition
    (extent of relief offered by modified retrospective approach and challenges in applying fair value approach)
  - Annual cohorts
    (cost-benefit trade-off, including for VFA contracts)
  - Balance sheet presentation
    (cost-benefit trade-off of separate disclosure of groups in an asset position and groups in a liability position and non-separation of receivables and/or payables)

IFRS 17 reinsurance inconsistencies

Main concern: onerous underlying contracts - what is the issue?

- At initial recognition, mismatches arise from different treatment of reinsurance gains vs. losses on underlying contracts

Current IFRS 17…

- Loss on onerous underlying insurance contract issued is recognised immediately in P&L,

  but

- Corresponding gain on the related outwards reinsurance contract must be recognised as a CSM (i.e. over the coverage period)

… as a consequence

- Relief from reinsurance contract is delayed, which tends not to represent appropriately the insurer's - i. e. cedant's - economic net risk position
  - Corresponding effects for our own retrocession
  - Contradictory to the subsequent measurement as set out in IFRS 17.66(c)(ii)
    - Whereby: If the underlying contract becomes onerous after initial recognition because of adverse changes in estimates relating to future service, the corresponding changes in reinsurance cash flows can be recognized in P&L to "offset" the loss

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Our IFRS cash flow statement

Valuable source of information or just formality?

Why is cash flow an important financial indicator?

In the long run only cash counts

1. Liquidity is an important survival condition for enterprises
2. Not debt overload but illiquidity is main reason for bankruptcy
3. Significant differences between insurers and non-financial industries
4. Direct vs. indirect methodology to calculate and present

Liquidity at all times is a 'Must'

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Insurance company's cash flow characteristics

Investing cash flow as a residual

Operating cash flow	Includes: - underwriting cash flow - interest and dividends received - Interest expenses on hybrid and senior bonds
+	
Financing cash flow	Mostly affected by: - dividend payments and - capital measures
−	
Change in cash	Largely unchanged over time
=	
Investing cash flow	Excess cash will be invested

Cash flow derived indirectly from net income as starting point

Operating cash flow in 1H/2018 once again very strong

in EUR thousand	1.1.–30.6.2018
Net premium earned	**8,345,642**
Ordinary investment income	632,476
Profit/loss from investments in associated companies	1,792
Realised gains and losses on investments	53,380
Change in fair value of financial instruments	19,561
Total depreciation, impairments and appreciation of investments	21,060
Other investment expenses	56,347
Net income from investments under own management	**629,802**
Income/expense on funds withheld and contract deposits	113,796
Net investment income	**743,598**
Other technical income	76
Total revenues	**9,089,316**
Total technical expenses	**8,245,146**
Other income and expenses	63,111
Operating profit (EBIT)	**907,281**
Financing costs	37,684
Net income before taxes	**869,597**
Taxes	273,373
Net income	**596,224**

in EUR thousand	1.1.–30.6.2018
I. Cash flow from operating activities	
Net income	596,224
Appreciation/depreciation	31,638
Net realised gains and losses on investments	(53,380)
Change in fair value of financial instruments (th	(19,561)
Realised gains and losses on deconsolidation	(2,978)
Amortisation of investments	5,521
Changes in funds withheld	(230,649)
Net changes in contract deposits	(69,445)
Changes in prepaid reinsurance premium (net)	775,540
Changes in tax assets/provisions for taxes	5,748
Changes in benefit reserve (net)	(21,356)
Changes in claims reserves (net)	677,797
Changes in deferred acquisition costs	(201,089)
Changes in other technical provisions	67,573
Changes in clearing balances	(741,473)
Changes in other assets and liabilities (net)	197,124
Cash flow from operating activities	1,017,234

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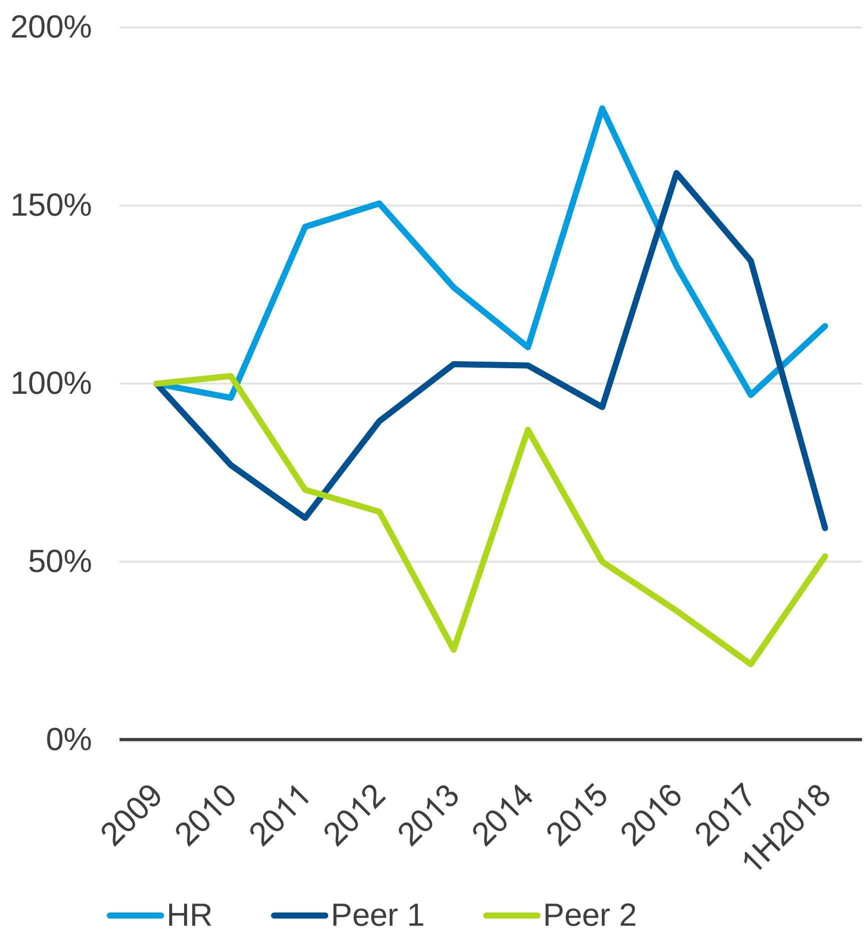
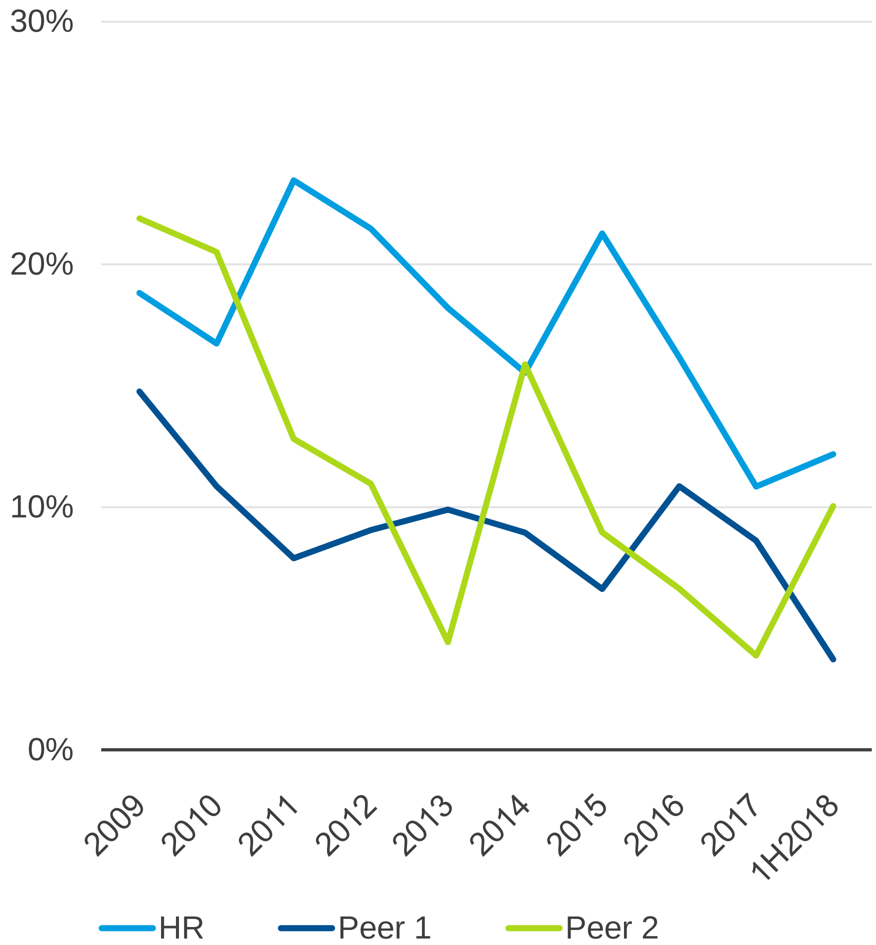
A peer review: 10-year development of operating cash flows

Also on a cash flow basis we compare favourably

Indexed cash flow



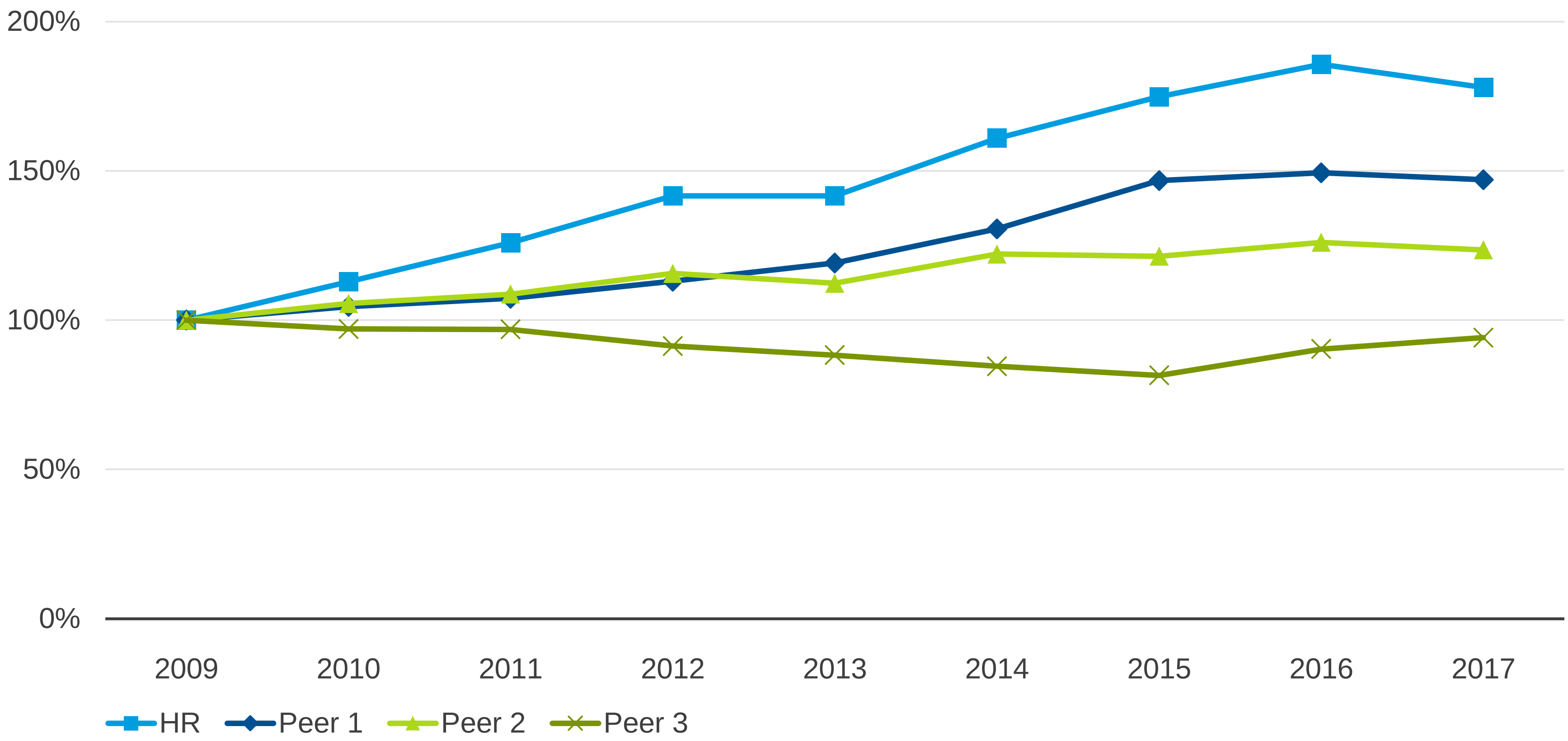
Operating cash flow per net premium



Peers: Munich Re, SCOR (in alphabetic order)

Strong cash flow fuels growth in invested assets

Development of assets under own management (incl. cash)



Peers: Munich Re, SCOR, Swiss Re (in alphabetic order)

Much better development of investments at HR

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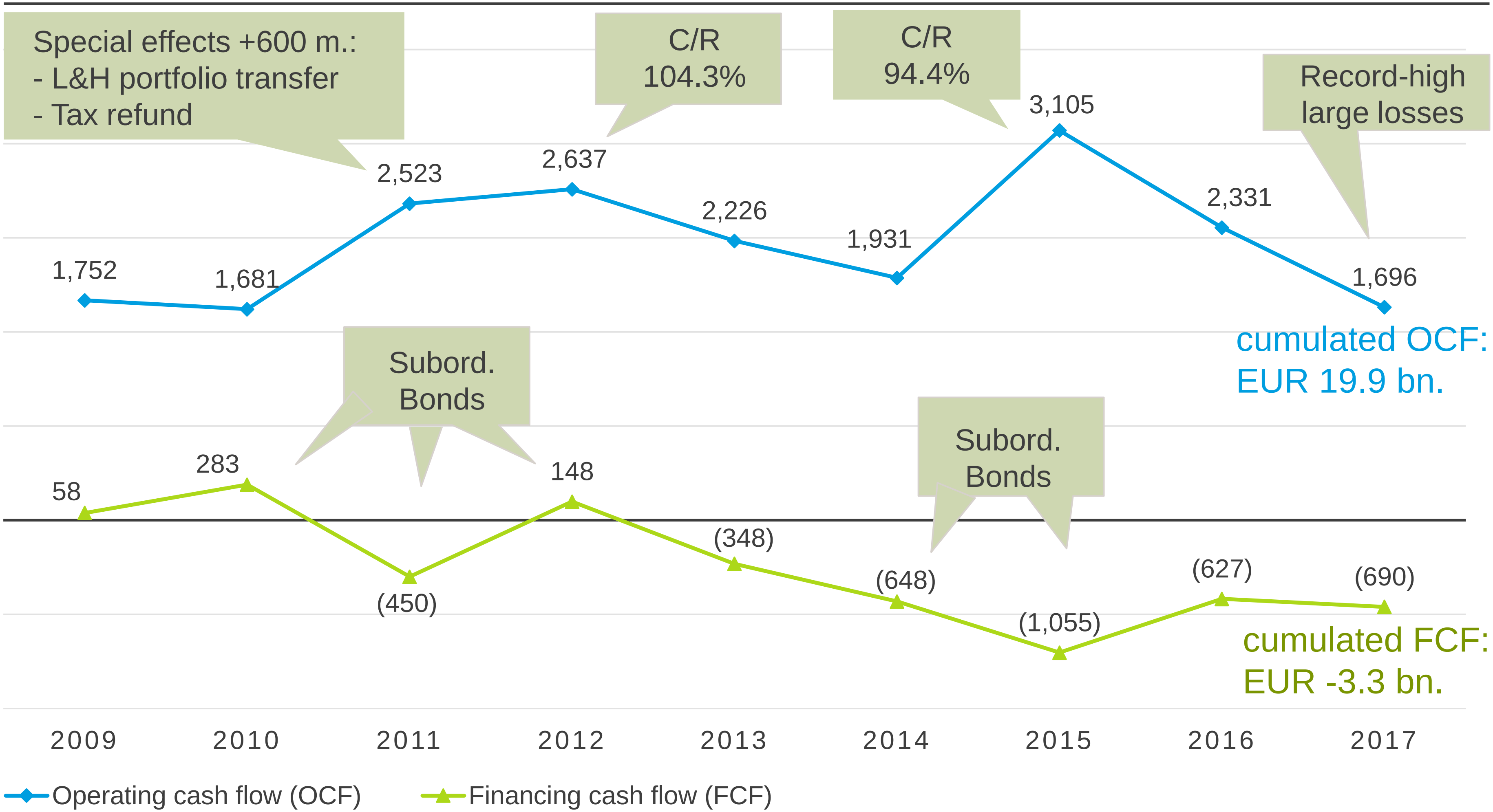
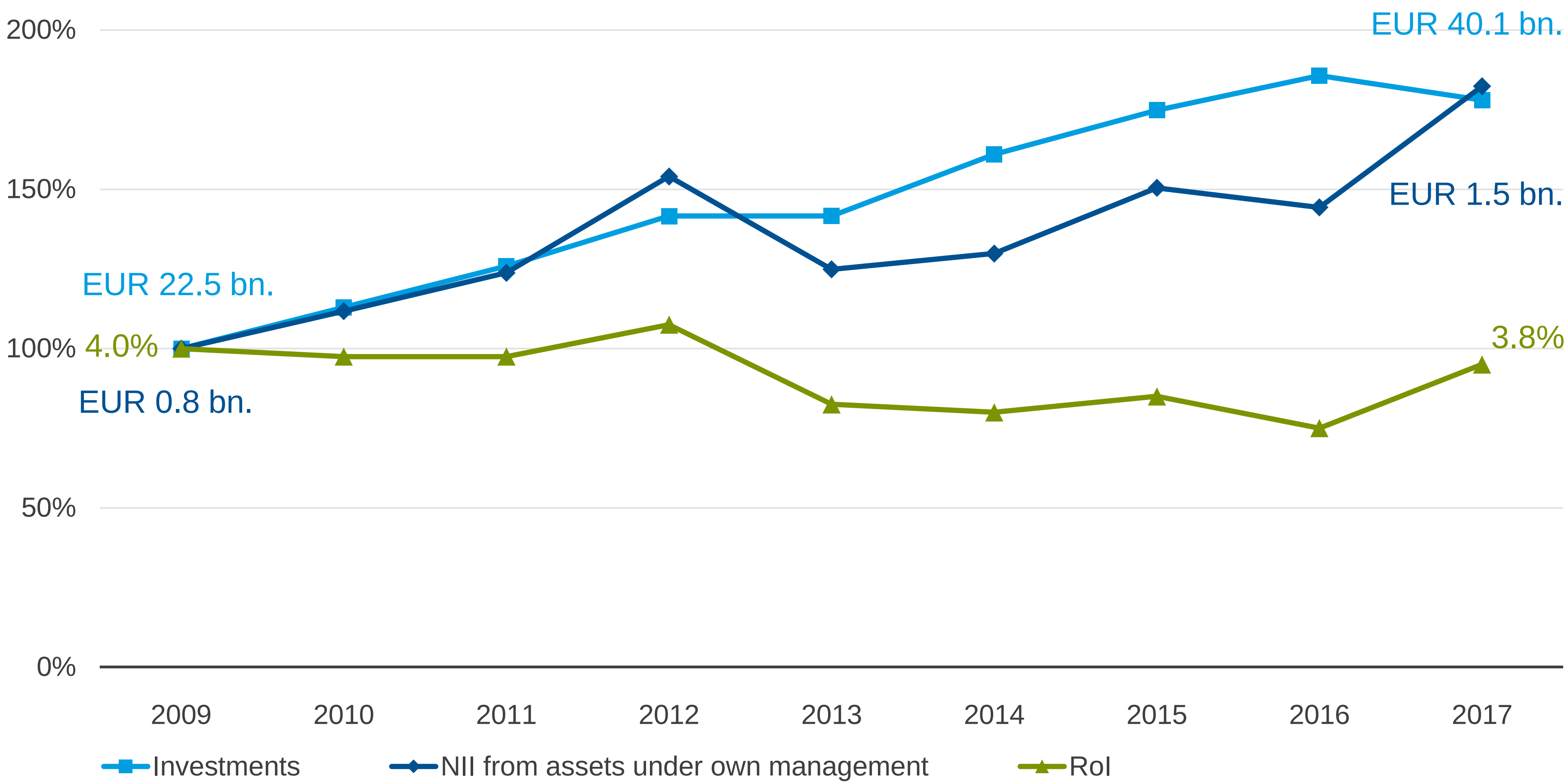
Contribution of operating cash flow to our AuM

in m. EUR



Increasing investments as well as net investment income (NII) ...

... despite slightly decreasing RoI



NII increase mainly volume-related and supported by operating cash flow

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Investment update

Barbell targets achieved, start to "diversify"

Stabilise liquidity, reducing spread duration, geo-shifting and lower credit risks

Barbell Chances

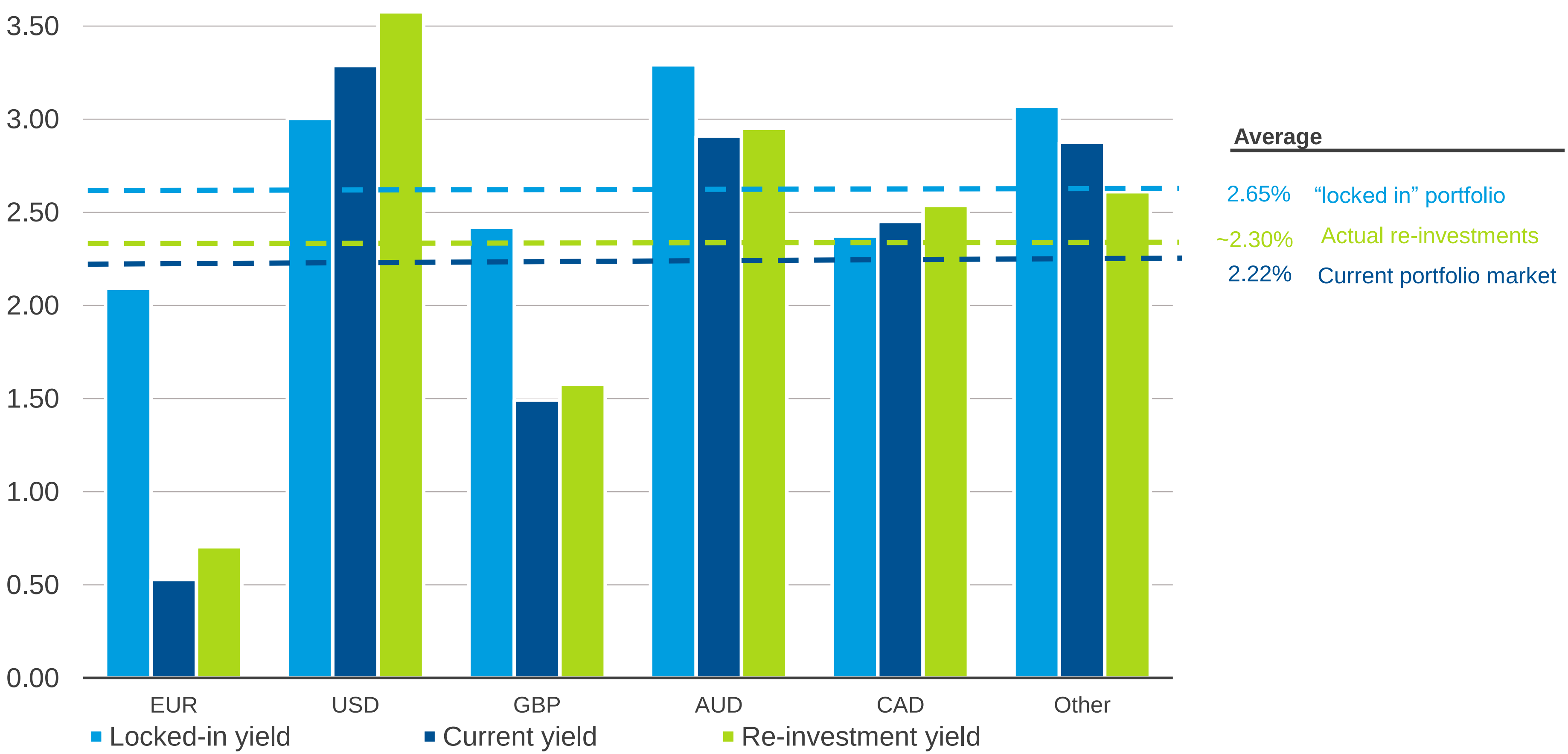
- Increase group-wide liquid assets
- Barbell credit risks
  - either AAA
  - or BBB and lower
- Increase spread durations
- Invest in credit structures at lower end
- Avoid the middle segment of ratings
- Increase real estate funds
- Develop private equities in line with portfolio growth
- Use volatility in listed equity opportunistically

Diversify GeoLiquiSpreads

- Keep group-wide liquid assets stable
- Diversify credit risks across rating spectrum
  - Lower spread durations from increased level
    - Increase rating quality of credit structures and loan portfolios
    - Diversify credits into whole world (EM)
    - Stabilise, slightly increase real estates
  - Stabilise, slightly increase private equity
- Use volatility in listed equity opportunistically

Large differences between currencies
EUR still at unhealthy low yields

Current analysis per currency of fixed-income portfolio*



* As at Jun 2018, excluding short-term investments and cash

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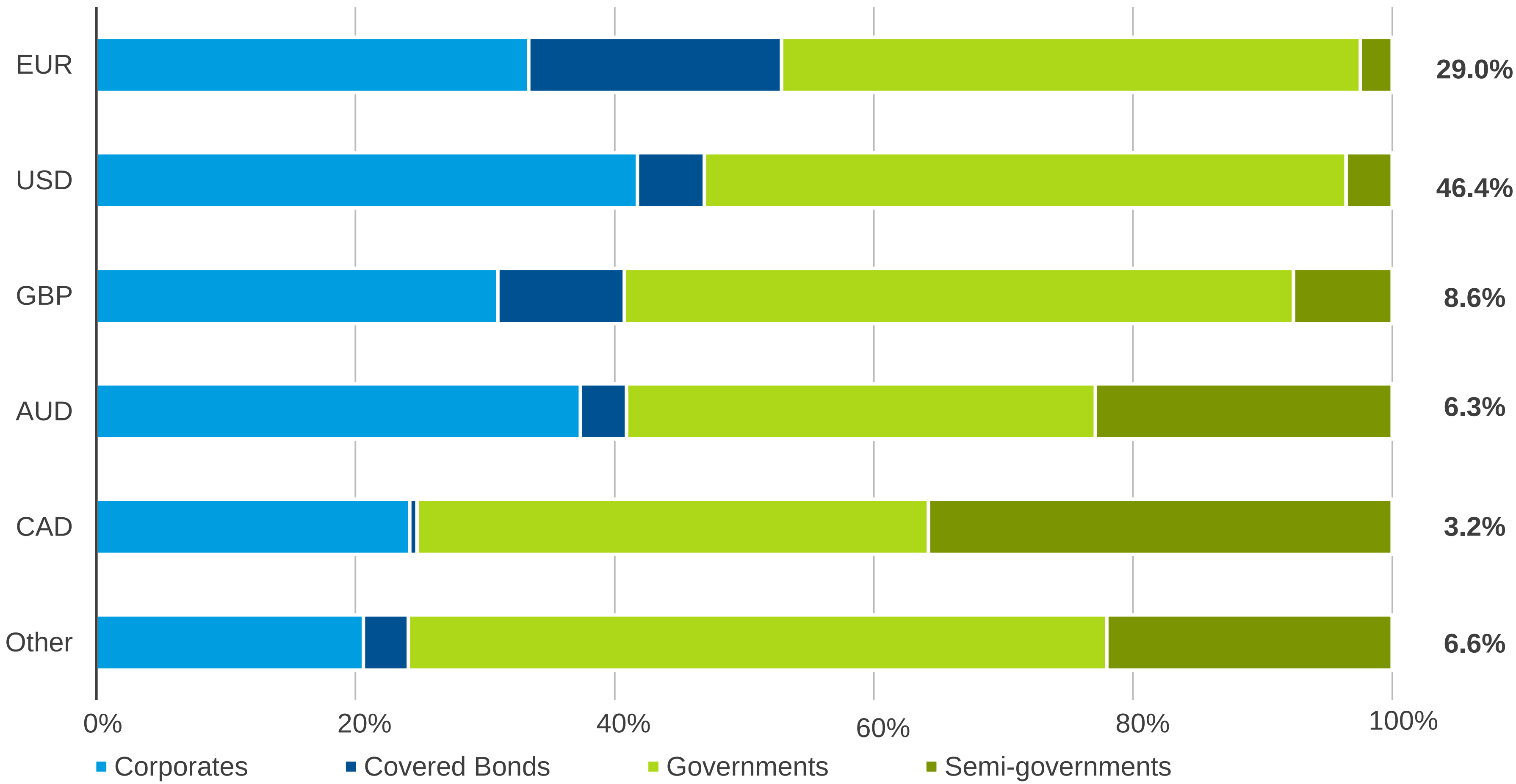
Hence, fixed-income allocation varies significantly per currency

Allocation of fixed income portfolio* per currency

EUR 36 bn.



* Analysis as at 30 Jun 2018, excluding short-term investments and cash

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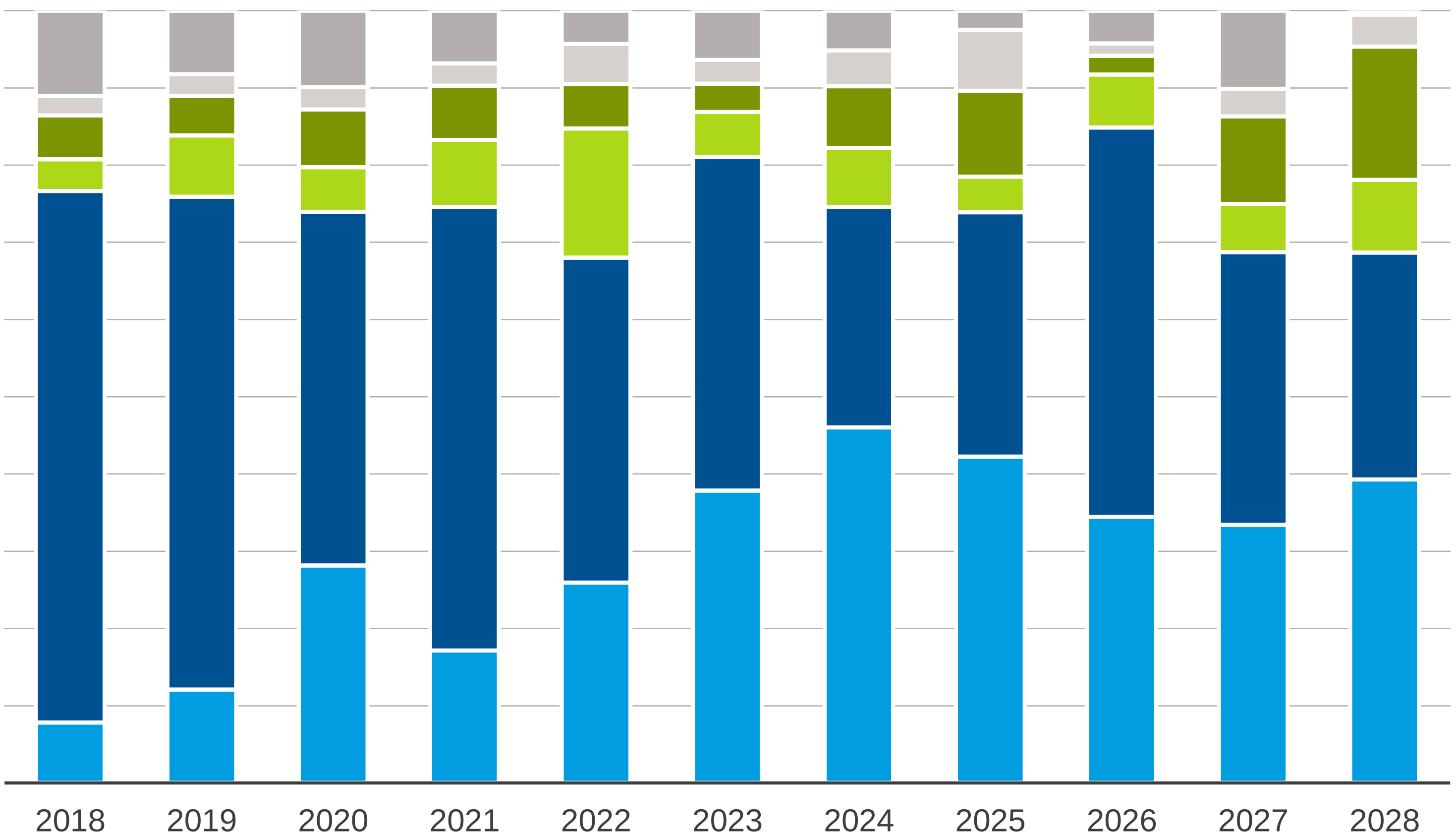
Maturity profile per currency varies remarkably

... faster turnover in USD compared to EUR

Maturities of fixed-income portfolio* per currency

Modified duration



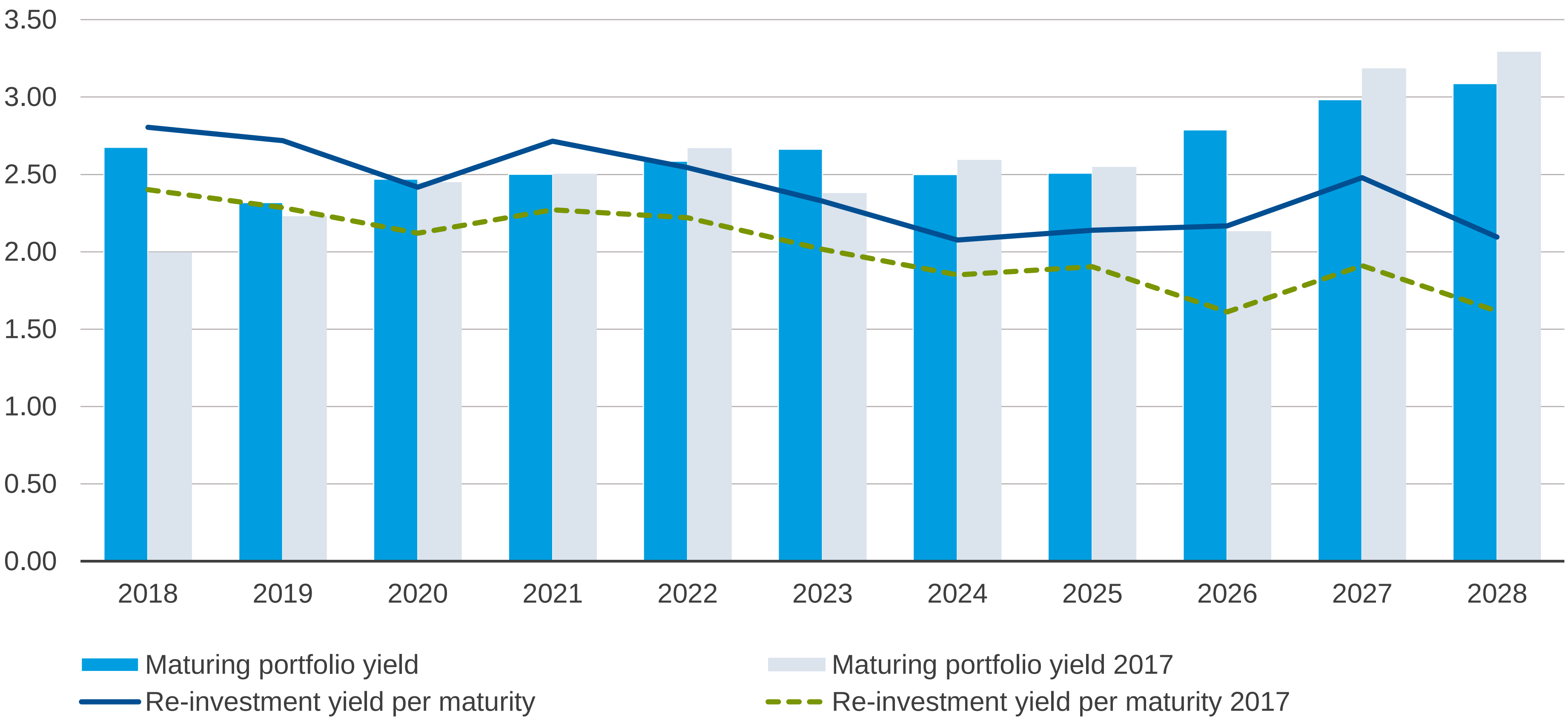
■	Other	2.9
■	CAD	5.4
■	AUD	5.1
■	GBP	7.1
■	USD	4.4
■	EUR	6.1

* Analysis as at 30 Jun 2018, excluding short-term investments and cash

Ordinary fixed-income return stabilises, even with strategic shift

Decrease in credit exposure should affect ordinary by <10bps p.a.

Projection of fixed-income portfolio maturing vs. re-investment yield*



* As at Jun 2018, excluding short-term investments and cash

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Capital position and risk profile

Incl. development of Property & Casualty claim reserves

Dr. Andreas Märkert

Chief Risk Officer, Managing Director of Group Risk Management

21st International Investors' Day
London, 18 October 2018

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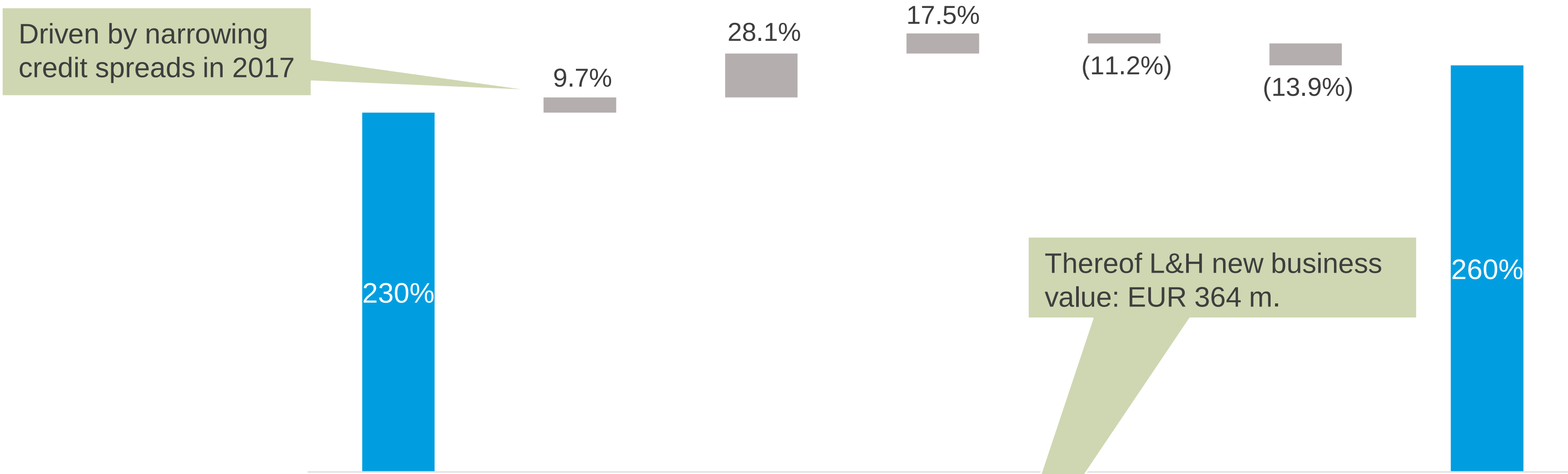
Agenda

- Solvency ratio and movement analysis
- Risk profile, stress tests and sensitivities
- Development of Property & Casualty claim reserves
- Recent regulatory developments

Solvency II capital generation: review 2017

Solvency II eligible own funds and SCR movement analysis



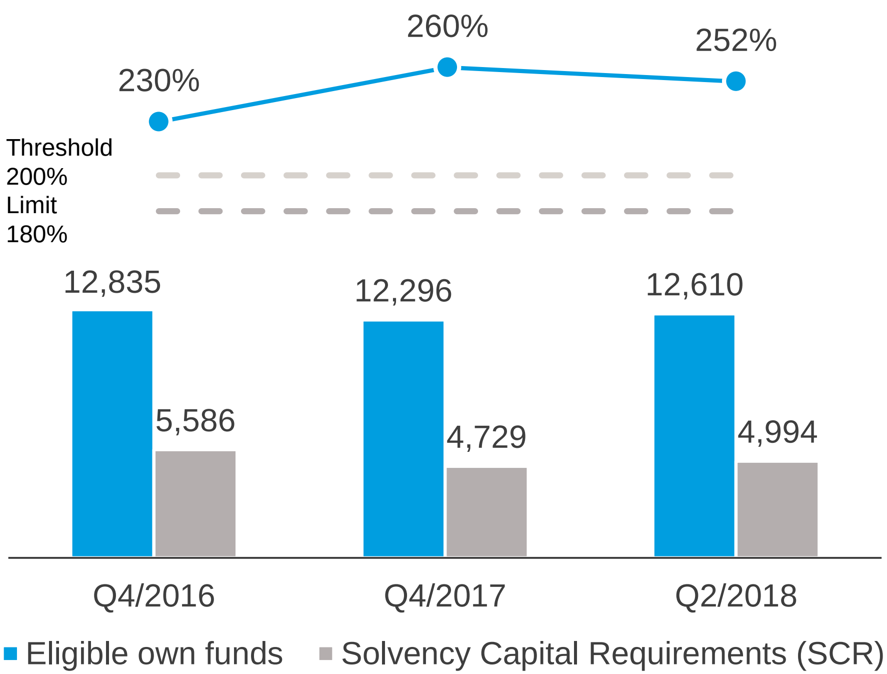
	Year end 2016	Market variances 1)	Model changes 2)	Operating impact 3)	Taxes 4)	Dividend payments 5)	Year end 2017
Eligible own funds	12,835	-823	186	987	-233	-656	12,296
SCR	5,586	-570	-457	67	103	0	4,729

Figures in m. EUR. SCR – Solvency Capital Requirements according to Solvency II internal model
1) Changes due to changes of foreign exchange rates, interest rates, credit spreads and other financial market indicators; pre-tax
2) Model changes, main effect from regulatory approval of operational risk model; pre-tax
3) Operating earnings and variances in assumptions; pre-tax
4) Incl. tax payments and changes in deferred taxes
5) Incl. minor changes in foreseeable dividends

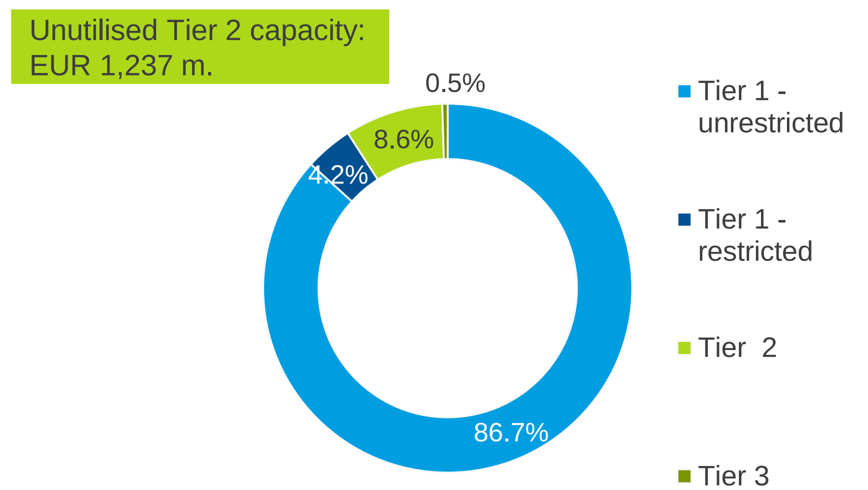
Stable buffer above Solvency II capital targets

Despite significant changes in economic environment

Development of Solvency II capital adequacy ratio



Composition of Solvency II eligible capital*



- 2018: Decrease in Solvency II ratio driven by widening of credit spreads and increase of risk margin due to restructuring following the US tax reform

Figures in m. EUR
* As at Q2/2018

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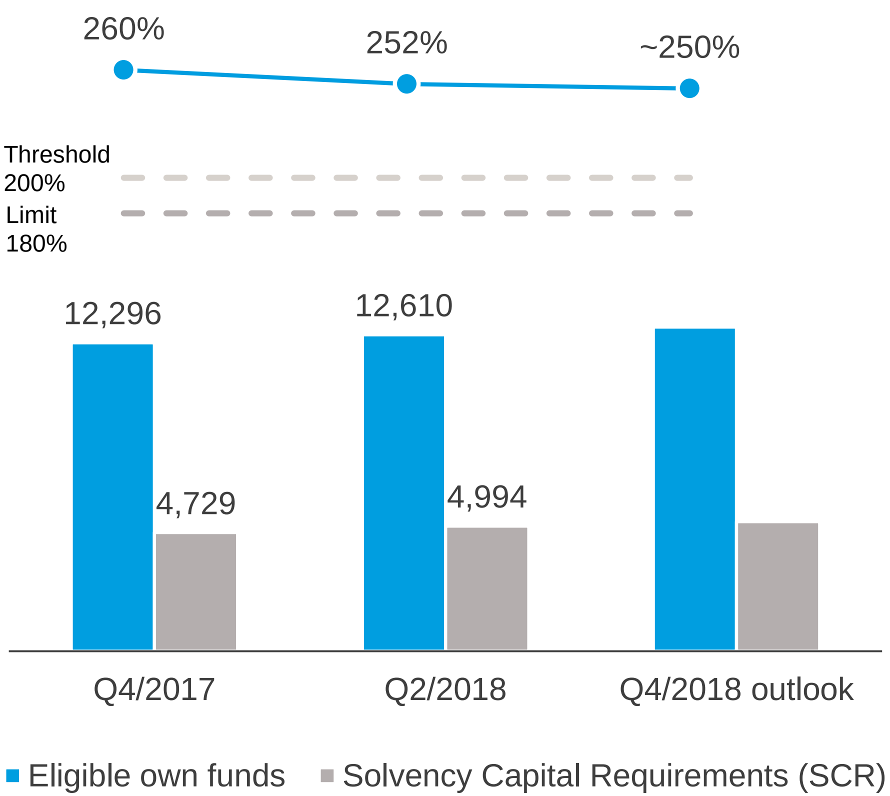
Stable outlook above Solvency II capital targets

Despite substantial business development

Development of Solvency II capital adequacy ratio



Figures in m. EUR

▶ Outlook:

- Restructuring of direct insurance (Inter Hannover) with very limited impact on solvency ratio (<1%p).
- The solvency ratio is not particularly sensitive to the level of recaptures of US mortality business in 2018.
- Capital growth in line with business growth.
- Outlook based on the assumption of a stable economic environment and expected results / large losses.

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Volatility adjustment as a crisis management tool

Application for use starting year end 2018

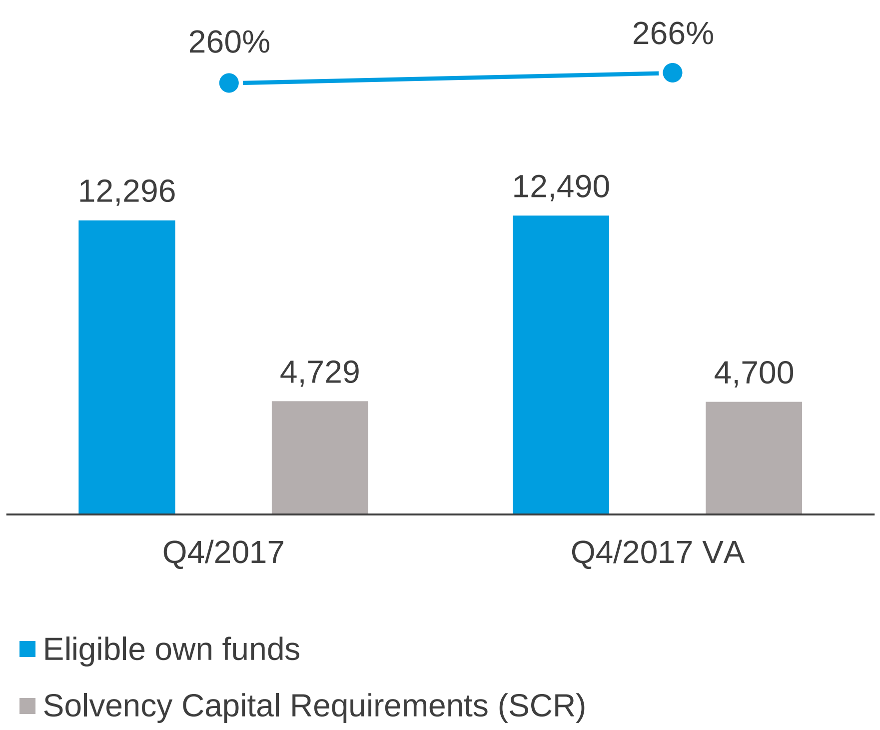
Reason for application:

- Hannover Re has applied for the use of the volatility adjustment starting year end 2018 in order to mitigate the volatility of the own funds in case of significant market stresses
- Reflects Hannover Re hold-to-maturity asset mgmt. strategy and stable cash flow profile

Impact of application:

- Moderate impact when spreads are moderate
- Impact on SII ratio in a 2008-like scenario approx. 45%p
- However, significant basis risk exists due to differences between Hannover Re asset portfolio and reference portfolio for the calculation of the Volatility Adjuster (VA)
- Transparency: continue to report Solvency II ratio incl. and excl. VA

Impact of volatility adjustment on solvency ratio*



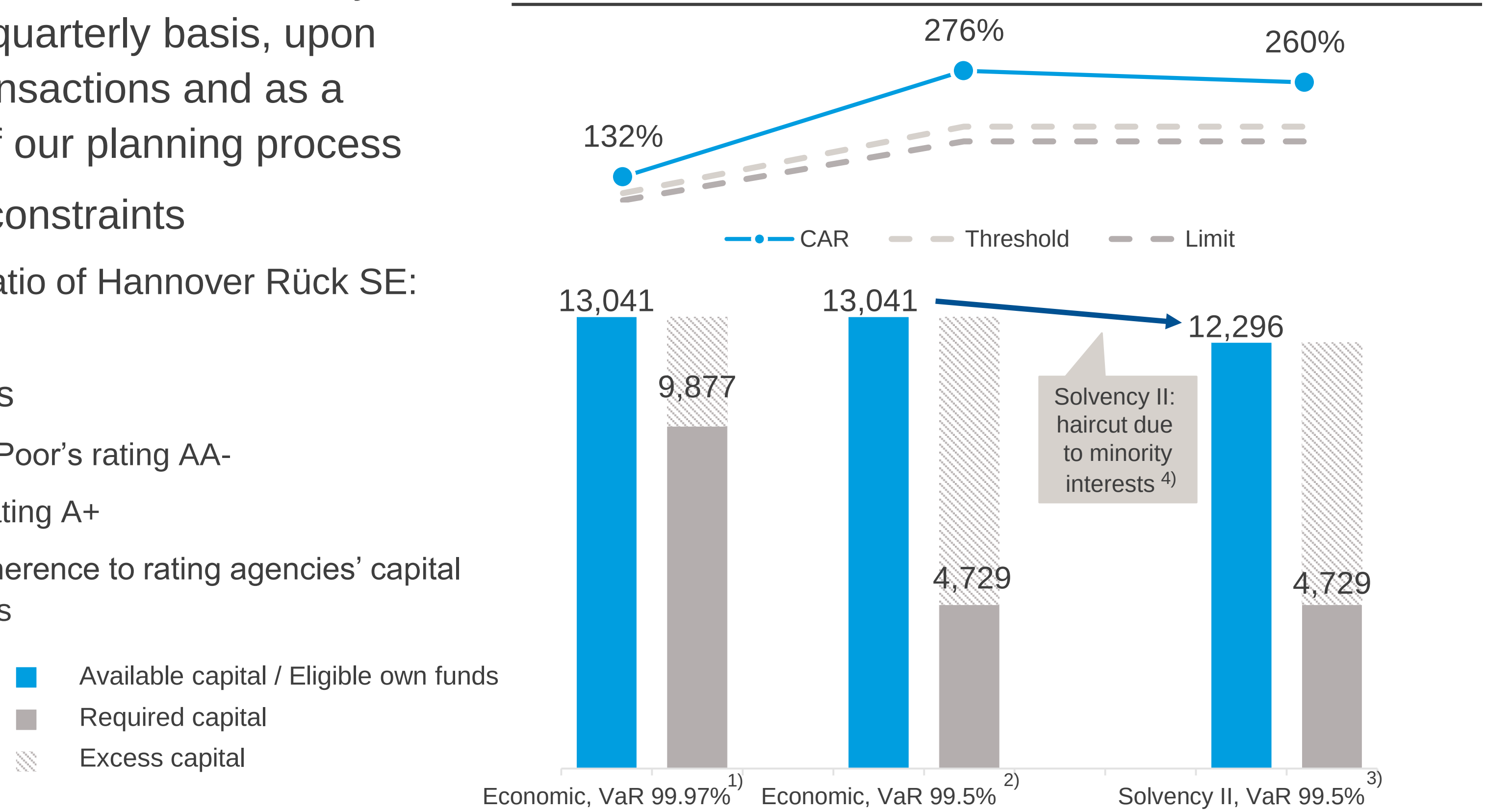
Figures in m. EUR
* As at Q4/2017

Substantial excess capital to withstand shocks

Comfortable capital position above targets

- We monitor internal and Solvency II metrics on a quarterly basis, upon significant transactions and as a component of our planning process
- Further side constraints
  - Solvency II ratio of Hannover Rück SE: 267%
  - Rating targets
    - Standard & Poor's rating AA-
    - A.M. Best rating A+
    - includes adherence to rating agencies' capital requirements

Capital adequacy ratios, internal and Solvency II metrics



All figures as at 31 December 2017 and in m. EUR

1) Available capital vs. Value-at-Risk (VaR) at confidence level 99.97%, minimum capital ratio 100%

2) Available capital vs. VaR at confidence level 99.5%, minimum capital ratio 180%

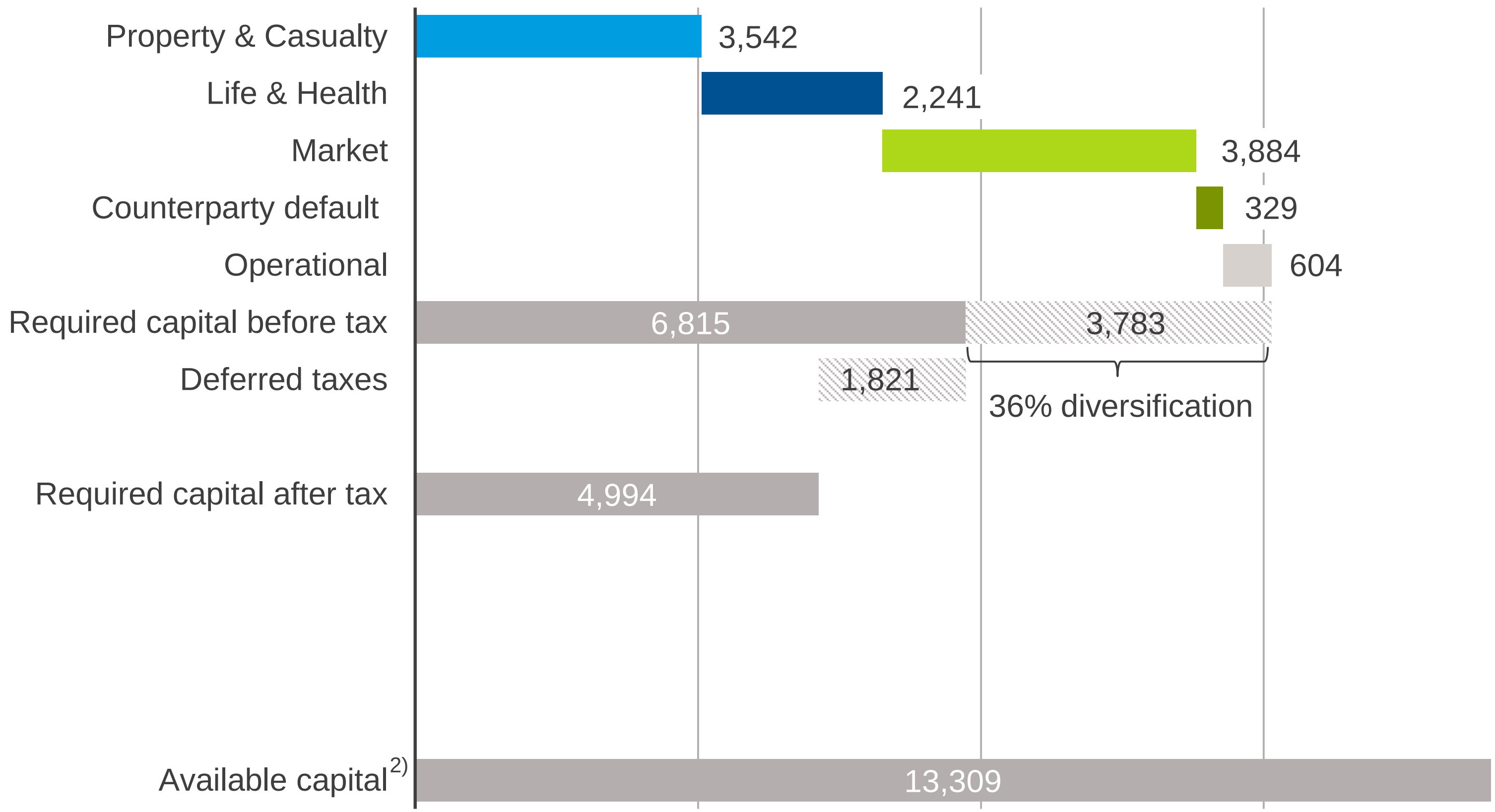
3) Solvency II eligible own funds vs. VaR at confidence level 99.5%

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

Capital efficiency supported by high diversification

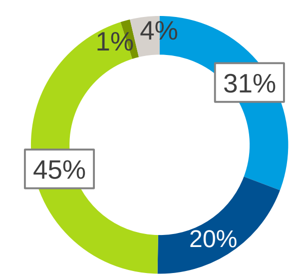
Breakdown of Solvency II capital requirements

Required capital at confidence level 99.5% (SCR[1]) in m. EUR



Risk Ranking

Capital Allocation[3)]



As at 30 June 2018
1) SCR - Solvency Capital Requirements according to Solvency II internal model
2) Including minority interest
3) Allocation based on Euler principle and Tail-Value-at-Risk at confidence level 99%

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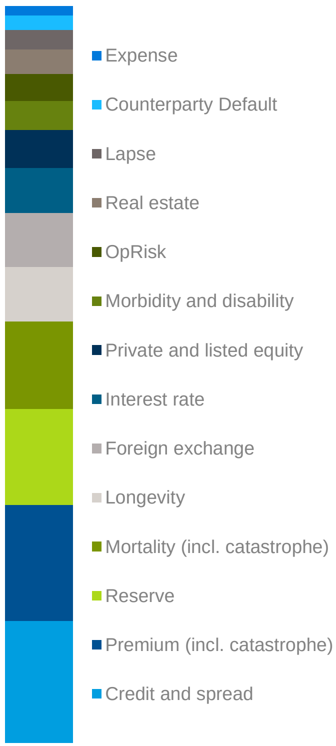
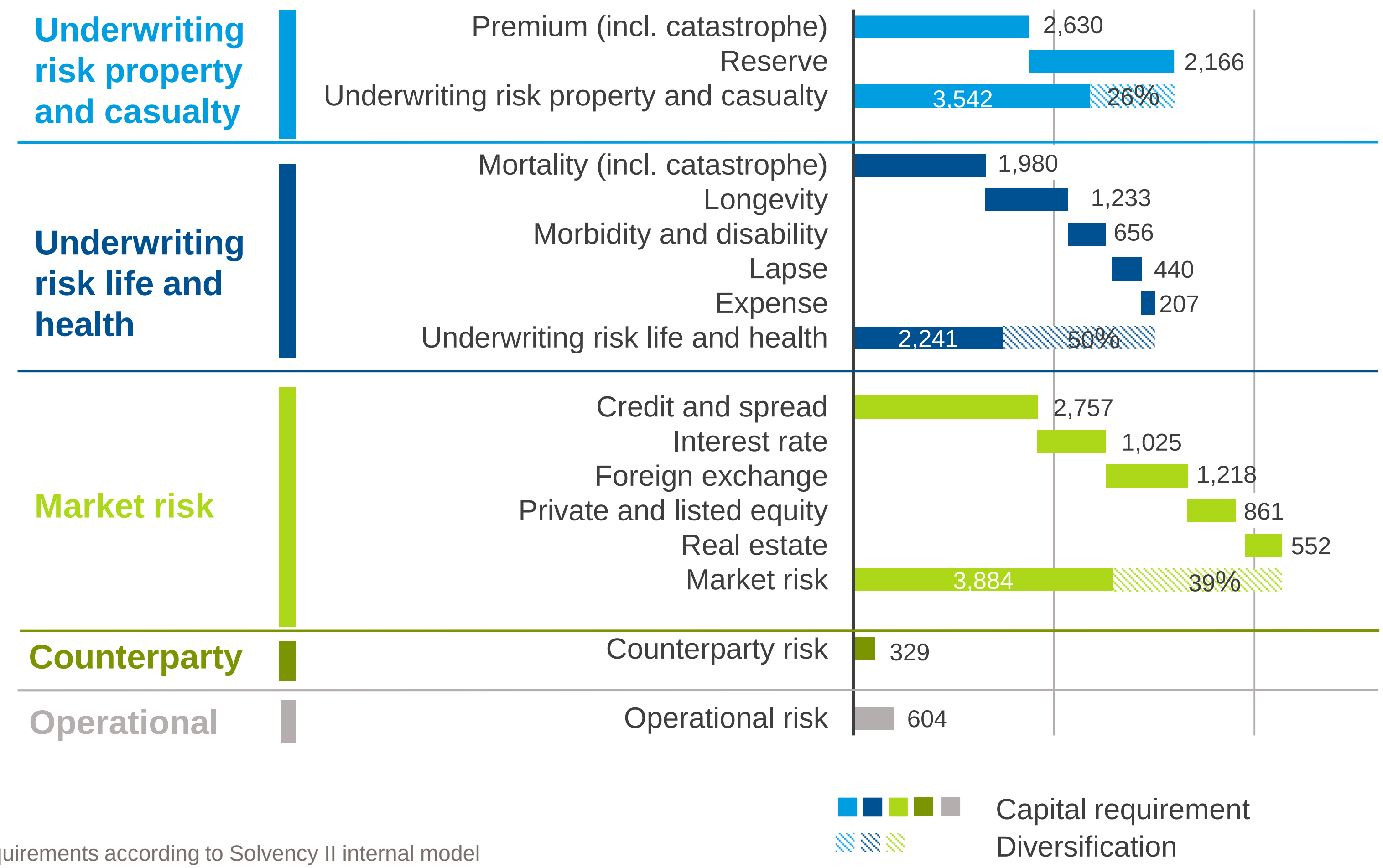
Hannover Re is well diversified within each risk category

and has a well balanced asset and liability portfolio

Risk Ranking



Required capital at confidence level 99.5% (SCR*) in m. EUR



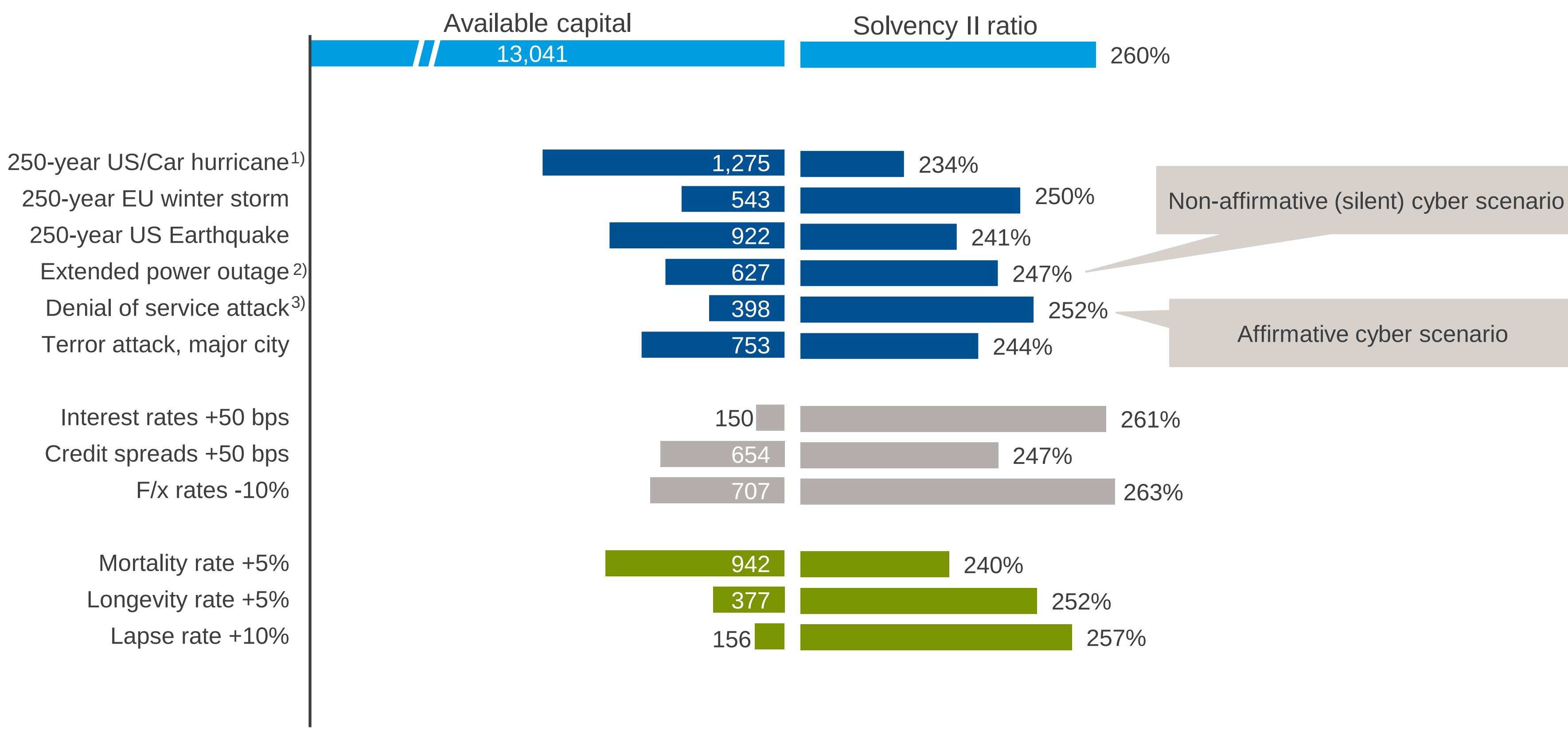
As at 30 June 2018

* SCR - Solvency Capital Requirements according to Solvency II internal model

Individual risks with limited impact on own funds

Solvency ratio above targets for all sensitivities

Sensitivities and stress tests



As at 31 December 2017, in m. EUR; post-tax

1) A return period of 250 years is equivalent to an occurrence probability of 0.4%; based on the aggregate annual loss. Car – Caribbean

2) Approx. 3 week of power outage in a larger area of a developed country

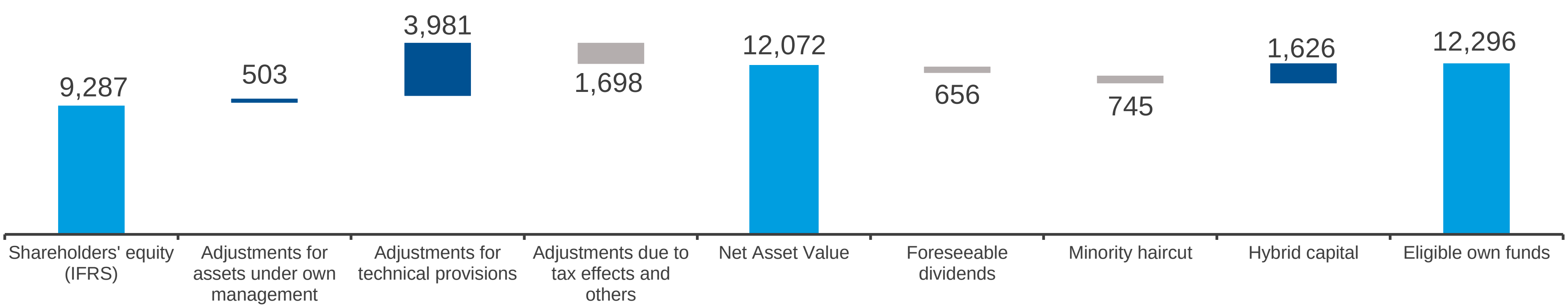
3) Distributed denial of service attack on main DNS provider

Reconcilliation IFRS vs. Solvency II

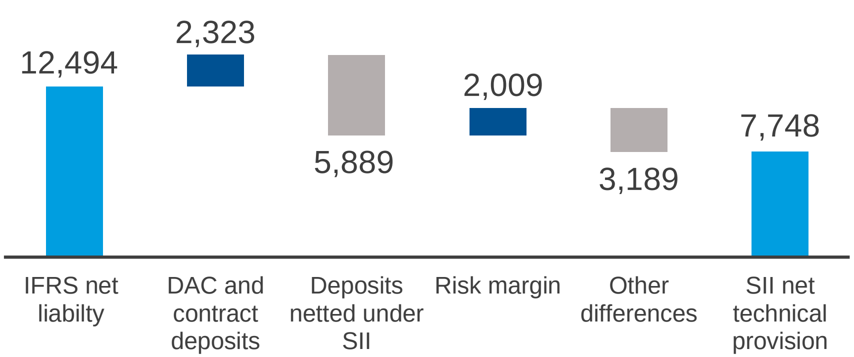
Solvency II valuation based on current assumptions

IFRS shareholders‘ equity vs. Solvency II eligible own funds

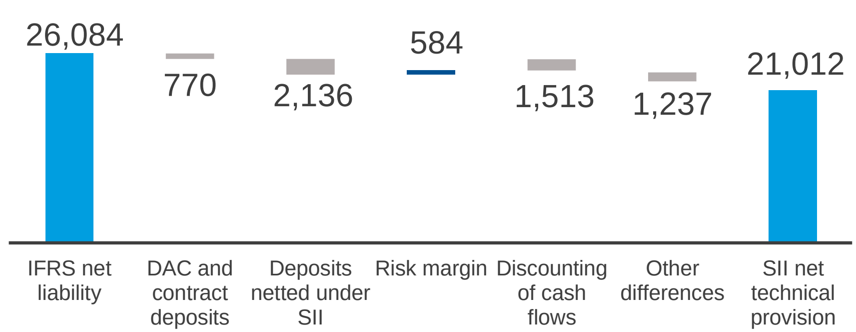
in m. EUR



L&H technical provision: IFRS vs. Solvency II



P&C technical provision: IFRS vs. Solvency II

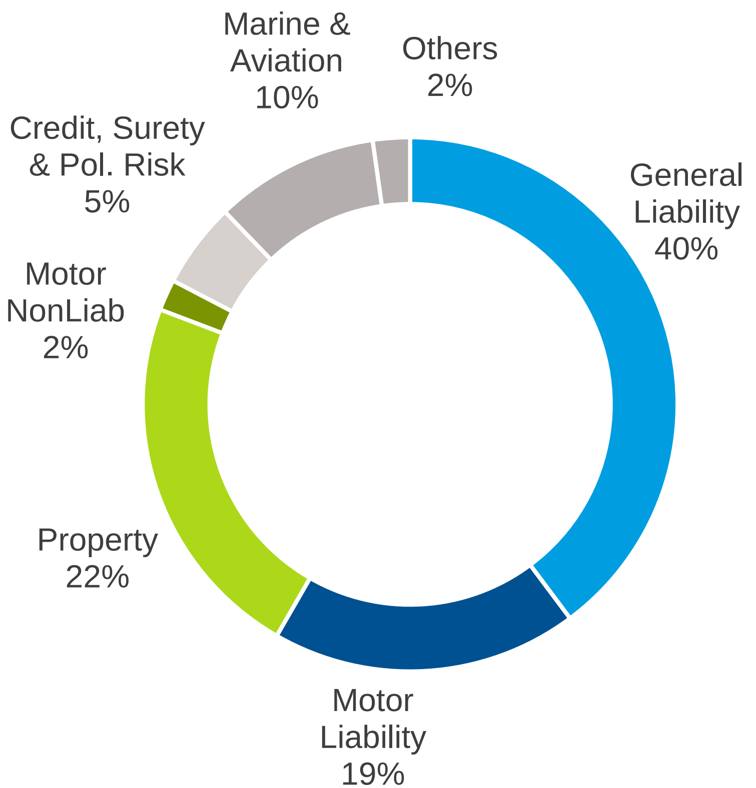


As at 31 December 2017; according to Solvency II year-end reporting, incl. minority interests, in m. EUR

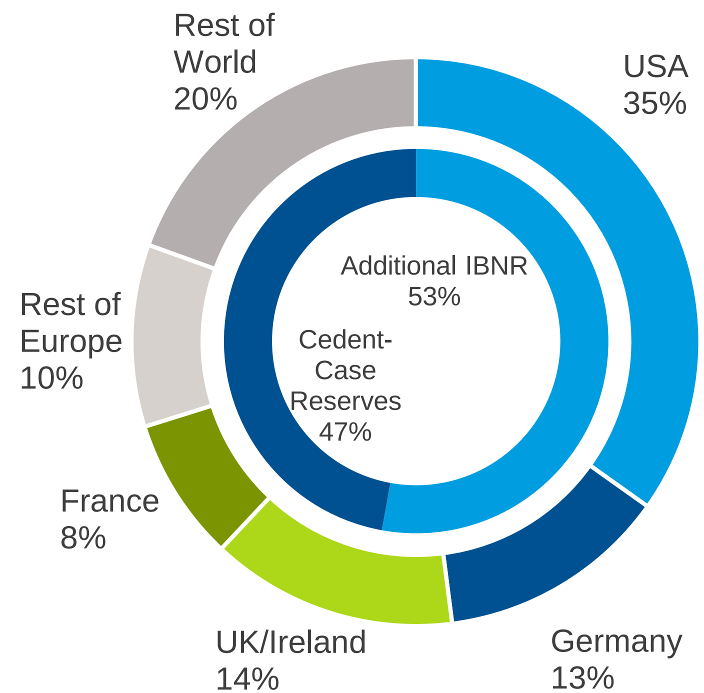
P&C book diversified over regions and lines of business

More than 50% of loss and loss adjustment reserves are additional IBNR*

Lines of business



Cedents' residence / additional IBNR*



Property & Casualty gross loss reserves*

EUR 24,130 m.

* As at 31 December 2017, consolidated, IFRS, IBNR – Incurred but not reported

Stable P&C reserving level in challenging markets

Independent external review confirms reserving level

Year end 1)	Redundancy 2)	Change of redundancy	Impact on loss ratio	Net earned premium (P&C)
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
2017	**1,813**	**-52**	**-0.1%**	**9,159**

1) Figures in m. EUR and unadjusted for changes in foreign exchange rate, i.e. based on actual exchange rates at respective year end.
2) Redundancy of loss and loss adjustment expense reserve for P&C against held IFRS reserves, before tax and minority participations. WillisTowersWatson reviewed these estimates - more details shown in appendix.

Average impact on loss ratio: 2% in the past 9 years (not f/x-adjusted)

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Extended coverage of reported loss triangles

Now including the vast majority of reinsurance subsidiaries and branches

	Original scope			Extended scope *		
Line of business	**Reserves U/Y 1979-2005**	**Reserves U/Y 2006-2017**	**U/Y 1979 - 2017 in % of total**	**Reserves U/Y 1979-2005**	**Reserves U/Y 2006-2017**	**U/Y 1979 - 2017 in % of total**
General liability non-prop.	785	4,595	31.8%	799	5,350	27.8%
Motor non-prop.	592	2,114	16.0%	609	2,479	14.0%
General liability prop.	140	1,951	12.4%	242	2,233	11.2%
Motor prop.	190	953	6.8%	194	1,966	9.8%
Property prop.	27	1,375	8.3%	31	2,195	10.1%
Property non-prop.	16	1,289	7.7%	20	2,760	12.6%
Marine	31	962	5.9%	35	1,163	5.4%
Aviation	24	737	4.5%	33	768	3.6%
Credit/surety	48	1,068	6.6%	52	1,198	5.7%
Total*	1,854	15,044	**100.0%**	2,014	20,112	**100.0%**

As at 31 December 2017, consolidated, IFRS figures in m. EUR
* Extended Scope includes Property & Casualty business from Hannover Rück SE incl. its 8 branches, E+S Rückversicherung AG, HR Bermuda, HR Ireland and HR Takaful. Business from primary insurance (Inter Hannover and Argenta), Inter Hannover No. 1 and HR South Africa as well as business written prior to underwriting year (UY) 1979 and a fraction of group internal retrocession are not included. The excluded reserves amount to 2,005 m. EUR.

Hannover Re financial year better reflects our cash flow profile

Extended scope and reporting now based on Hannover Re's financial year

Future reporting based on Hannover Re's financial year and extended scope

		Hannover Re financial year												Booked data			
U/W year	Earned premium	12	24	36	48	60	72	84	96	108	120	132	144	Ultimate loss ratio	Paid losses	Case reserves	IBNR balance
2006	4,662	13.3%	35.1%	38.8%	41.0%	42.4%	43.5%	43.8%	44.3%	44.4%	44.9%	45.3%	45.6%	49.3%	41.8%	3.8%	3.6%
2007	4,399	18.5%	43.1%	49.5%	52.9%	54.9%	56.0%	57.7%	59.6%	60.5%	60.9%	60.6%		66.2%	54.2%	5.6%	6.4%
2008	4,838	17.8%	46.8%	53.6%	56.9%	58.0%	59.8%	60.6%	61.4%	61.7%	61.7%			68.7%	55.4%	6.1%	7.2%
2009	5,050	14.5%	41.0%	47.9%	49.8%	52.1%	53.5%	55.0%	55.7%	56.0%				65.0%	49.0%	6.5%	9.5%
2010	5,132	19.1%	55.1%	62.8%	66.6%	69.3%	72.0%	72.7%	73.5%					86.9%	65.8%	7.5%	13.5%
2011	5,757	19.3%	46.5%	54.1%	58.5%	59.9%	61.8%	62.7%						77.5%	54.8%	7.6%	15.1%
2012	6,431	13.3%	42.5%	49.3%	52.8%	55.1%	56.9%							70.0%	47.7%	9.2%	13.1%
2013	6,724	15.2%	44.4%	51.1%	53.2%	55.3%								70.6%	45.6%	9.6%	15.4%
2014	7,088	12.2%	41.1%	47.7%	51.6%									67.6%	40.5%	11.3%	15.9%
2015	7,383	12.2%	43.7%	55.3%										77.2%	42.9%	14.2%	20.0%
2016	7,262	14.2%	42.4%											72.1%	24.7%	20.5%	26.9%
2017	5,555	37.6%												98.4%	19.5%	23.5%	55.5%

Previous reporting based on cedents' financial year and excluding subsidiaries and branches

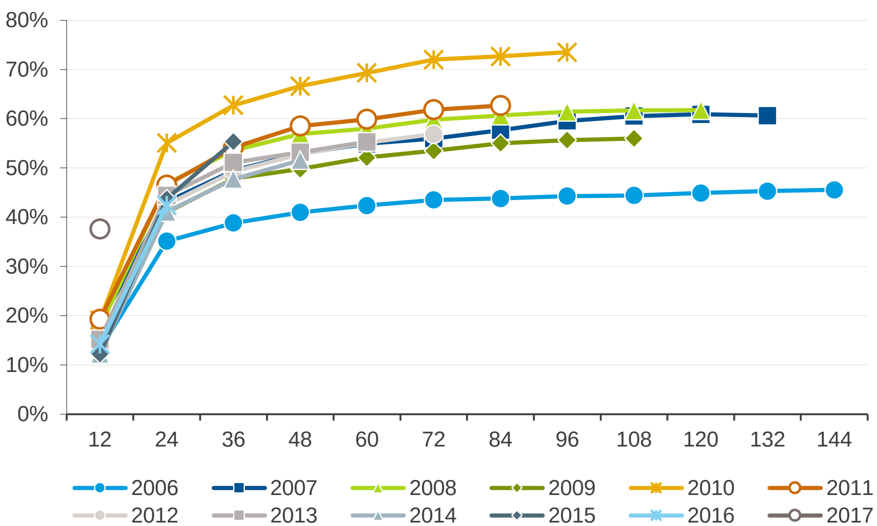
		Cedent financial year												Booked data			
U/W year	Earned premium	12	24	36	48	60	72	84	96	108	120	132	144	Ultimate loss ratio	Paid losses	Case reserves	IBNR balance
2006	3,628	29.7%	38.3%	41.4%	44.0%	45.4%	46.8%	47.3%	47.7%	47.9%	48.5%	49.0%	49.2%	53.8%	44.6%	4.7%	4.5%
2007	3,581	34.9%	48.2%	53.0%	56.2%	58.6%	60.3%	62.2%	64.0%	65.1%	65.3%	65.3%		71.1%	57.8%	6.4%	6.9%
2008	3,656	35.8%	51.3%	56.7%	59.2%	61.0%	63.0%	63.9%	64.7%	65.3%	65.4%			73.8%	57.5%	7.6%	8.7%
2009	3,841	30.0%	43.3%	48.0%	50.6%	51.7%	53.2%	54.6%	55.1%	55.6%				66.5%	47.3%	7.7%	11.5%
2010	4,050	33.1%	47.7%	51.5%	54.6%	58.1%	59.8%	60.3%	61.1%					75.3%	52.8%	8.1%	14.4%
2011	4,383	34.0%	48.5%	53.5%	56.5%	58.7%	60.8%	61.6%						78.5%	52.4%	8.8%	17.3%
2012	4,668	34.5%	50.6%	55.4%	58.9%	61.3%	63.0%							78.7%	51.7%	11.3%	15.6%
2013	4,819	34.2%	48.5%	52.6%	54.6%	56.8%								75.0%	45.9%	10.8%	18.4%
2014	4,680	29.8%	45.8%	51.1%	54.5%									74.0%	40.5%	14.1%	19.5%
2015	4,763	32.3%	49.1%	55.1%										80.9%	41.1%	16.4%	23.4%
2016	4,525	35.4%	49.0%											82.0%	30.1%	20.7%	31.3%
2017	2,905	35.4%												98.9%	17.3%	22.8%	58.7%

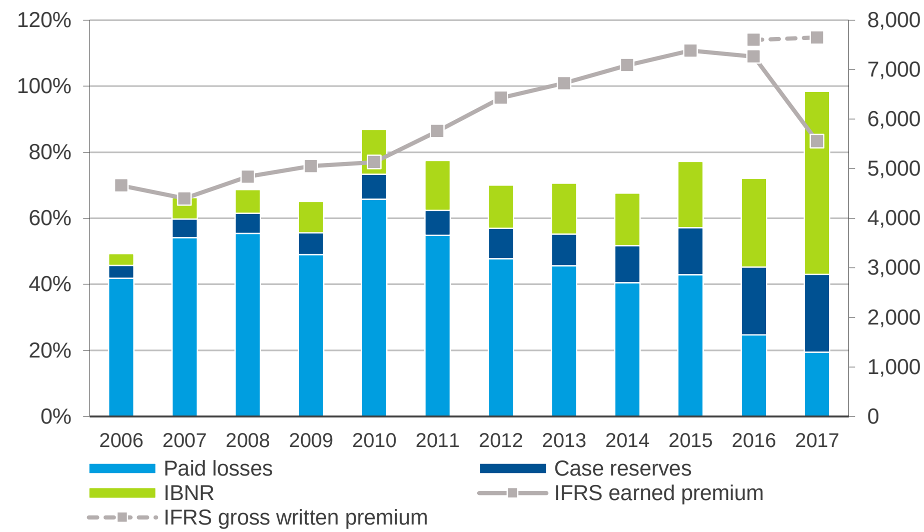
* As at 31 Dec 2017 (in m. EUR), consolidated, IFRS, development in months

Hannover Re financial year better reflects our cash flow profile

Extended scope and reporting now based on Hannover Re's financial year

U/W year	Earned premium	12	24	36	48	60	72	84	96	108	120	132	144	Ultimate loss ratio	Paid losses	Case reserves	IBNR balance
2006	4,662	13.3%	35.1%	38.8%	41.0%	42.4%	43.5%	43.8%	44.3%	44.4%	44.9%	45.3%	45.6%	49.3%	41.8%	3.8%	3.6%
2007	4,399	18.5%	43.1%	49.5%	52.9%	54.9%	56.0%	57.7%	59.6%	60.5%	60.9%	60.6%		66.2%	54.2%	5.6%	6.4%
2008	4,838	17.8%	46.8%	53.6%	56.9%	58.0%	59.8%	60.6%	61.4%	61.7%	61.7%			68.7%	55.4%	6.1%	7.2%
2009	5,050	14.5%	41.0%	47.9%	49.8%	52.1%	53.5%	55.0%	55.7%	56.0%				65.0%	49.0%	6.5%	9.5%
2010	5,132	19.1%	55.1%	62.8%	66.6%	69.3%	72.0%	72.7%	73.5%					86.9%	65.8%	7.5%	13.5%
2011	5,757	19.3%	46.5%	54.1%	58.5%	59.9%	61.8%	62.7%						77.5%	54.8%	7.6%	15.1%
2012	6,431	13.3%	42.5%	49.3%	52.8%	55.1%	56.9%							70.0%	47.7%	9.2%	13.1%
2013	6,724	15.2%	44.4%	51.1%	53.2%	55.3%								70.6%	45.6%	9.6%	15.4%
2014	7,088	12.2%	41.1%	47.7%	51.6%									67.6%	40.5%	11.3%	15.9%
2015	7,383	12.2%	43.7%	55.3%										77.2%	42.9%	14.2%	20.0%
2016	7,262	14.2%	42.4%											72.1%	24.7%	20.5%	26.9%
2017	5,555	37.6%												98.4%	19.5%	23.5%	55.5%





* As at 31 Dec 2017 (in m. EUR), consolidated, IFRS, development in months

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We cope with a challenging regulatory environment
Recent developments

Data protection
- EU General data protection regulation (GDPR)
- International data protection regulation (e.g. PIPA in South Africa)

IT and cyber security
- Requirements on IT security in (re-) insurance (VAIT)
- EIOPA cyber risk initiative

Solvency II review
- Level 2 review in 2018
- Review of the Solvency II directive (level 1) in 2020

IAIS common framework for insurance regulation (ComFrame)
- International capital standards (ICS)
- Monitoring phase until 2025

Conduct and sustainability regulation
- Insurance distribution directive
- Sustainability reporting

Disruption
- Brexit
- US tax reform (Base erosion and abuse tax on affiliate premium)

Internal model regulation
- Market risk benchmark study
- EIOPA initiative of further involvement in internal model review

Major changes in accounting standards
- IFRS 17
- IFRS 9

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 2017, 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 2017 covered 97.3% / 98.4% of the gross and net held non-life reserves of €24.1 billion and € 22.7 billion respectively. Together with life reserves of gross €4.2 billion and net €4.0 billion, the total balance sheet reserves amount to €28.4 billion gross and €26.7 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 2017. 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 cedents. 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.
- Except for any agreed responsibilities Willis Towers Watson may have to Hannover Rück SE, Willis Towers Watson does not assume any responsibility and will not accept any liability to any person for any damages suffered by such person arising out of this commentary or references to Willis Towers Watson in this document.

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US Mortality Solutions

Acquired block management

Dr. Klaus Miller, Member of the Executive Board

21st International Investors' Day
London, 18 October 2018

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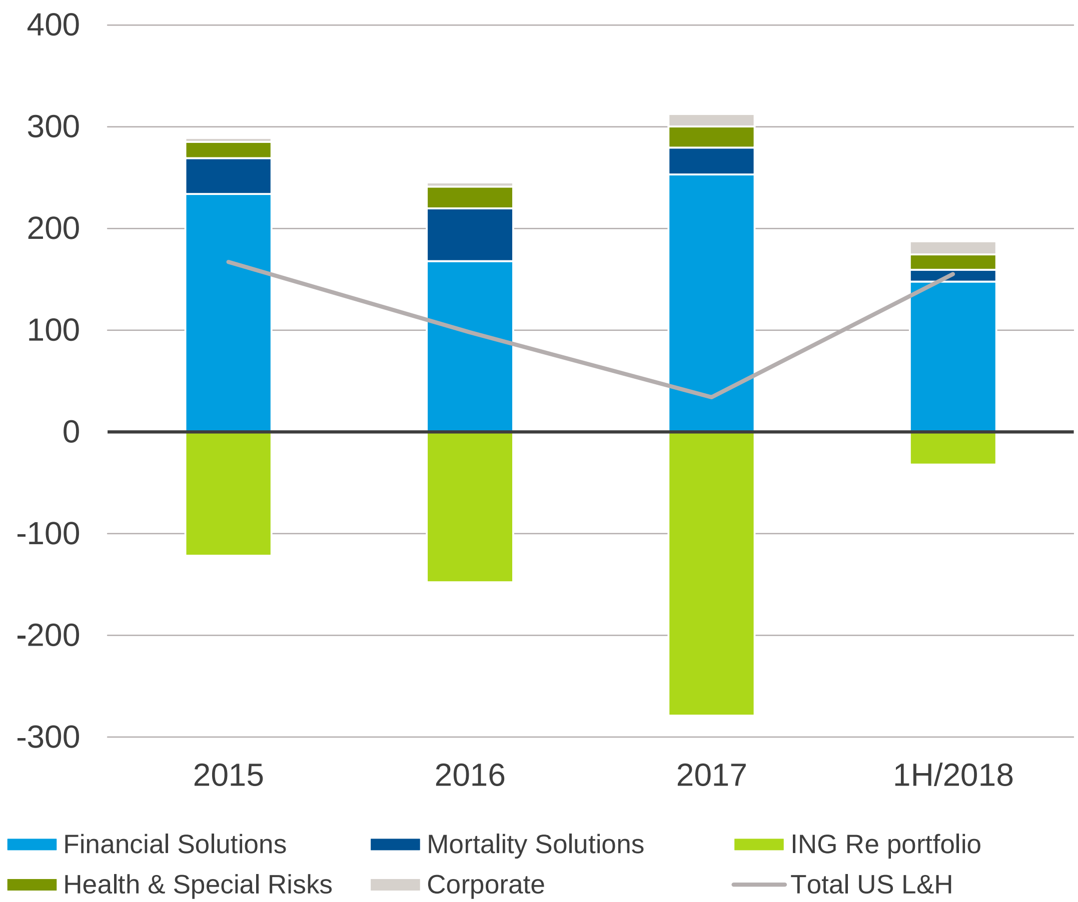
Historical results
Hannover Re US - L&H

- Hannover Re: a top-tier provider of
  - financial
  - mortality
  - and health risk solutions

  in the US life and health R/I market
- EBIT US business group 2015 - 1H/2018: USD 450 m.
- EBIT contribution 2015 - 1H/2018 without the block of business acquired in 2009 (ING Re portfolio): ~ USD 1 bn.

US L&H EBIT x B36 by business unit in m. USD



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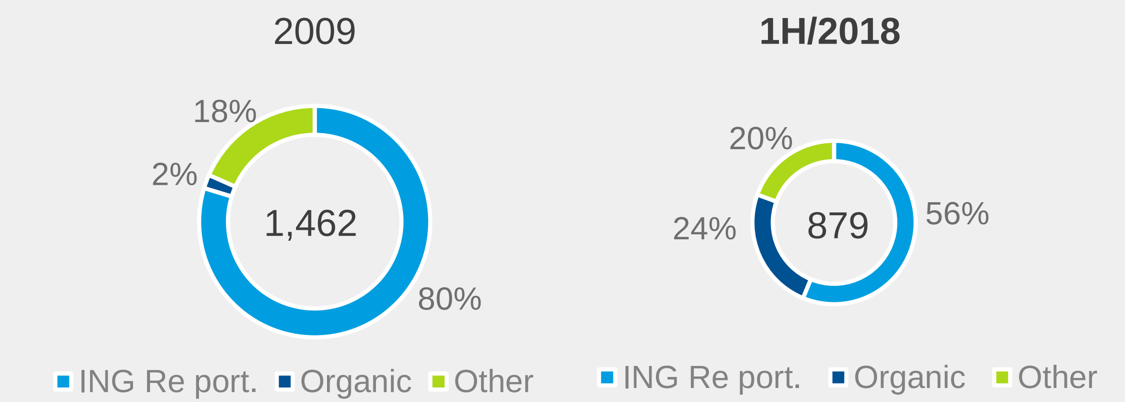
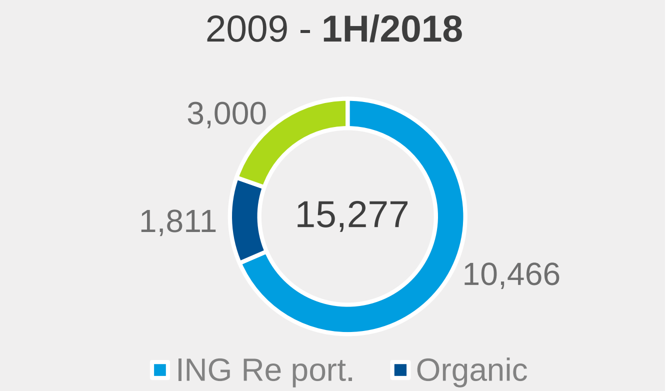
Historical results of US Mortality Solutions
US L&H business

- US Mortality Solutions business unit: organically written business, the ING Re portfolio, and other block acquisitions incl. the pre-2009 legacy business
- Organic business and other acquisitions outside of the ING Re portfolio have met our profitability targets
- Shift from ING Re portfolio to organic business

Premium: development from 2009 to 1H/2018 in m. USD



Premium: cumulative view in m. USD

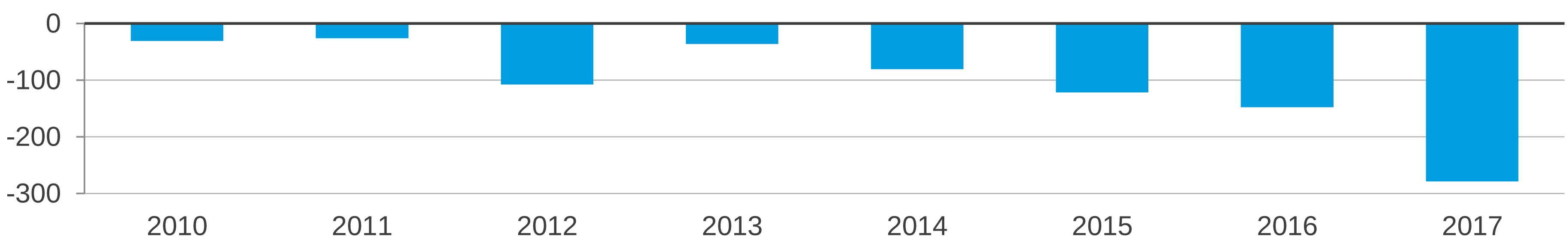


Historical results of US Mortality Solutions cont'd

US L&H business

- ING Re portfolio acquired via retrocession from ING (now Voya); legal entity: Security Life of Denver (SLD)
- 2009: positive results; since 2010: EBIT losses every year
- Total EBIT contribution: loss of ~USD 500 m.
  - excl. allocated mgmt. expenses from inception of transaction

ING Re portfolio EBIT x B36 x alloc. exp. in m. USD

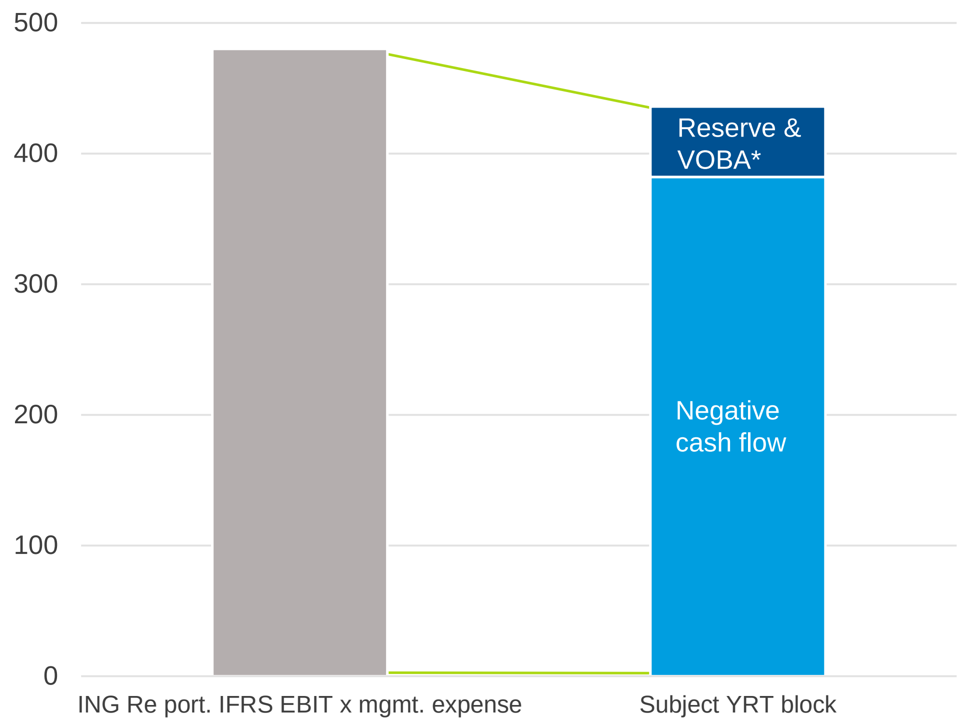


- Losses reduced through active steering
  - Current annual collateral costs reduced to ~USD 1 m. from >USD 30 m. **USD 665 m.** savings on PV basis
  - First targeted rate actions in 2013. Worth **~USD 500 m.** on PV basis
  - Organic new business written since 2009 contributing USD 240 m. of EBIT excl. allocated mgmt. expenses from 2009 through 1H/2018. PV of profit embedded in organic business as at Q2/2018: **USD 1.3 bn.**

Historical results of US Mortality Solutions cont'd
US L&H business

- ING Re portfolio includes:
  - Coinsurance
  - Yearly renewable term (YRT) business originally reinsured by ING Re in the late 1990's through 2004
- YRT business:
  - Most significant portion of losses
  - Greatest exposure to older ages, permanent products, and long-term population trends

2015 – 2017 losses in m. USD



* Value of business acquired

What went wrong?
US L&H business

US market dynamics

- Late 1990's and early 2000's: high cession rates and lower quality of medical UW compared to today
- Selective lapses, turnover due to preferred UW and declining prices
- Higher realised cost of options such as conversions
- "Table shaving"

Aggregate mortality improvements

- Lower than expected; driven by socio-economic effects
- Heart and stroke improvements have slowed materially
- Opioid misuse and accidental deaths have increased
- Top income groups fare materially better, but less at the oldest ages

Result

- Higher prospective mortality and rate deficiencies, largest at oldest ages

All SLD YRT rate increases
US L&H business

- 1st May: rate increase notifications sent to all YRT treaties by Hannover Re US as 3rd party administrator of Security Life of Denver (SLD). SLD belongs to Voya group and is the entity facing clients for ING Re portfolio
- Rate increases targeted to address prospective deficiencies. Significant increase on …
  - … single life business attained ages 80 and above
  - … all joint life business
- Contractual limitations apply on some treaties
  - For example, rate increase will automatically take effect for certain treaties if or when the ceding company has raised cost of insurance charges on underlying policies
- Recapture options included as part of rate increases with 90 days for the ceding company to notify of their decision

All SLD YRT rate increases - structure
US L&H business

Long-term commitment
Developing mutually profitable relationships in the US market, even through challenging times

Alternative options
Extra-contractual recapture options provided to demonstrate seeking appropriate overall rate increase rather than 'windfall' profit recouping past losses
3

Clear communication
Rate increases based off of recent credible cash experience as reported directly by ceding companies
1

Contractual requirements & best legal advice
Fully compliant with our legal and contractual rights, duties and obligations following best legal advice at every stage
4

Manageable administrative complexity
Rate increases structured to minimise ceding company implementation issues
2

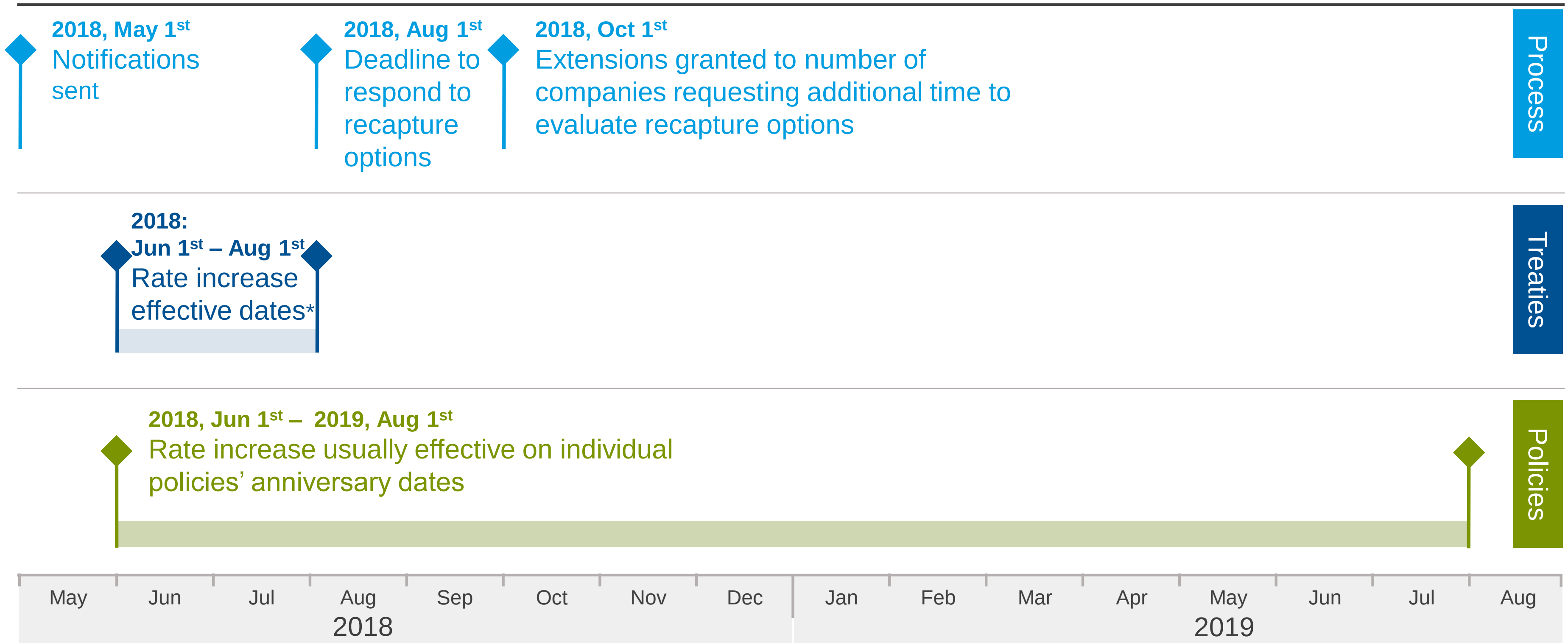
Consistency with all ceding companies
Requirements to raise rates consistently across all ING Re YRT business pervasive in treaties from this era. Increases carefully applied consistently to meet all contractual requirements
5

All SLD YRT rate increases - timelines

US L&H business

- Notifications: 767 treaties with 101 company groups
- Confirmed receipt: all company groups

Timeline



* Based on individual treaty terms (may be retroactive to Jun 1st for some treaties)

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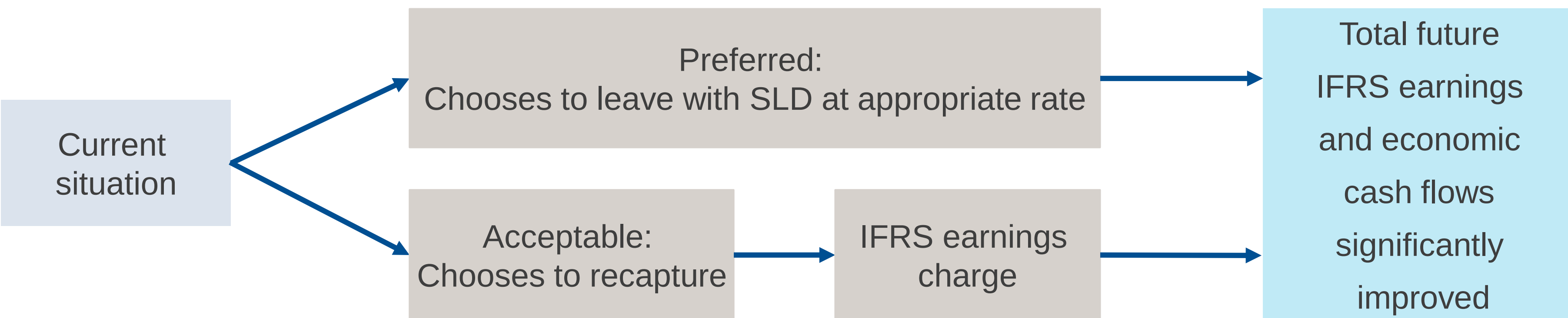
All SLD YRT rate increases - dynamics
US L&H business

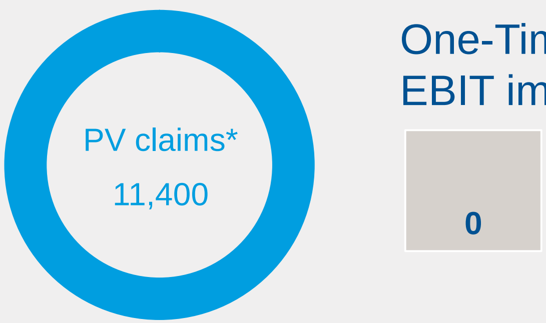
- Economic outcome is improved in aggregate whether the ceding company chooses to:
  - recapture – when the block becomes smaller, or
  - leave business with us – when the prospective rates are more appropriate



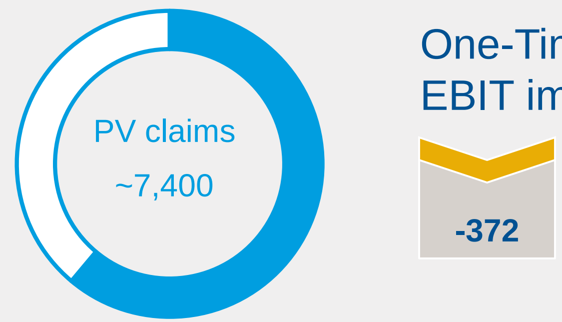
- Recaptures can lead to IFRS losses even though economic results improve because ING Re portfolio has to be accounted for under the lock-in principle (Purchase GAAP Accounting)

2018 recapture charges and size of remaining block
US L&H business

No recaptures in m. USD



Expected recapture decision in m. USD



- The block will be smaller
- The block business that remains will have improved profitability due to the rate increase
- Inforce management work remains in-progress and uncertainty remains on total IFRS impacts

* Discount rate of 3%

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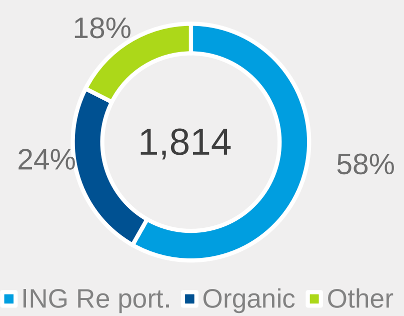
Forward-looking expectations
US L&H business

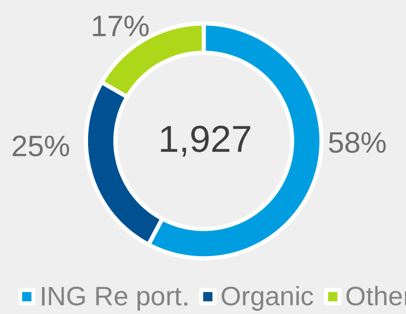
- We expect USD 372 m. of adverse recapture charges, included in 2018 projected below

Premium: expectation from 2018 to 2020 projected (p) in m. USD

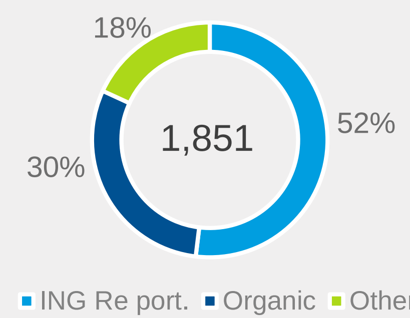
2018(p)



2019(p)



2020(p)



EBIT x B36 x alloc. exp.: expectation from 2018 to 2020 projected (p) in m. USD

	2018(p)	2019(p)	2020(p)
ING Re port.	-457	-61	-59
Organic	43	50	61

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Risks
US L&H business

- Risks associated with IFRS income and IFRS/Solvency II balance sheet valuation of the subject block of business and current rate actions:

1

- Individual ceding company decisions to recapture or accept the rate increases cannot be predicted with certainty

2

- Some ceding companies may pursue arbitration as a route to resolve; based on legal advice received we are confident in our contractual rights

3

- Forward-looking statements depend on future mortality assumptions including population improvement trends, which are inherently uncertain

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Insights into life and health reinsurance

25‘ about L&H ... excluding North America!

Claude Chèvre, Member of the Executive Board

21st International Investors' Day
London, 18 October 2018

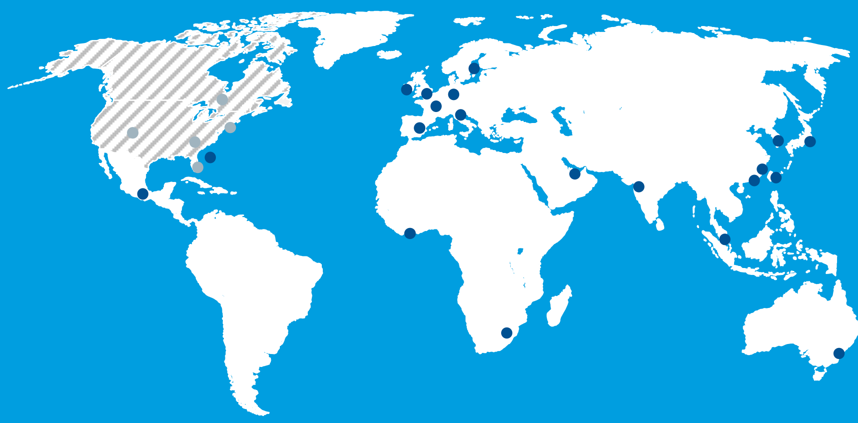
At a glance
L&H excluding North America

Staff
600

21
Offices

5,500
Treaties

130
Countries



2017

Premium
EUR 5,059 m.

EBIT
4.8 %

VNB
EUR 228 m.

Gross Written Premium, EBIT Margin

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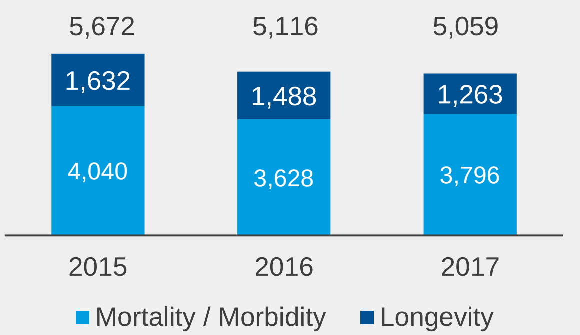
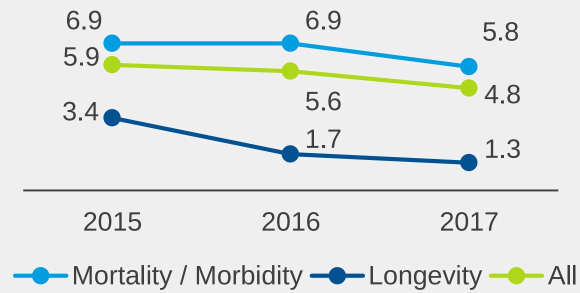
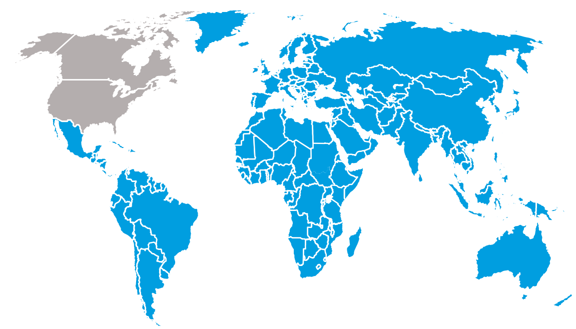
Financials
L&H excluding North America

Premium
in EUR m.



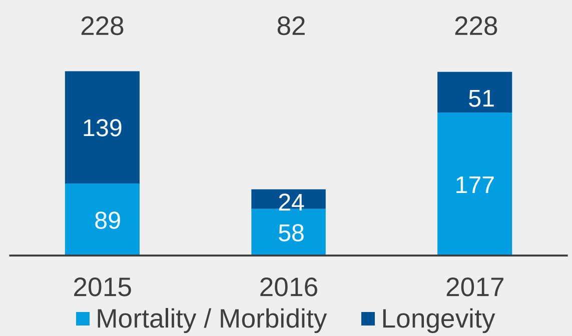
EBIT margin
in %





Per region	2015 Premium	2015 EBIT margin	2016 Premium	2016 EBIT margin	2017 Premium	2017 EBIT margin
Australia	842	6%	682	6%	705	6%
Europe	3,079	4%	2,894	5%	2,652	3%
Asia	1,150	10%	917	8%	1,008	6%
Afrika	208	17%	193	13%	216	14%
Latam	394	7%	431	3%	478	3%
Total	**5,673**	**6%**	**5,116**	**6%**	**5,059**	**5%**

VNB
in EUR m.



Gross Written Premium. Mortality / Morbidity includes financial solution and risk solution business

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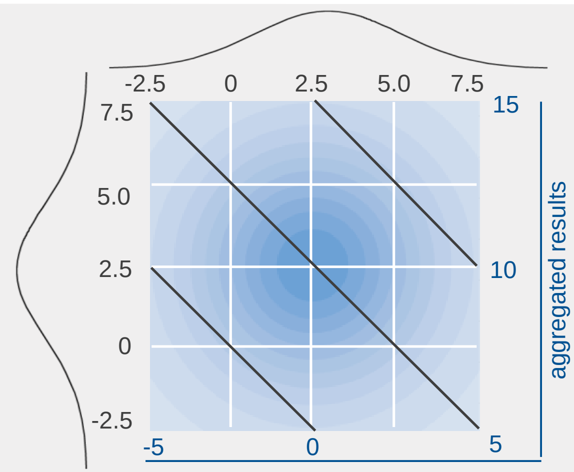
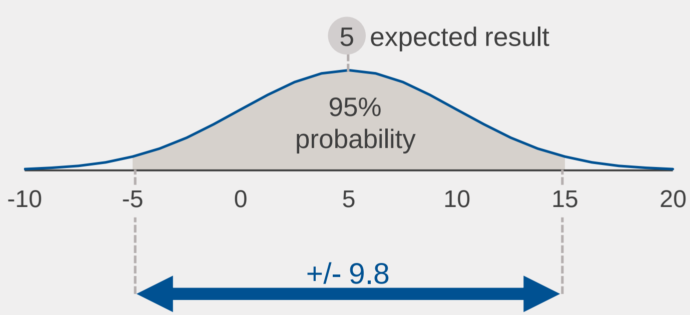
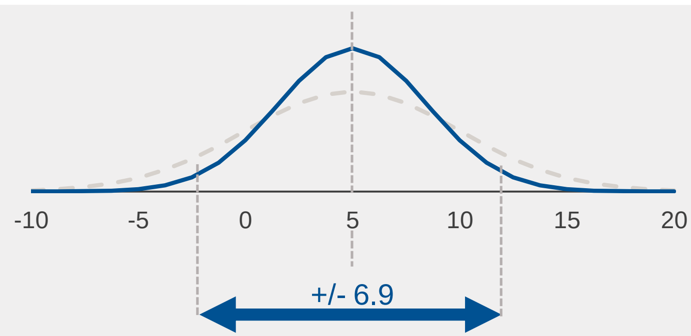
Volatility of 1 & 2 treaties
Uncorrelated

Treaties & Premium	100	50 uncorrelated 50
Joint distribution of single results	n.a.	
Distribution of aggregated results 95% confidence interval		

For illustration only

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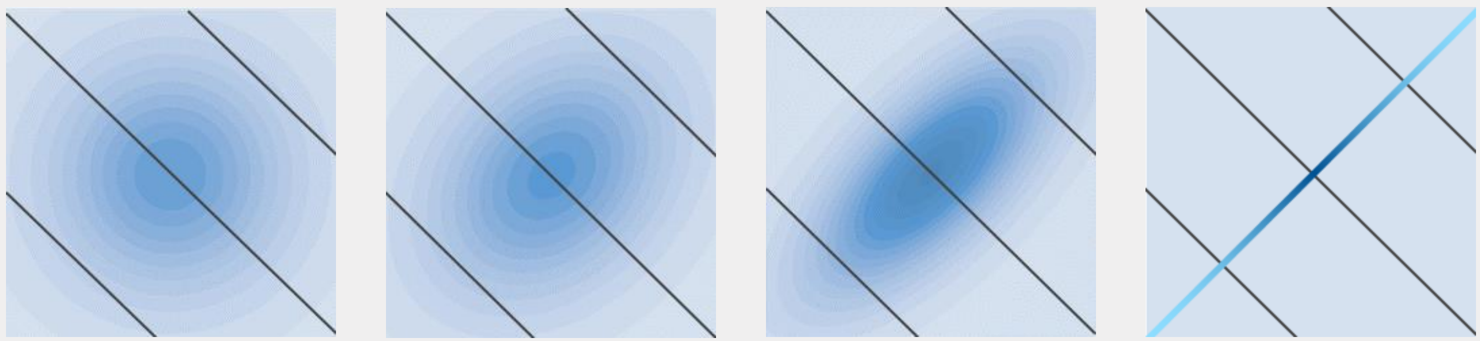
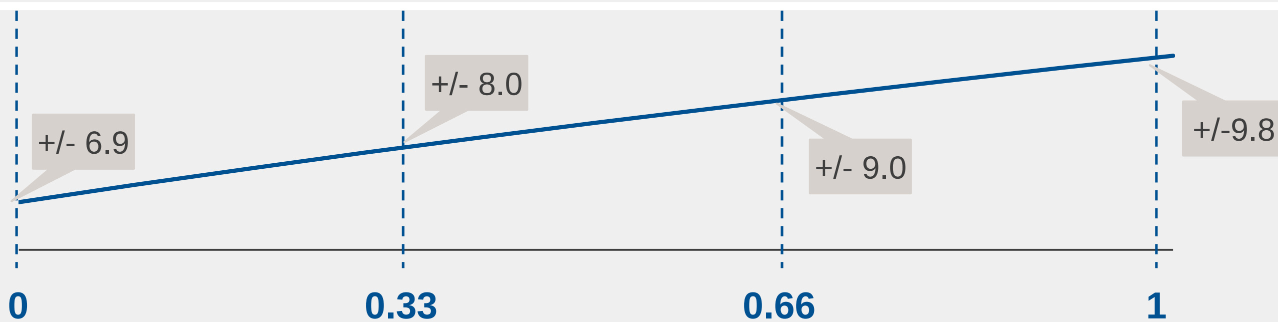
Volatility of 2 treaties
Various correlations

Correlation: 0 | 0.33 | 0.66 | 1

Joint distribution of single results



95% confidence interval



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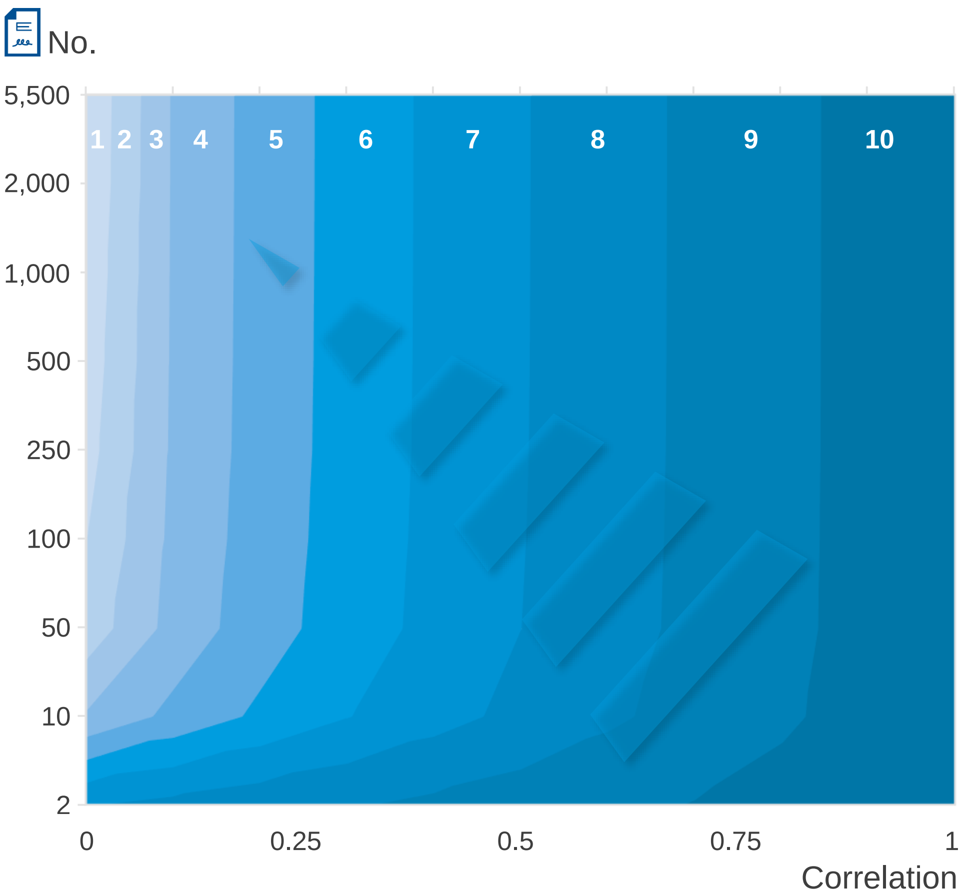
Volatility of thousands of treaties
Various correlations

95% confidence interval



- The more lines of business from different regions, the smaller the mutual correlation of the underlying treaties
- The smaller the mutual correlation and the more treaties, the smaller the confidence interval
- The smaller the confidence interval, the more predictive the result

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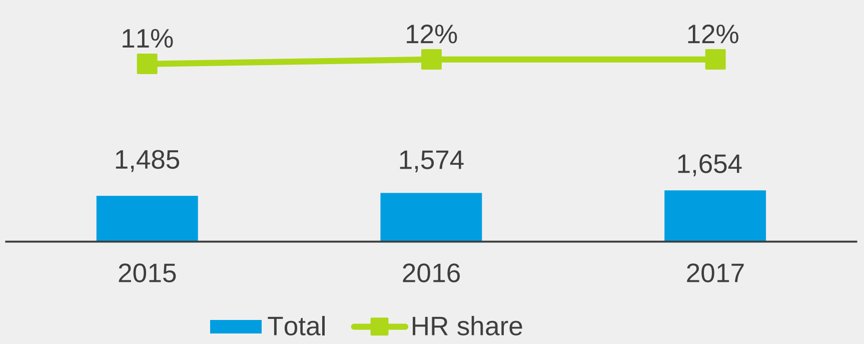
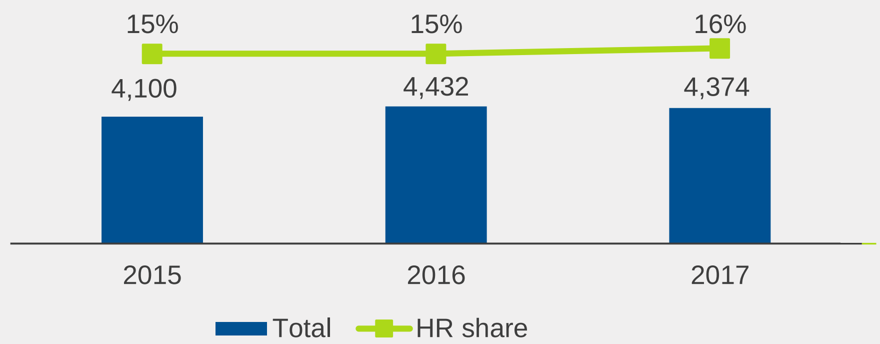
Contestable premiums
L&H excluding North America and longevity

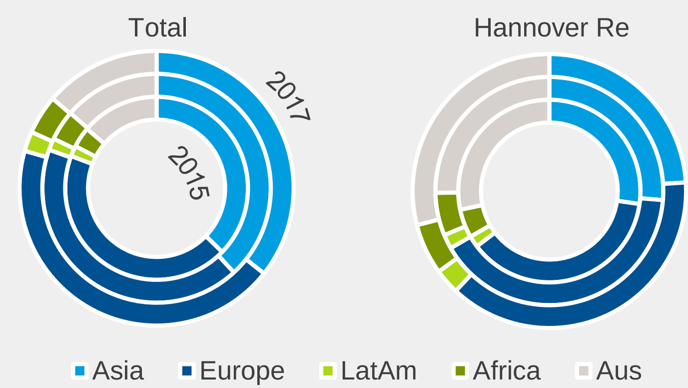
Individual new cessions
in EUR m.



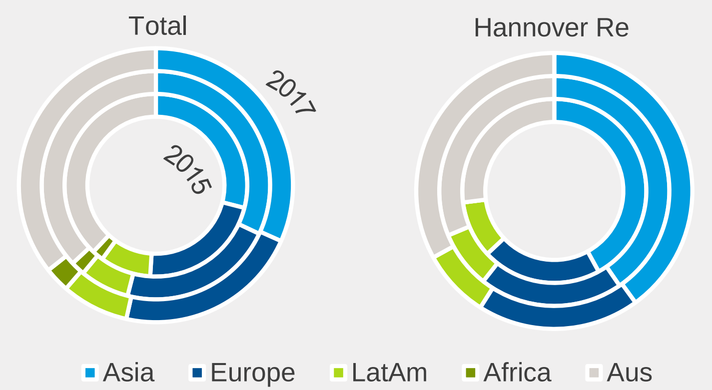
Group new / renewed cessions
in EUR m.



Share per region: 2015 – 2017
in %



Share per region: 2015 – 2017
in %



Source: NMG Consulting, GCC included in Asia, NZL included in Australia

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Expected yearly new business growth as at 2020

L&H excluding North America and longevity

Europe

	Total	Hannover Re
Growth	+5%	+5%
Volume	EUR 860 m.	EUR 90 m.

- Modern automated UW system
- Strong positioning in France & Scandinavia
- Selective approach in the UK

Asia

	Total	Hannover Re
Growth	+7%	+9%
Volume	EUR 790 m.	EUR 90 m.

- Modern automated UW systems
- Short term health
- Critical illness
- Lifestyle products
- High net worth individuals
- Takaful

Latin America

	Total	Hannover Re
Growth	+9%	+16%
Volume	EUR 80 m.	EUR 20 m.

- Lifestyle products
- Proximity to markets & clients
- Efficient organisational setup

Africa

	Total	Hannover Re
Growth	+14%	+31%
Volume	EUR 120 m.	EUR 20 m.

- Modern automated UW system
- Wearables & new technologies
- Group business

Australia

	Total	Hannover Re
Growth	+2%	+5%
Volume	EUR 300 m.	EUR 80 m.

- Insurance & reinsurance
- Market consolidation
- Regulatory requirements

■ Total ■ Hannover Re

Figures p.a.

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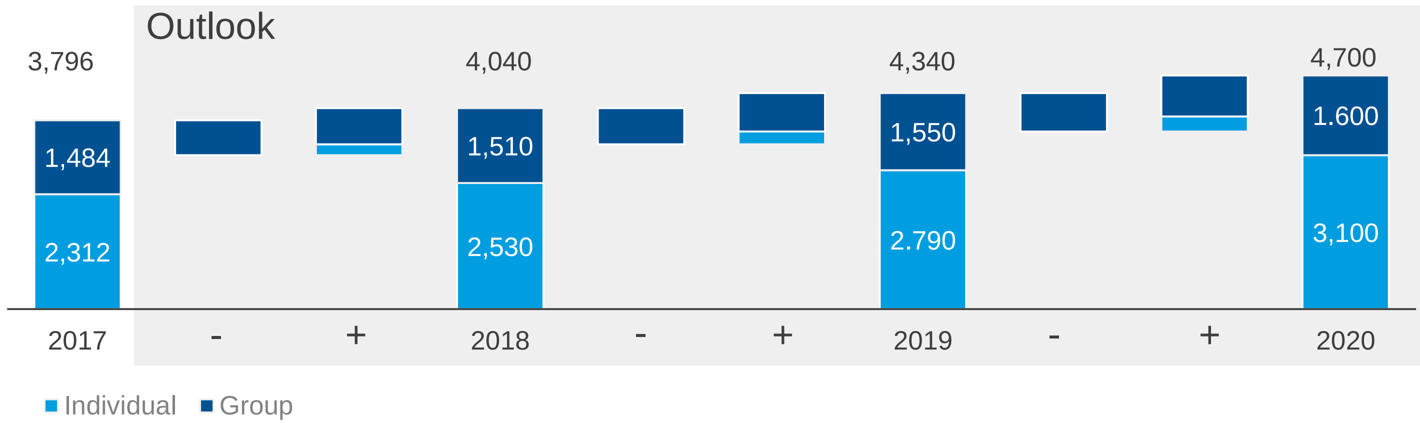
Outlook: Gross written premium & EBIT as at 2020

L&H excluding North America

Mortality / Morbidity

in EUR m.

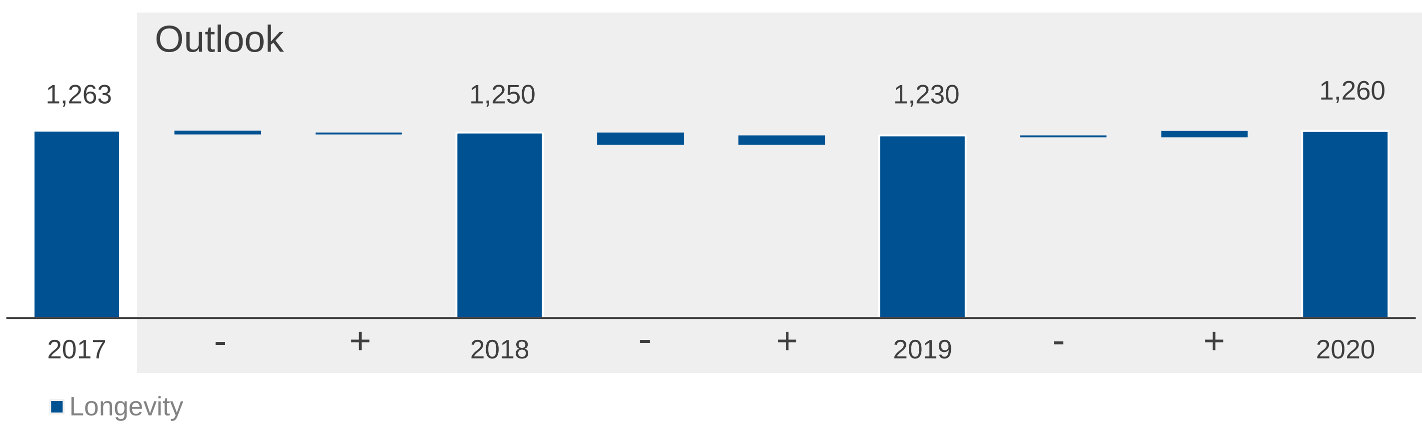


EBIT

~5.0 %

Longevity

in EUR m.



EBIT

~2.0 %

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The relevance of cash flow in P&C reinsurance

Jürgen Gräber, Member of the Executive Board

21st International Investors' Day
London, 18 October 2018

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Cash flow affects the reinsurance price calculation

NPE	+	Economic revaluation	-	Capital margin	=	MtCR
Net premium earned	+	Discount effect on P&C net loss reserves (% of NPE)	-	Capital margin above risk free (pre-tax)	=	Maximum tolerable Combined Ratio

2018:	**100%**	**+**	**3.6%**	**-**	**7.4%**	**=**	**96.2%**
2017:	**100%**	**+**	**3.8%**	**-**	**7.7%**	**=**	**96.1%**
2016:	**100%**	**+**	**3.4%**	**-**	**7.4%**	**=**	**96.0%**
2015:	**100%**	**+**	**3.8%**	**-**	**7.6%**	**=**	**96.3%**

As at March 2018

MtCR varies substantially by line of business
2018

Net premium earned (100%)	+ Economic revaluation	- Capital margin	= MtCR
North America*	7.1%	12.0%	95.1%
Continental Europe*	3.4%	7.5%	95.9%
Marine	3.2%	13.6%	89.6%
Aviation	5.5%	8.4%	97.0%
Credit, surety and political risks	3.1%	9.0%	94.1%
UK, Ireland, London market and direct	4.9%	6.8%	98.1%
Facultative R/I	5.0%	9.2%	95.8%
Worldwide Treaty R/I*	3.3%	7.5%	95.8%
Cat XL	4.0%	15.5%	88.6%
Structured R/I and ILS	0.7%	2.2%	98.5%
Total Property & Casualty R/I	**3.6%**	**7.4%**	**96.2%**

As at March 2018
* All lines of Property & Casualty reinsurance except those stated separately

How we calculate the technical P&C reinsurance cash flow

Premium

\- Expenses and losses

+/- Deposits and interest

\+ Income from deposit accounting

= Cash flow

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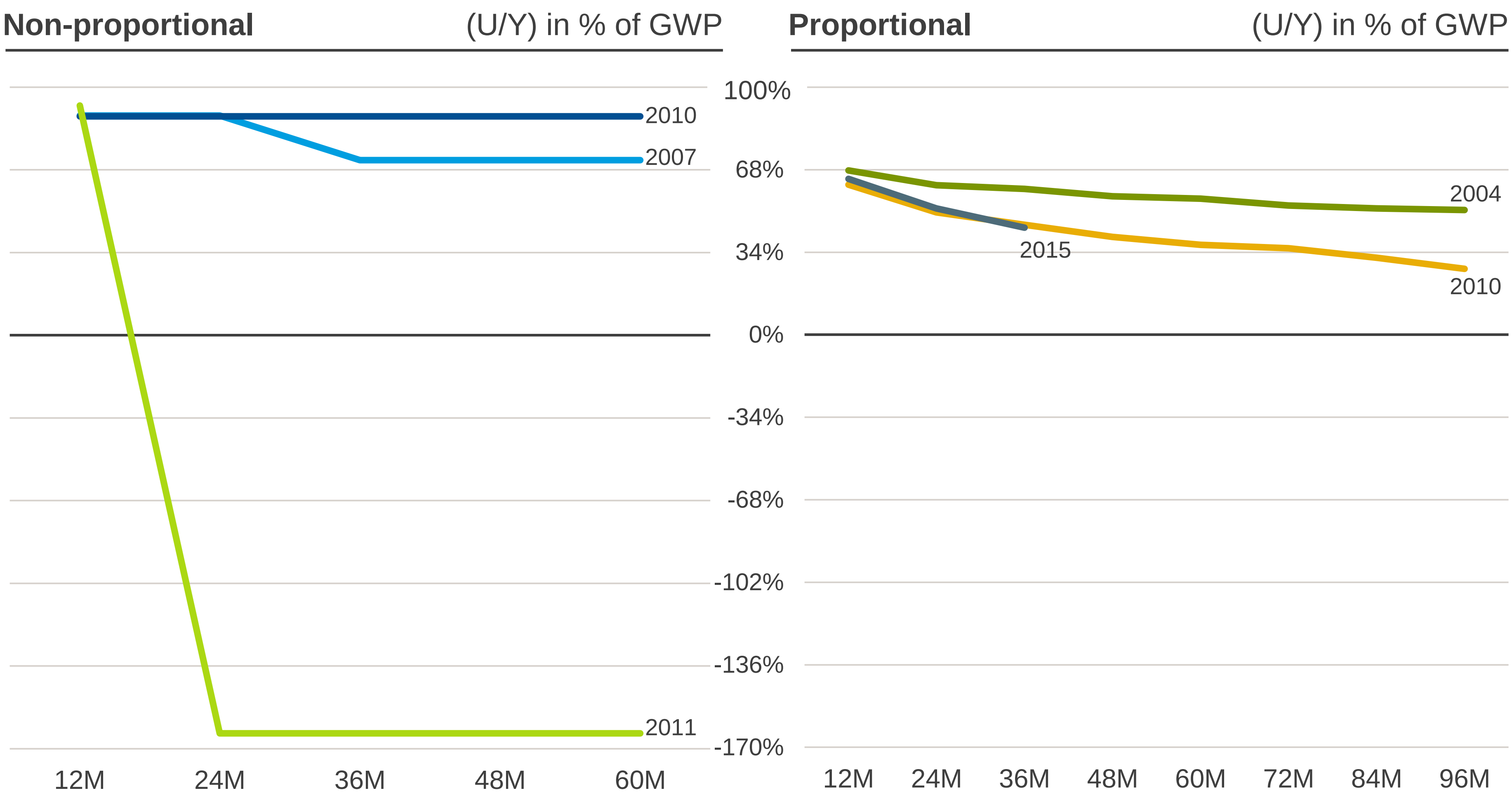
A typical single contract cash flow development



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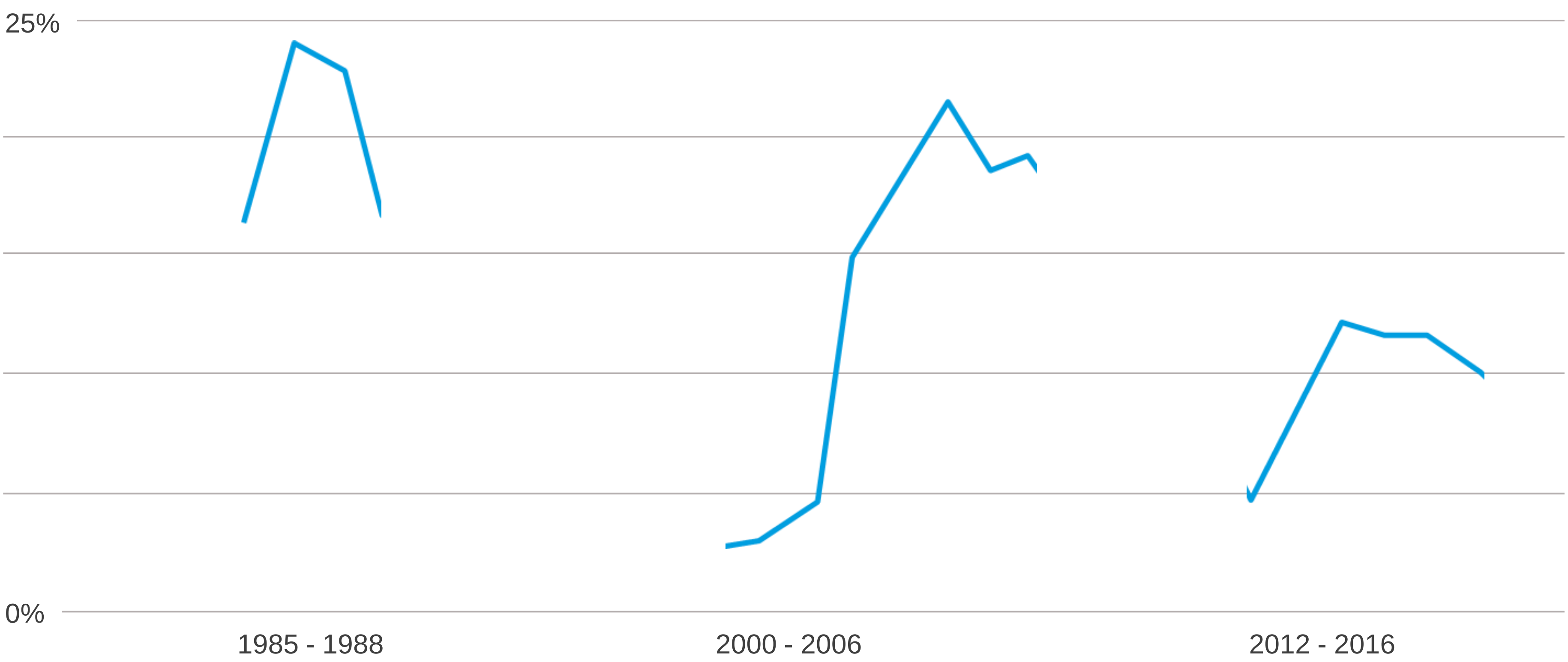
Development of cash flow in the reinsurance market

Reinsurance market cash flow from premium income

in % of net premium written

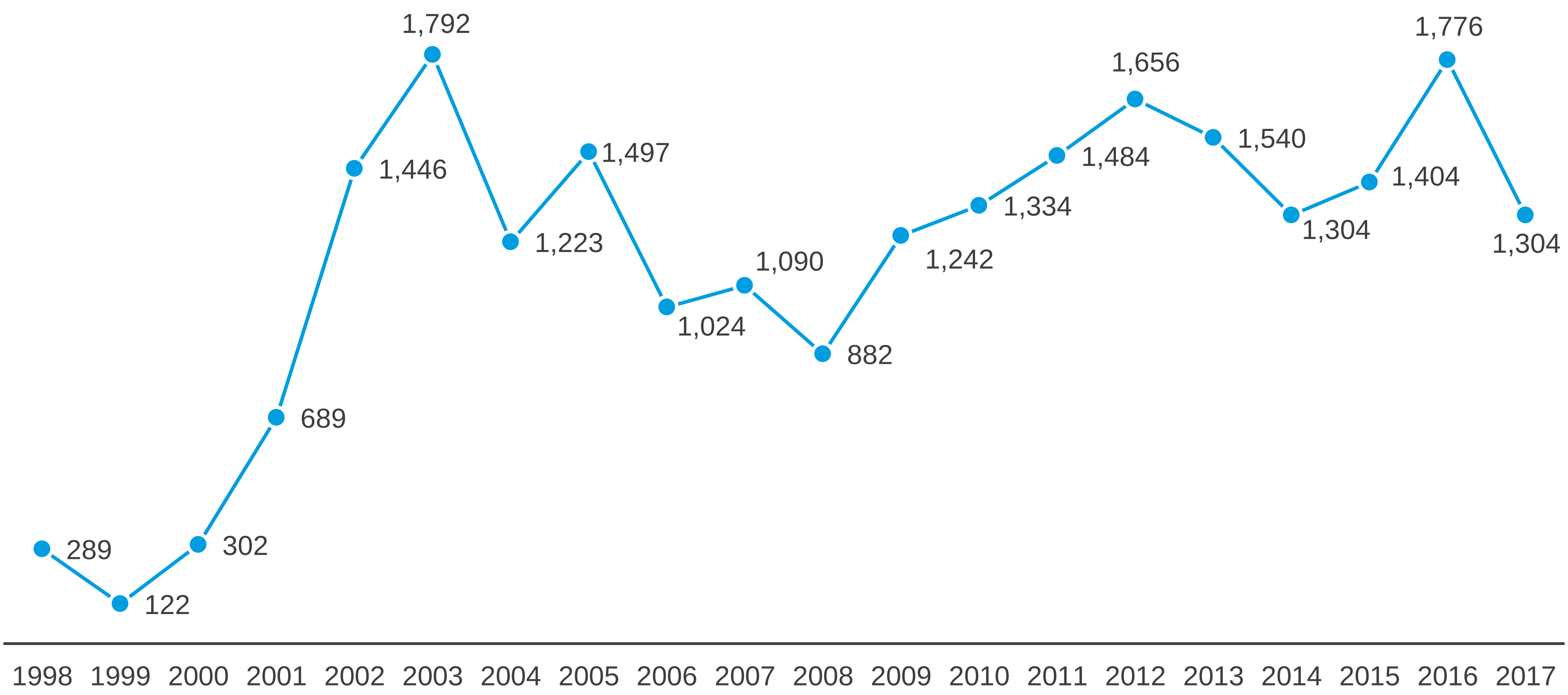


Source: based on A.M. Best

Development of Hannover Re's P&C reinsurance cash flow

P&C cash flow (FY)

in m. EUR



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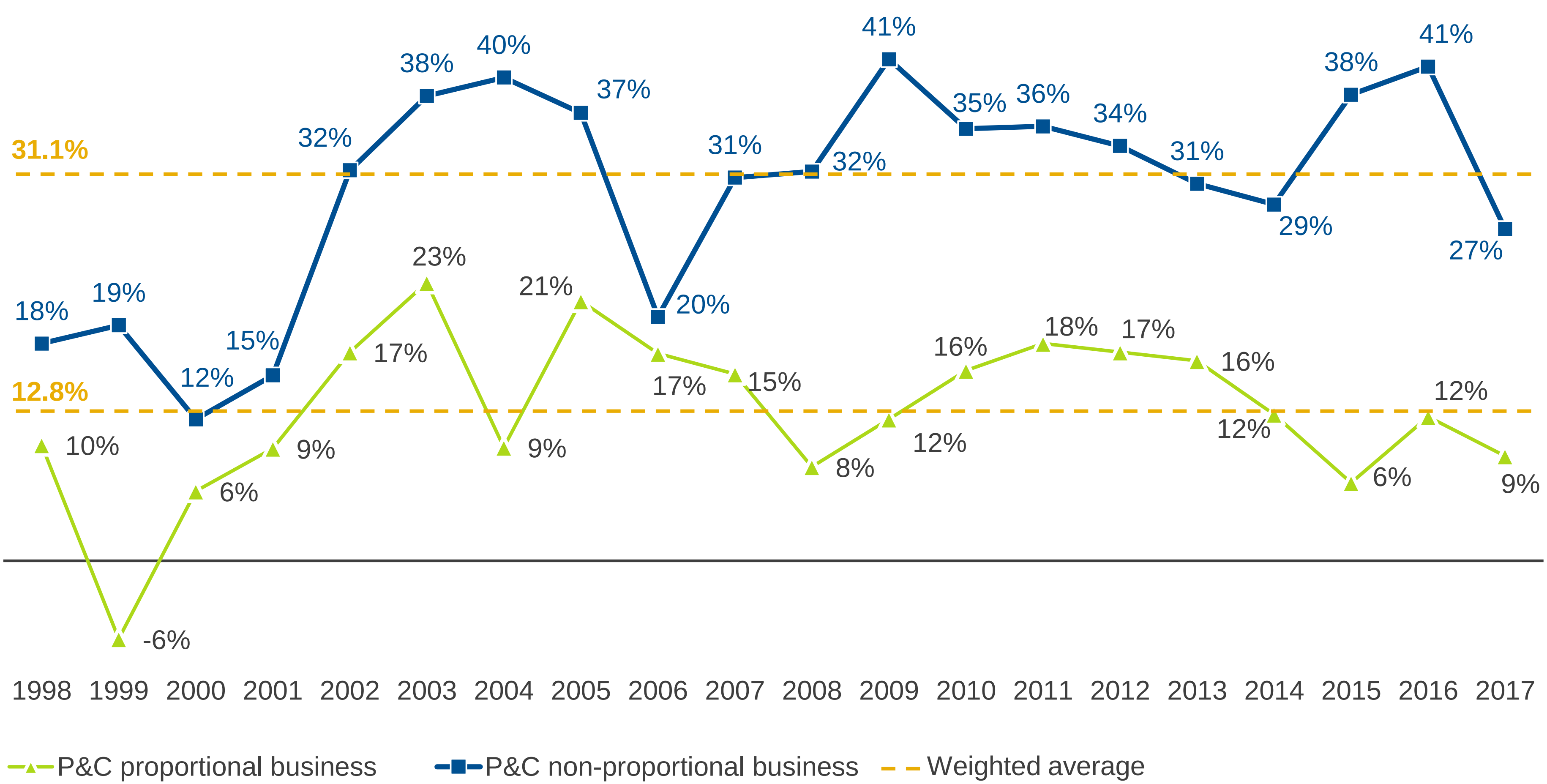
Hannover Re's P&C reinsurance cash flow by type of contract

P&C proportional and non-proportional cash flow (FY)

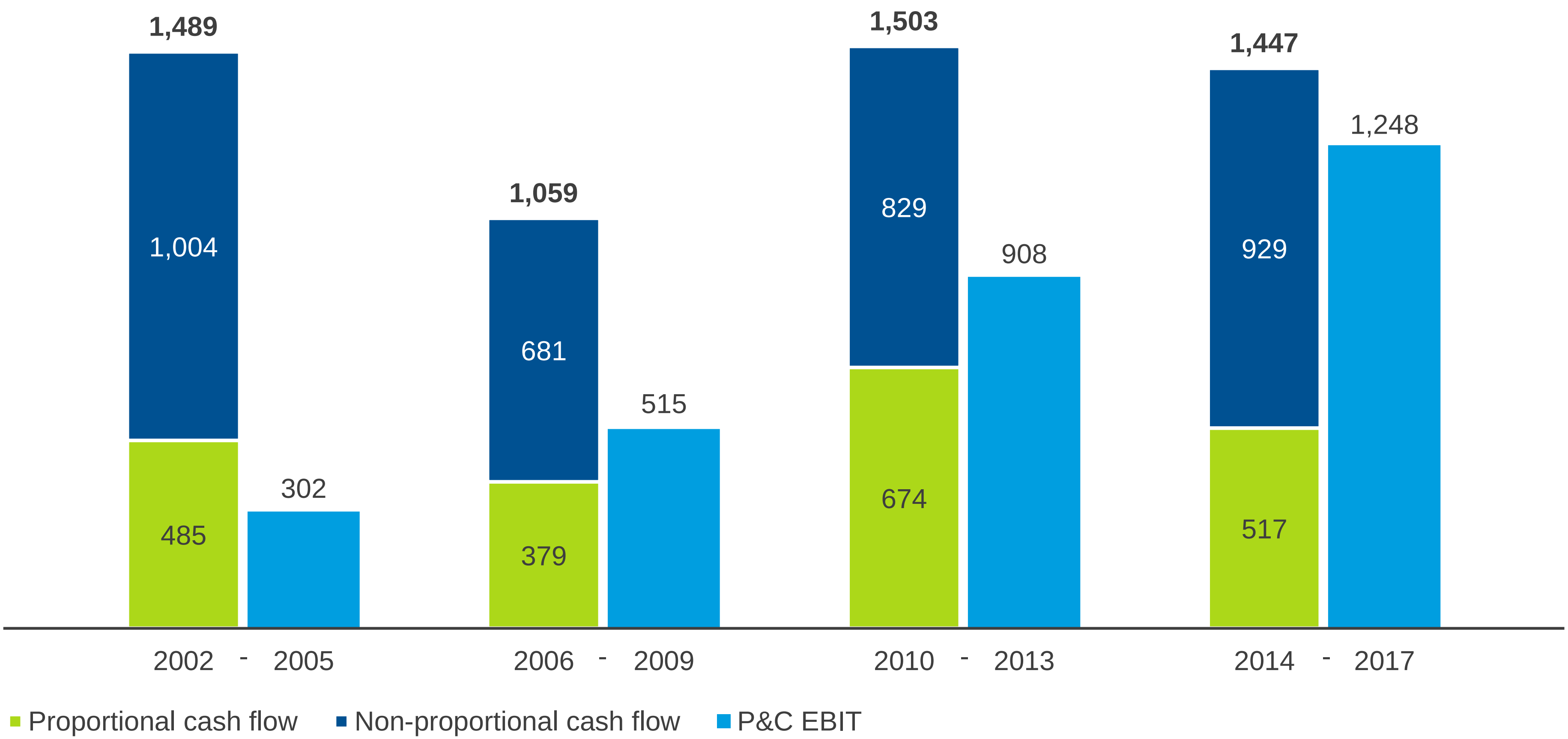
in % of GWP



Average P&C cash flow over the cycles

P&C cash flow vs. EBIT (FY)

(average) in m. EUR



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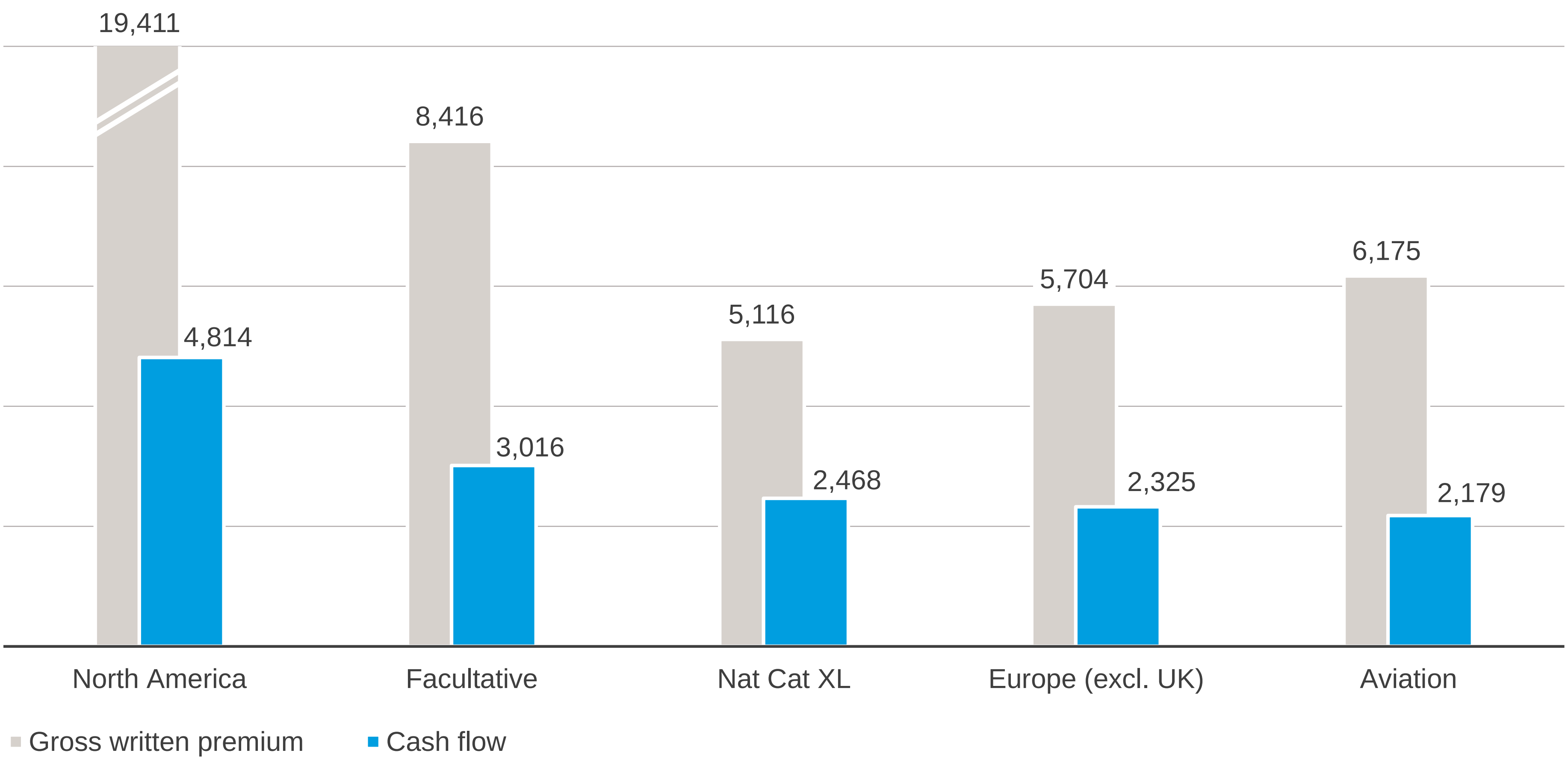
The largest contributors to the P&C cash flow

2002 - 1H/2018 by treaty divisions

P&C cash flow vs. GWP (FY)

in m. EUR



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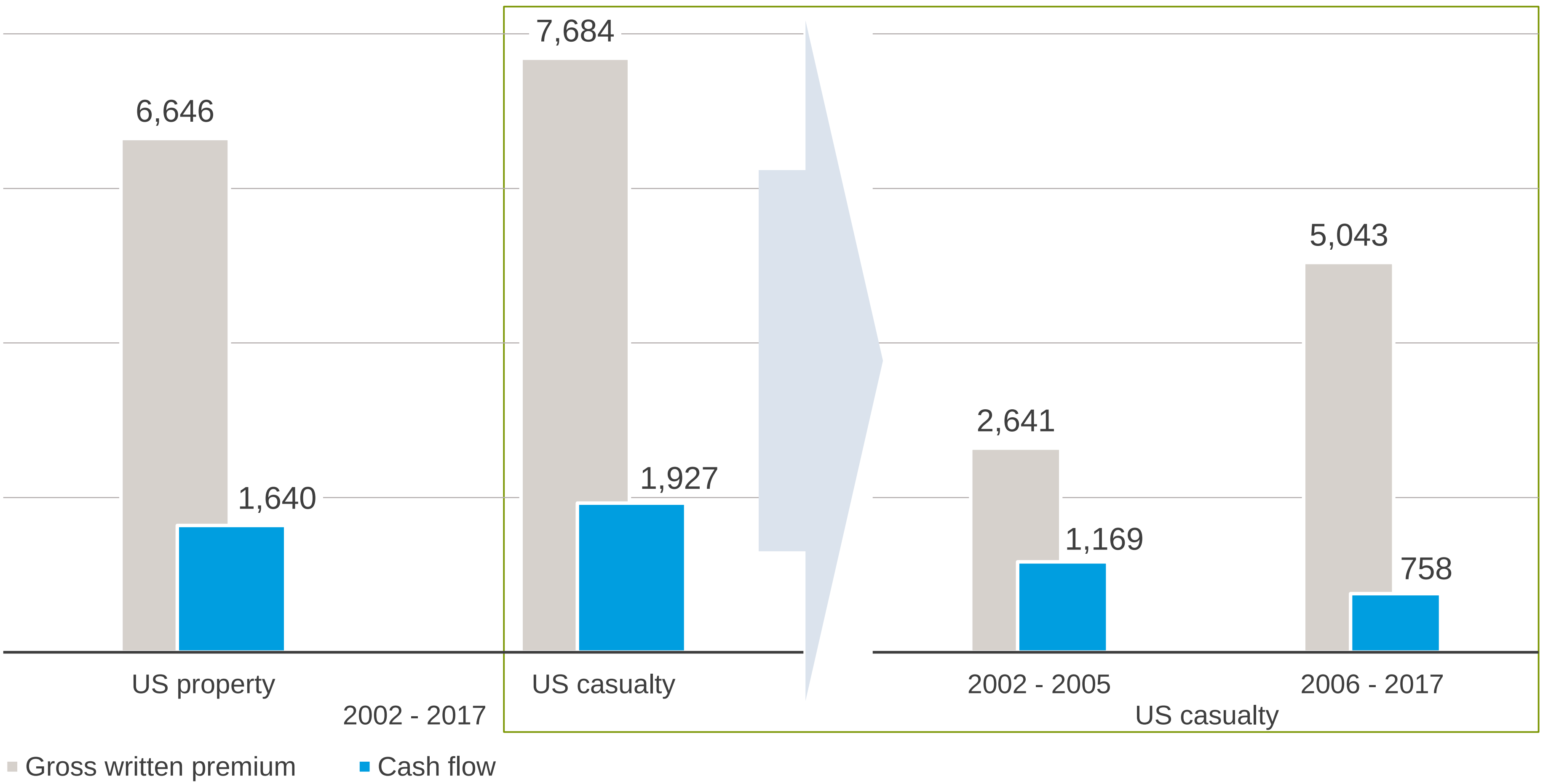
Taking a deeper look at the US
US treaty division

US property and casualty cash flow vs. GWP (FY)

in m. EUR



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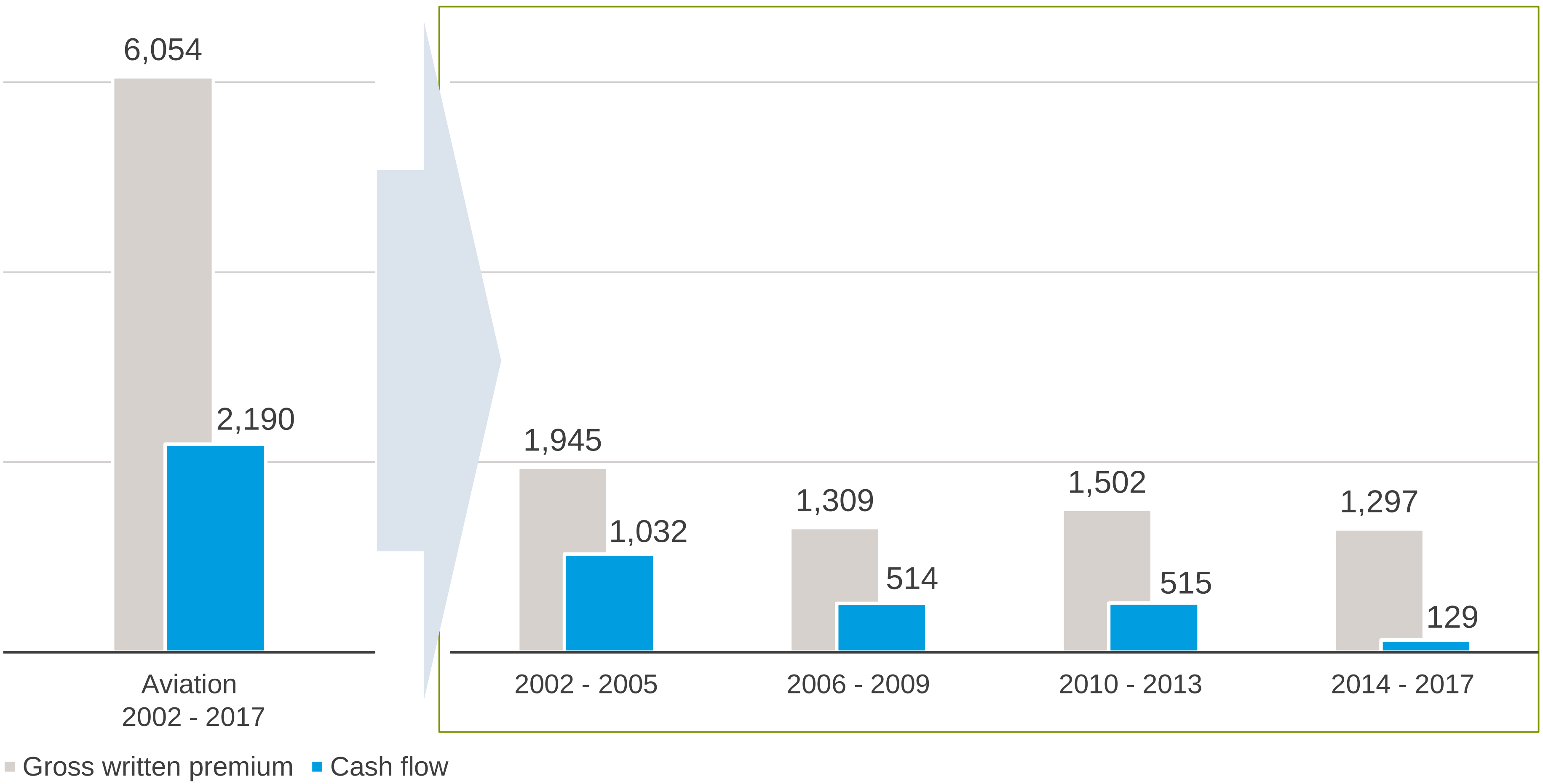
Extreme hard market in aviation after WTC

Aviation treaty division

Aviation cash flow vs. GWP (FY) in m. EUR



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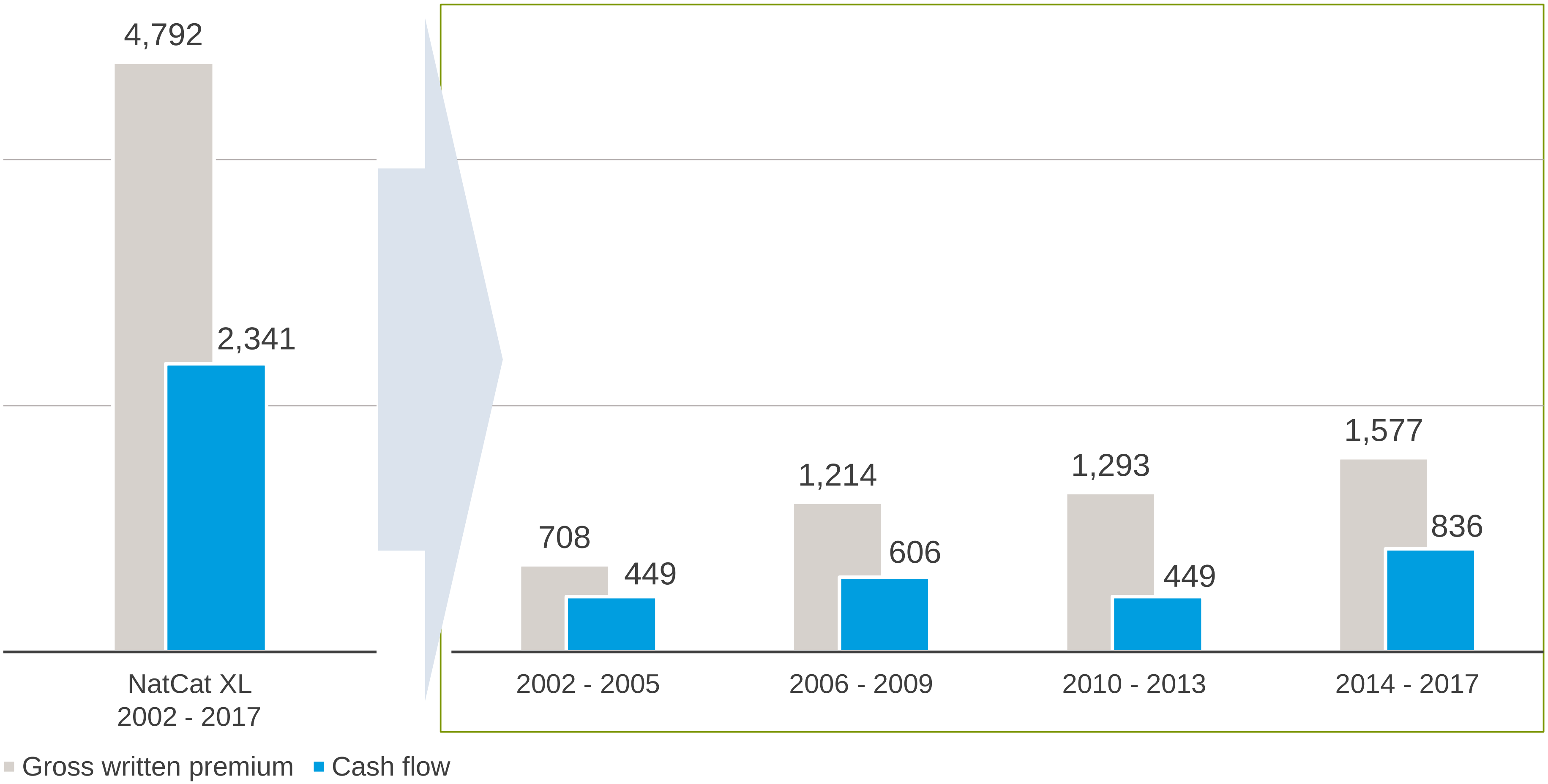
NatCat XL, an above-average cash flow contributor

NatCat XL treaty divsion

NatCat XL cash flow vs. GWP (FY)

in m. EUR



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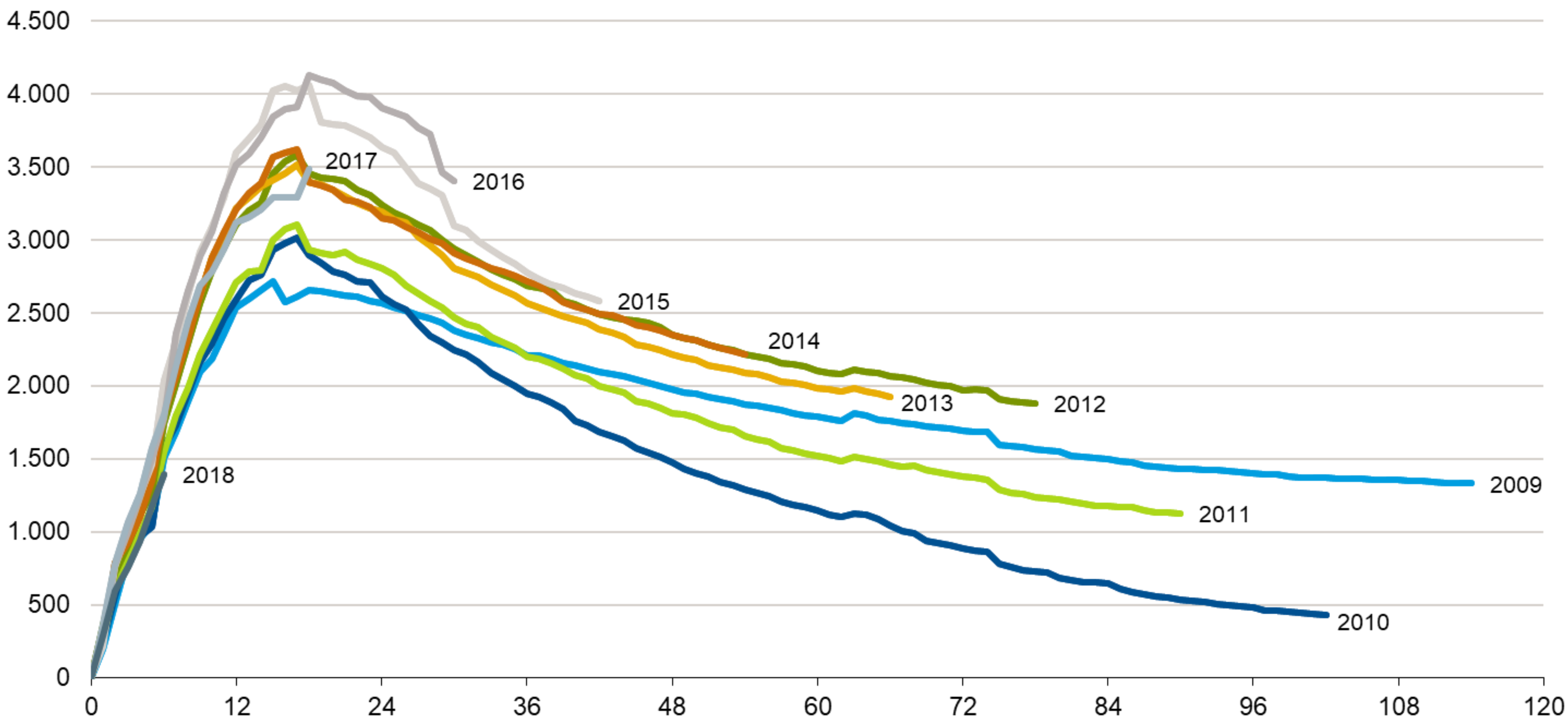
P&C reinsurance cash flow from an underwriting-year angle

In absolute terms

Total P&C reinsurance cash flow build-up (UY)

in m. EUR



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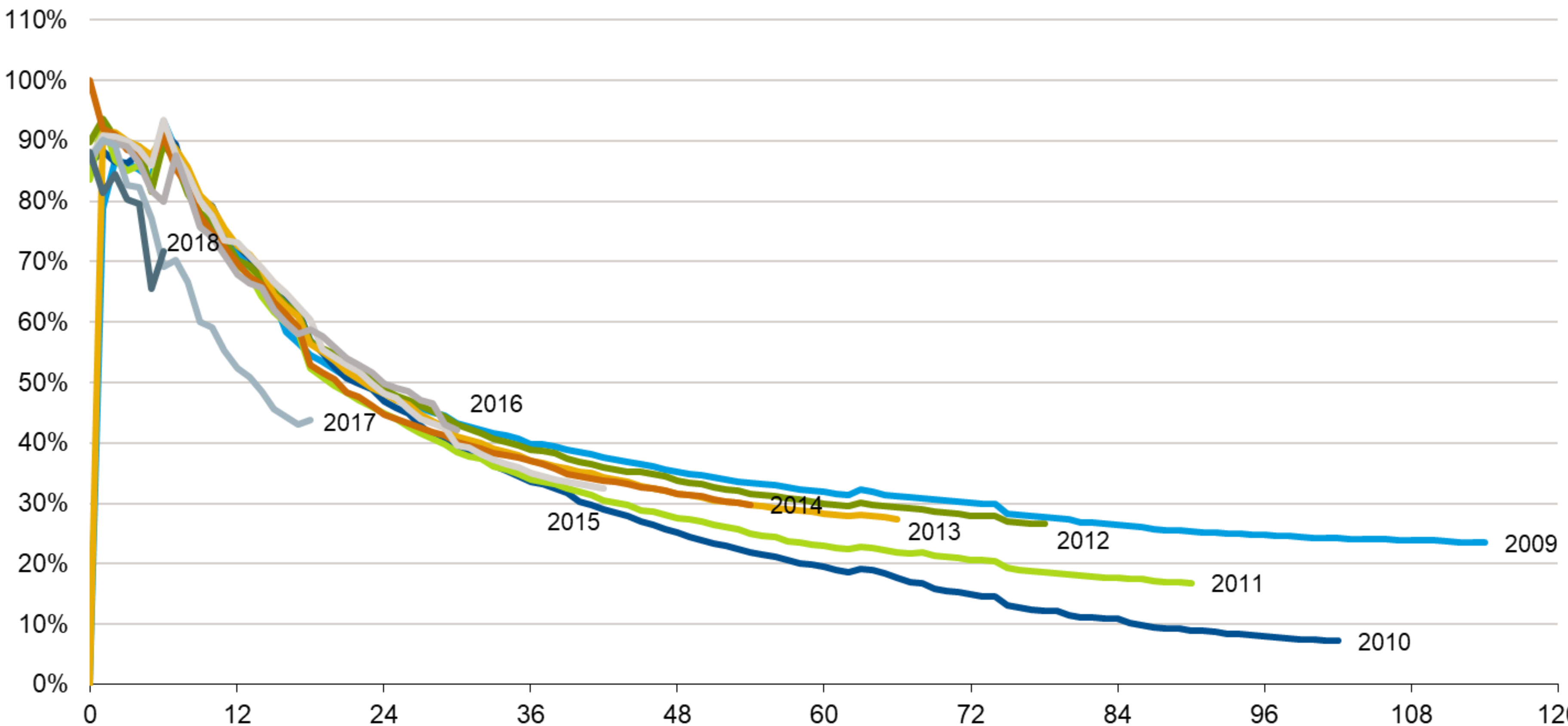
P&C reinsurance cash flow from an underwriting-year angle
In relative terms

Total P&C reinsurance cash flow build-up (UY)
in %



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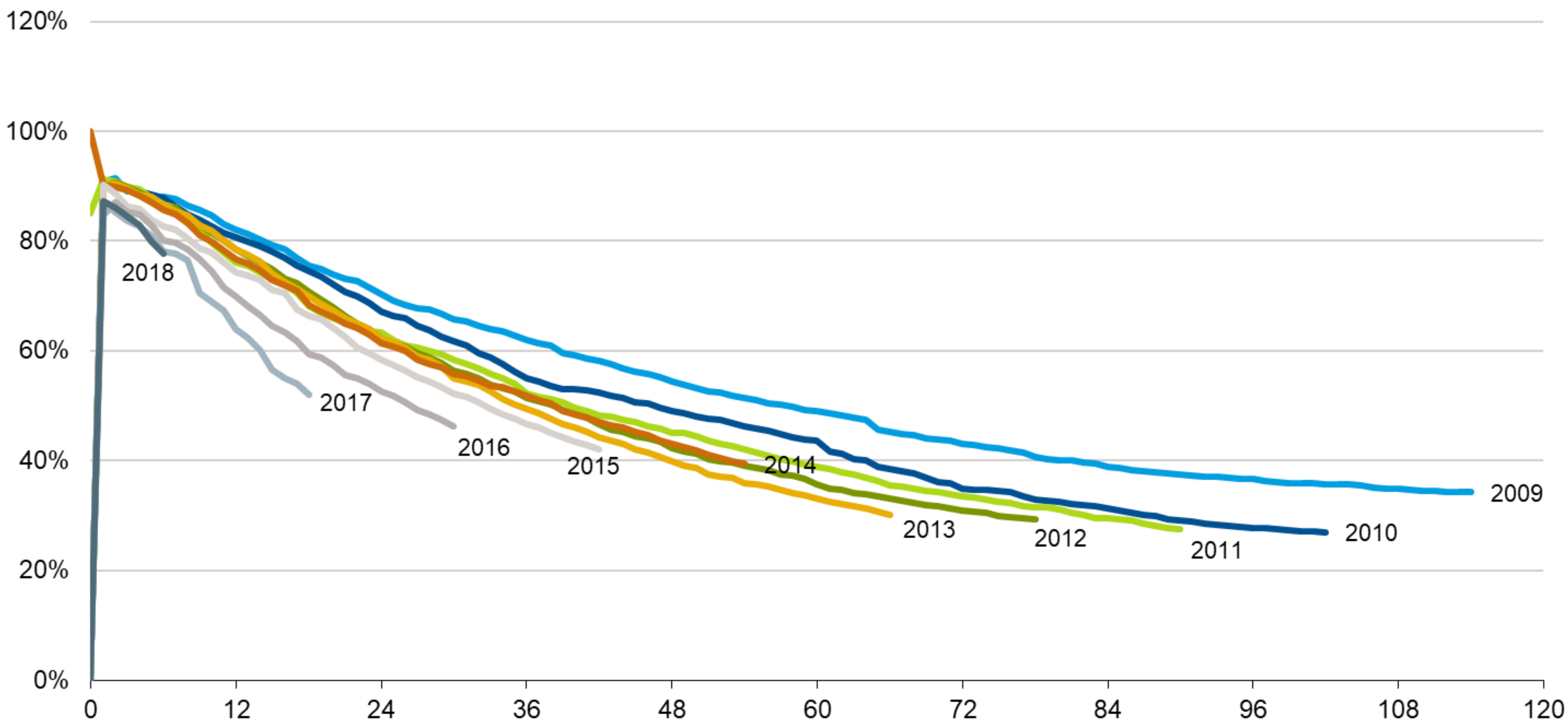
Sample: treaty North America

In relative terms

North America cash flow build-up (UY)

in %



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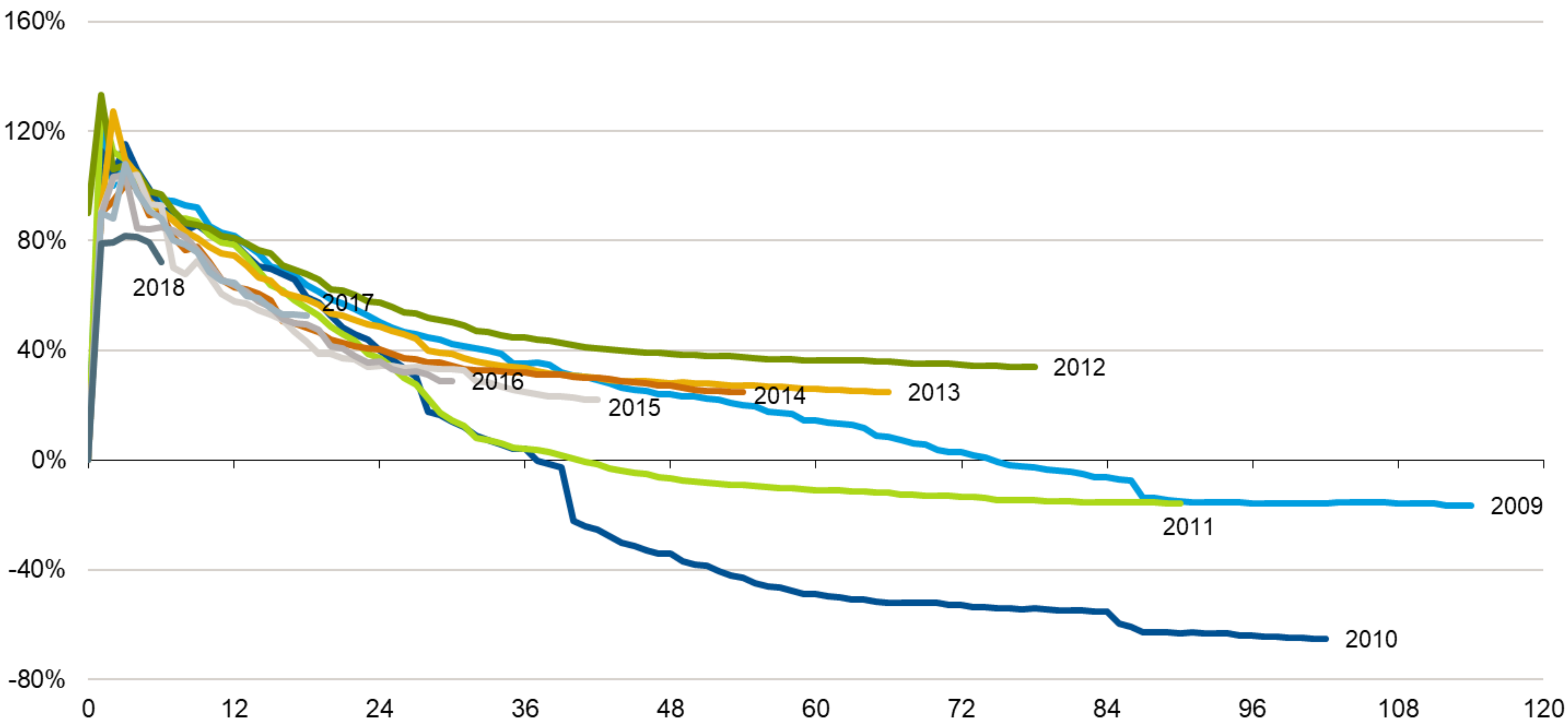
Sample: treaty Asia

In relative terms

Asia cash flow build-up (UY)

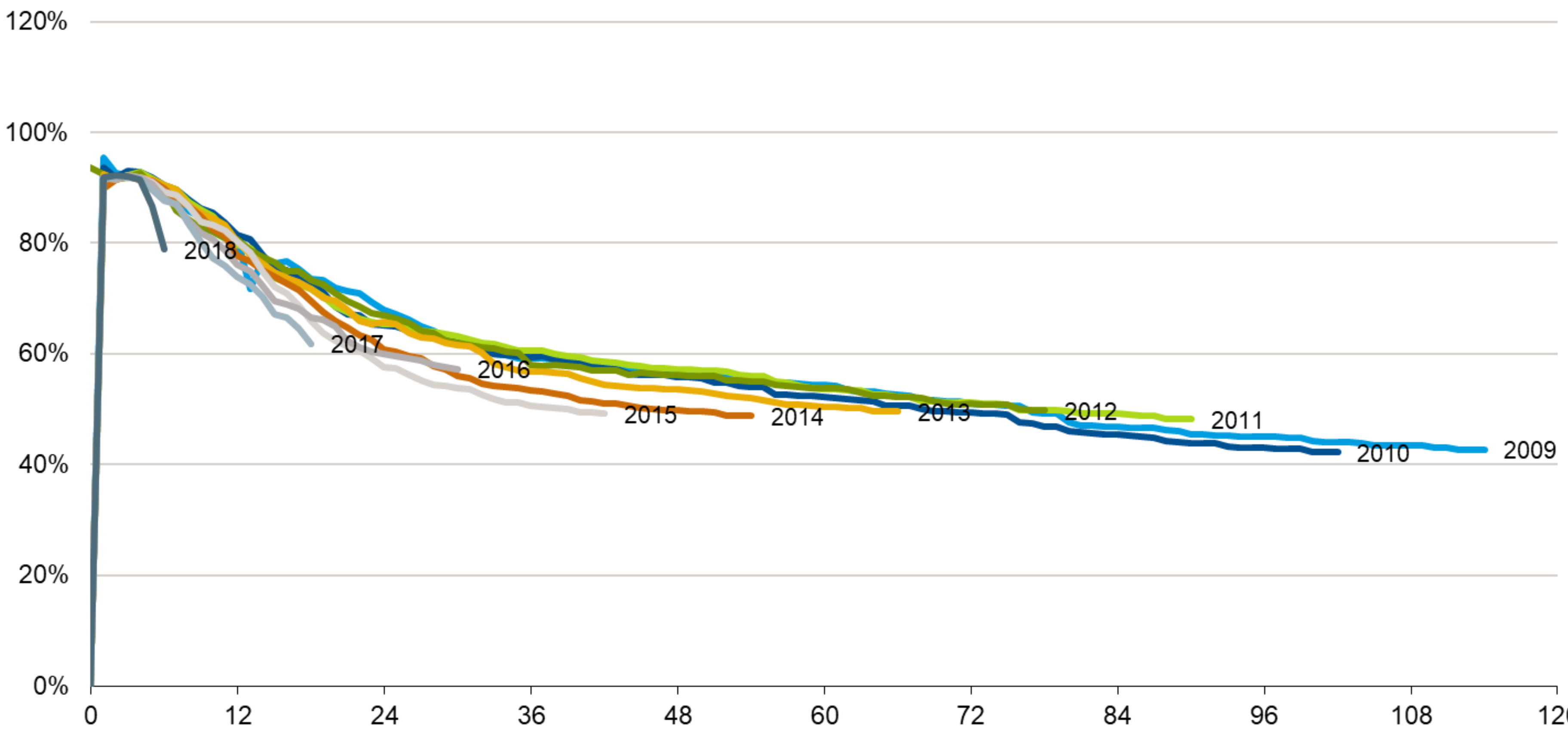


Sample: treaty Europe (excl. UK)

In relative terms

Europe (excl. UK) cash flow build-up (UY)

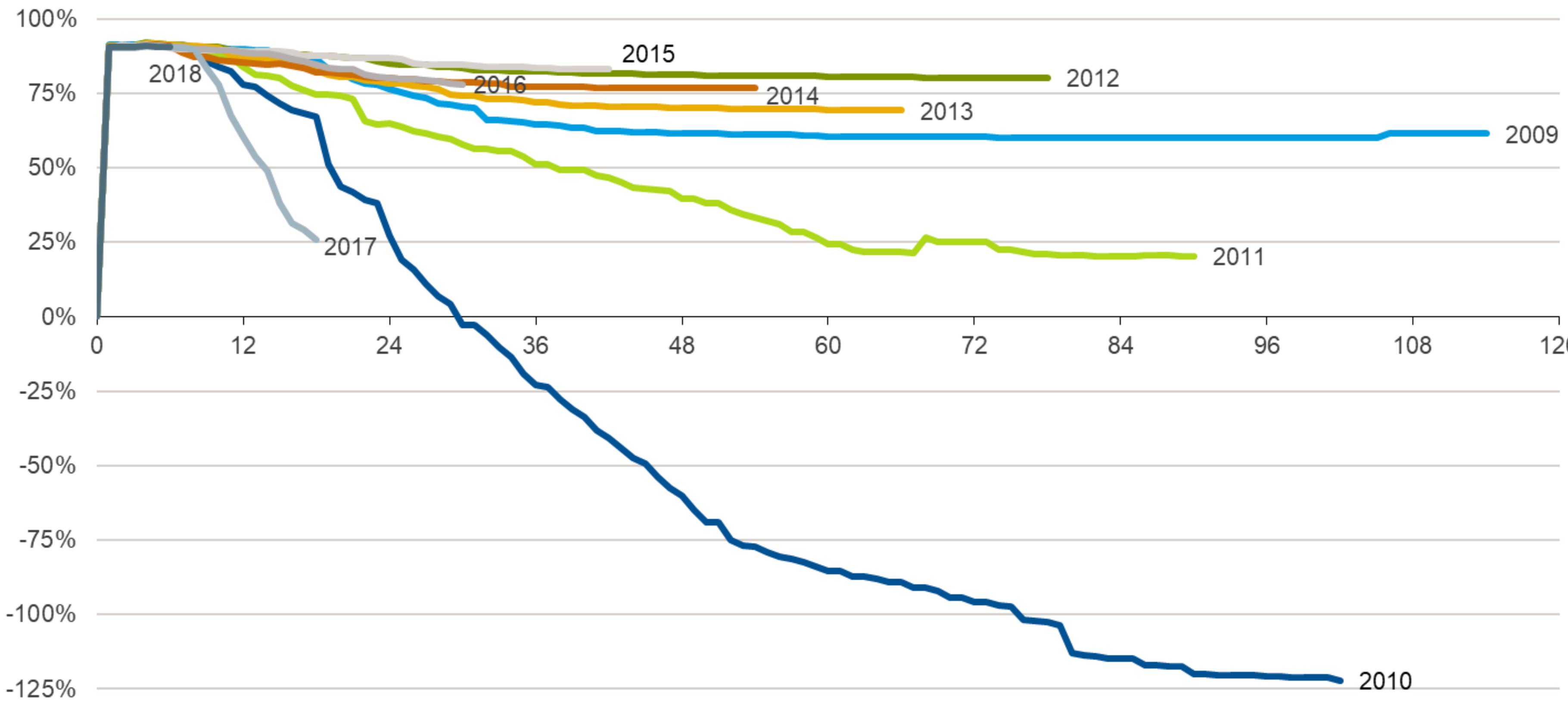
in %



Sample: treaty NatCat XL
In relative terms

NatCat XL cash flow build-up (UY)

UY in %



A balance sheet made of concrete

P&C balance sheet structure of Hannover Rück SE

in EUR thousand	2017
Assets	
Intangible assets	69,384
Investments	34,460,839
Receivables	2,894,030
Other assets	292,824
Prepayments and accrued income	165,263
Total assets	37,882,340
Liabilities	
Subscribed capital	120,597
Capital reserve	880,608
Retained earnings	630,511
Disposable profit	1,274,000
Capital and reserves	2,905,716
Subordinated liabilities	1,500,000
Technical provisions	30,226,694
Provisions for other risks and charges	371,949
Deposits received from retrocessionaires	1,907,577
Other liabilities	970,404
Accruals and deferred income	–
Total liabilities	37,882,340

Investments:

EUR 34 bn.

Technical provisions:

EUR 30 bn.

Our liabilities are secured by sound assets

Conclusion

- Strong balance sheet
- Cash flow covers EBIT + costs (incl. increase in future claims provisions, if any)
- Non-proportional business creates desired cash flow
- Appropriate mix of proportional and non-proportional business allows the financing of increasing liabilities
- Cycle management is critical for cash flow build-up
- “Cash flow underwriting” is important and is becoming even more important in the years to come
- Translates into funds available for investment

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Concluding remarks and outlook

Ulrich Wallin, Chief Executive Officer

21st International Investors' Day
London, 18 October 2018

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Key takeaways from our 21st Investors' Day

- Hannover Re is well positioned to continue its positive development in an attractive reinsurance market
- Hannover Re is well capitalised and has flexibility to manage its capital position
- High level of reserve redundancies safeguards profitability of our P&C business
- We are confident to grow our P&C reinsurance market share top and bottom line based on our competitive advantages
- P&C reinsurance is a strong contributor of cash flow, fuelling further growth in AuM
- Stabilising RoI and growing AuM will lead to an increasing investment income in the medium term
- We expect significantly increased EBIT growth from 2019 onwards in L&H reinsurance
  - based on good underlying profitability and solving the problems with US mortality legacy book

We create value for clients, shareholders and employees

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