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ANALYSTS' AND INVESTORS' CALL 2018

# Executing business opportunities

Munich, 15 March 2018

## 1 Executing business opportunities

Joachim Wenning

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## 3 ERGO

Markus Rieß

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Jörg Schneider

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## 4 Reinsurance

Torsten Jeworrek

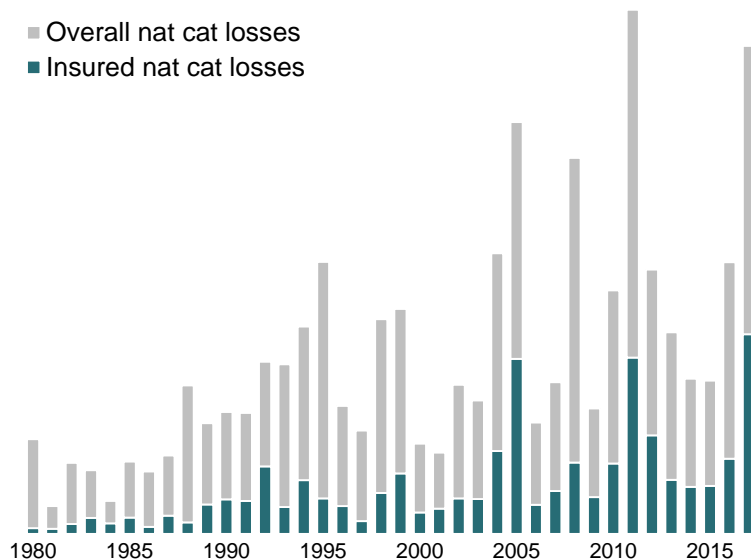
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## 5 Additional information

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# A year of record-high insured natural catastrophe losses

## Record-high insured nat cat losses of US\$ 135bn



## Munich Re delivers good underlying results

IFRS  
NET INCOME

€0.4bn

Diversification  
proved beneficial

GERMAN GAAP (HGB)  
DISTRIBUTABLE EARNINGS

€4.0bn

Safeguards  
capital repatriation

NORMALISED  
NET RESULT

~€2.2bn

Adjusted for severe nat cats  
in line with guidance<sup>1</sup>

SOLVENCY II  
RATIO

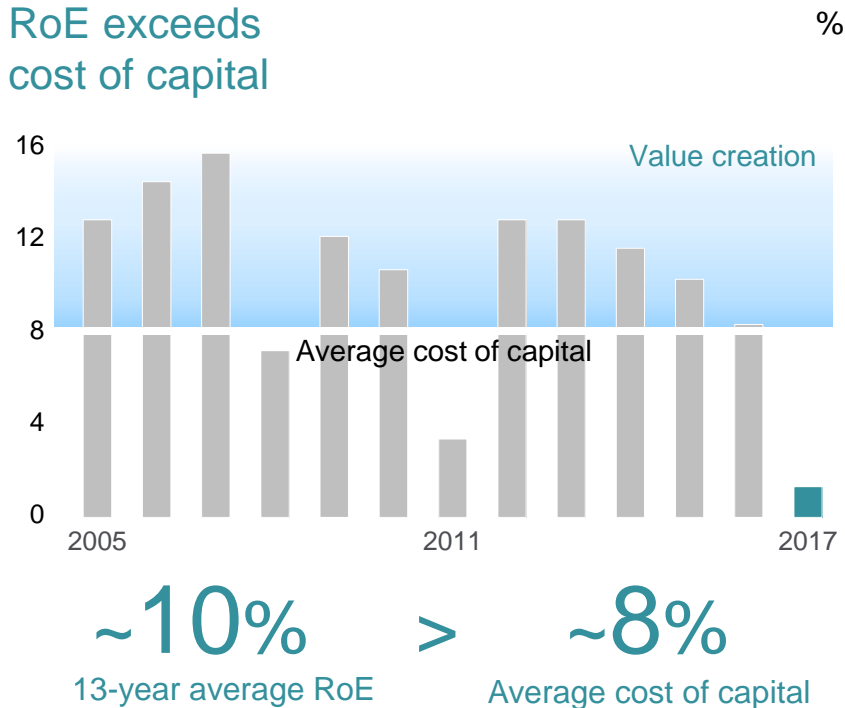
244%

Well above  
target capitalisation

<sup>1</sup> Adjusted for 8%-pts. nat cat expectation.

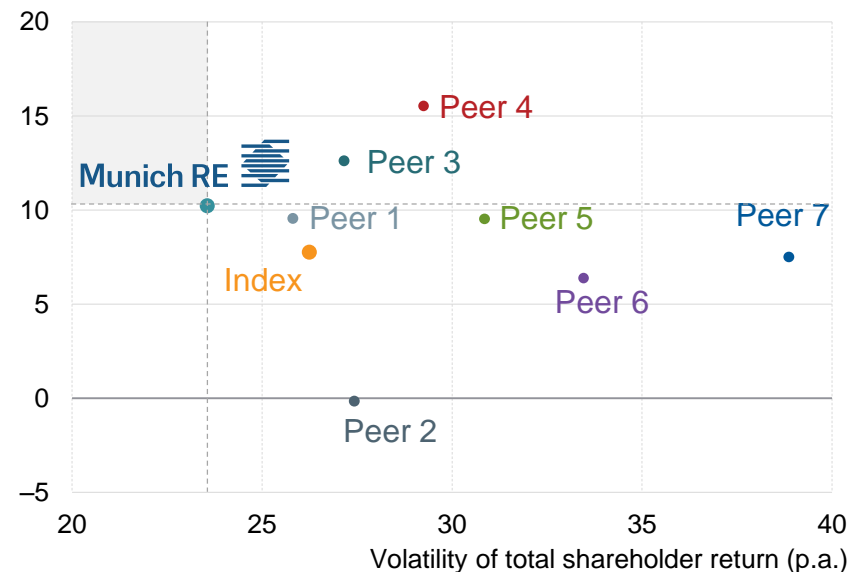
# Despite loss volatility, Munich Re proves a superior risk/return profile

## RoE exceeds cost of capital



## Performance vs. major peers and insurance index<sup>1</sup>

Total shareholder return (p.a.)



<sup>1</sup> Annualised total shareholder return defined as price performance plus dividend yield over the period from 1.1.2005 until 28.2.2018; based on Bloomberg data in local currency; volatility calculation with 250 trading days per year. Peers: Allianz, Axa, Generali, Hannover Re, Scor, Swiss Re, ZIG, Stoxx Europe 600 Insurance ("index").

# Strong balance sheet allows us to execute business opportunities



## STRONG BALANCE SHEET

▲ facilitating earnings growth

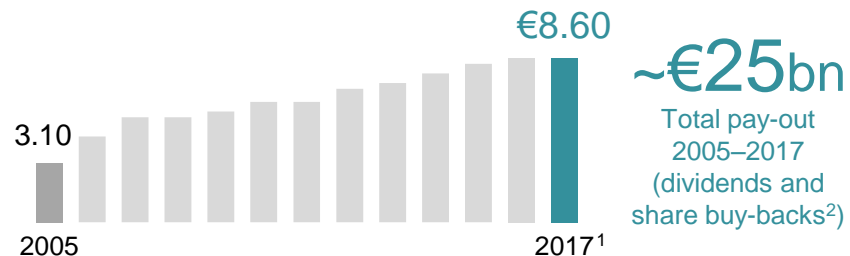
### CAPITAL DEPLOYMENT

- ✓ Organic growth
- ✓ M&A
- ✓ Partnerships

▼ enabling

### HIGH CAPITAL RETURN

Sustainable dividend per share growth



# Executing strategic priorities of the Group (1/2)

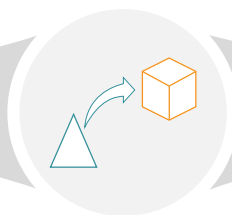
## STRATEGIC PRIORITIES



### Earnings stabilisation and increase of earnings power

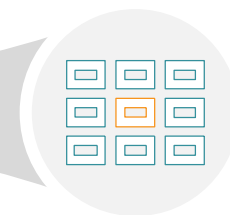
Focus on

- Profitability
- Business development
- Building new business models



### Digital transformation

- Focus on leveraging all our strengths<sup>1</sup>



### Leanness, complexity reduction

- Focus on business and smart governance
- De-focus from rest, and divest from sub-critical business

<sup>1</sup> Details provided at the Investor Day on 21 November 2017.

# Executing strategic priorities of the Group (2/2)



## GROUP

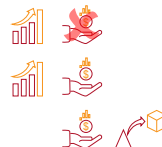


Corporate venture-capital activities

Munich Health integration into ERGO and Reinsurance

Interlocked business model

## ERGO



German life back-book: New platform

Portfolio streamlining of international operations

nexible, Mobility Solutions, Digital IT, ...

## REINSURANCE



Business growth in traditional Reinsurance

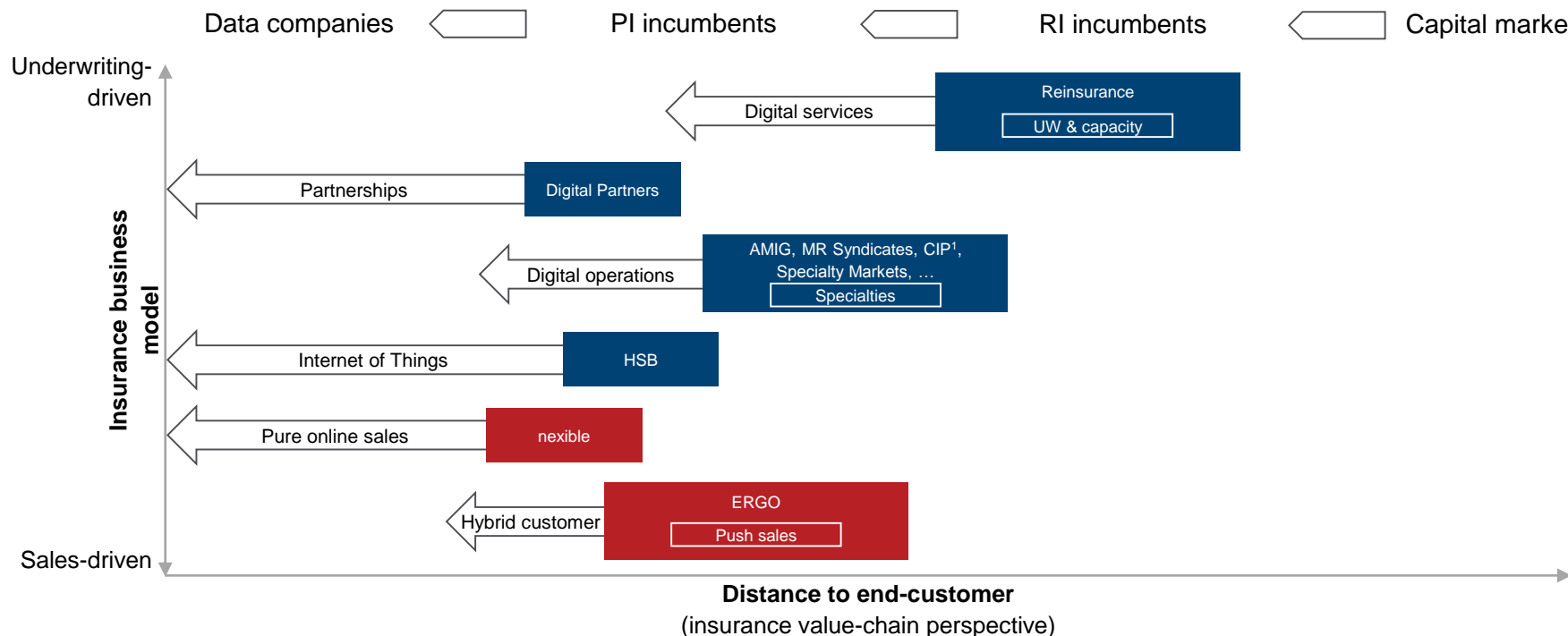
Business growth in Risk Solutions

Run growing traditional book at lower cost

Increasing investments into transformation competence and business cases: Digital Partners, IoT, data and analytics, cyber, multi-channel distribution, ...

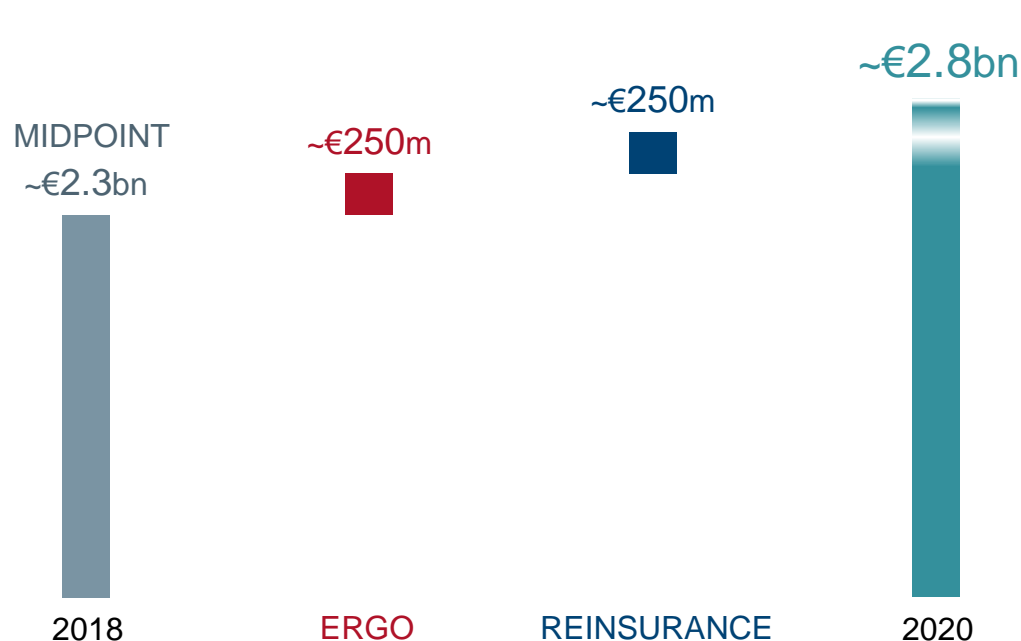
# Leverage traditional value creation and transform businesses to reduce distance to end customer

– ILLUSTRATIVE –





## Medium-term ambition – Pushing IFRS earnings beyond current level



**ERGO >€0.5bn by 2020** 

Strategy Programme well on track

- Substantial investments to strengthen position as leading primary insurer
- Cost savings to improve competitiveness

**REINSURANCE ~€2.3bn by 2020** 

Improving earnings quality in property-casualty

- Growth initiatives to increase underwriting result, including cost savings
- Prudent assumption as regards reserves – in tendency lower investment disposal gains, reserve releases cautiously set at 4%-points

# Group Finance

2

# Nat cats dominating 2017

## REINSURANCE NET INCOME

**€120m** (€2,540m)

High nat cat claims, strong life and health result, tax income, FX losses

## ERGO NET INCOME

**€273m** (€41m)

Above guidance –  
Strategy Programme well on track

## HGB RESULT

**€2.2bn** (€3.4bn)

Release of equalisation provision  
mitigates high nat cat losses

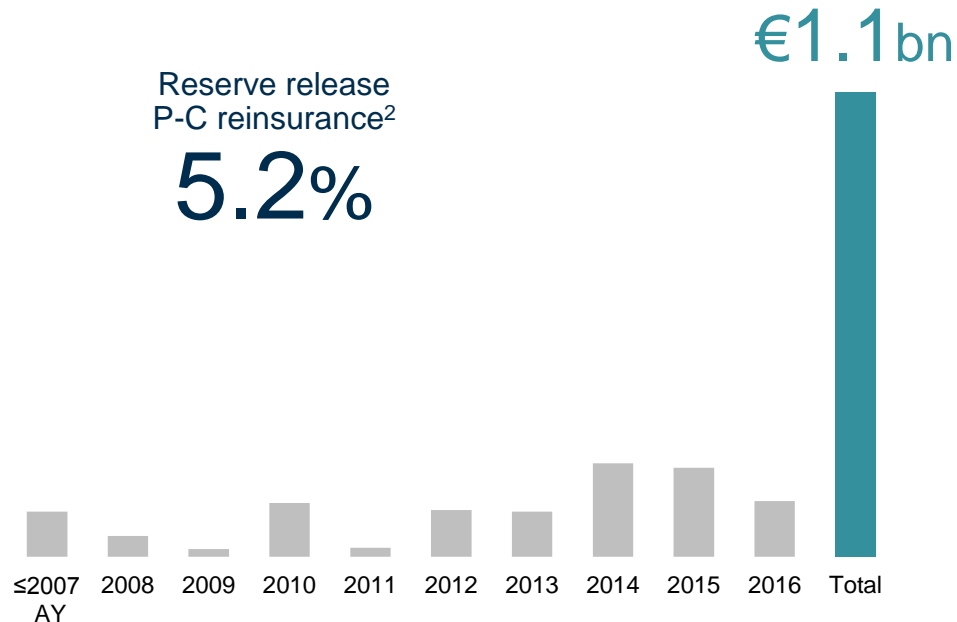
## ECONOMIC EARNINGS

**€0.5bn** (€2.3bn)

Nat-cat-driven economic losses in  
P-C Reinsurance offset by pleasing  
performance at ERGO and L/H Reinsurance

# Prudent approach allows for reserve releases without weakening resilience against future volatility

## Run-off change of ultimate basic and major losses<sup>1</sup>



- Prudent reserving approach
  - For example Ogden rate fully anticipated – no adverse P&L impact in 2016/17 (reserves still based on –0.75%)
  - Cautious reaction to signs of deterioration in selected casualty portfolios
  - Cautious initial loss picks for new underwriting year
- Positive run-off responds to benign loss emergence while preserving confidence level
- Strong reserving position, resilient to a rise in inflation

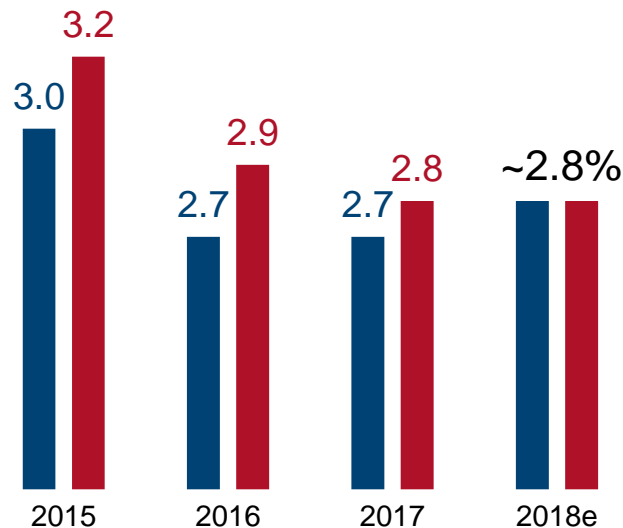
<sup>1</sup> Accident year split is partly based on approximations. <sup>2</sup> Basic losses, adjusted for commission effects.

# Trough of running yield attrition reached – Diversification and real investments improve return

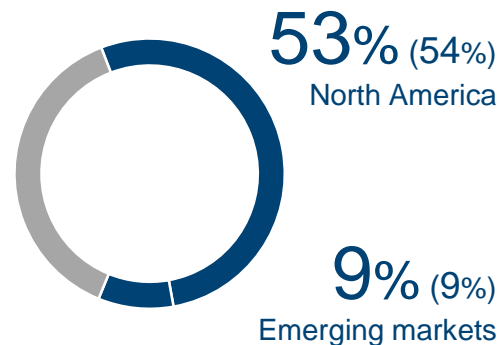
## Running yield

%

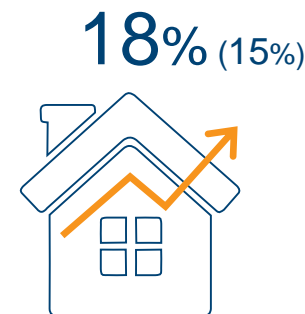
■ Reinsurance ■ ERGO



## Reinsurance portfolio – Enhancement of running yield

Fixed-income<sup>1</sup>

Ongoing diversification –  
Investments in countries  
with higher yields

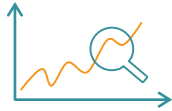
Share of real investments<sup>1</sup>

Cautious increase in  
real estate, infrastructure,  
private and public equity

<sup>1</sup> As at 31.12.2017 (31.12.2016).

# Beneficial Group structure – Reinsurance business mostly concentrated at parent Munich Reinsurance company

## Capital management



- Strong balance sheet of the parent company, very high liquidity
- Limited dependency on dividend upstreaming due to substantial earnings power of parent company
- Fast recovery of tax losses
- Distributable earnings (German GAAP) protected by equalisation provision, buffering loss volatility

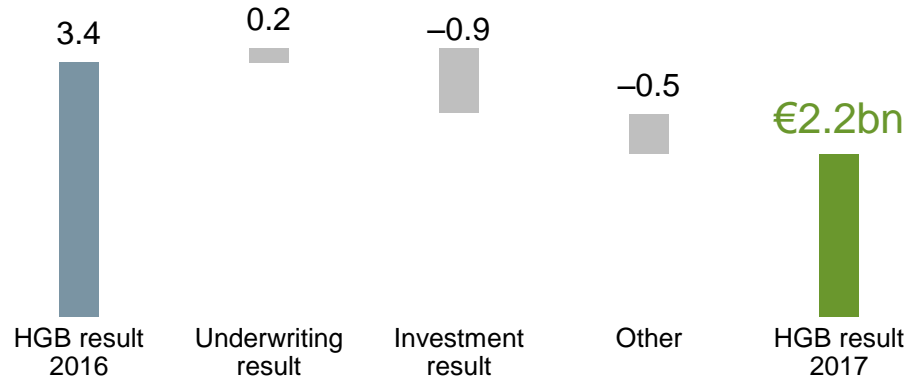
## Financial efficiency and flexibility



- Parent company serving as central hub, allowing for swift transfer of capital and liquidity throughout the Group
- Ensuring sufficient capitalisation at subsidiary level as regards regulatory, rating and business requirements, ...
- ... while capitalising on strong credit profile and preferred access to capital markets

# HGB result in 2017 meets capital repatriation of ~€2.3bn

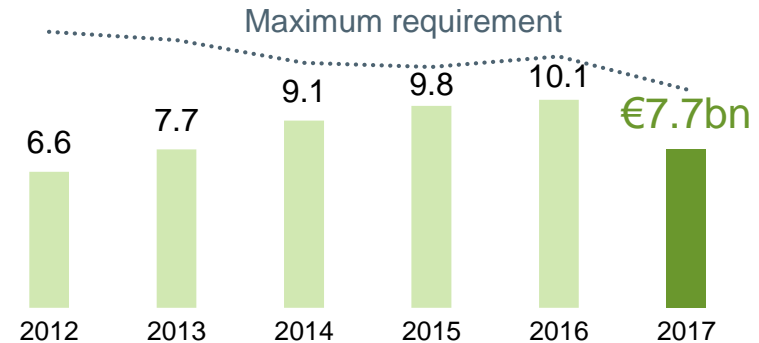
## HGB result



- Underwriting result stabilised by releases of equalisation provision
- Investments: Lower dividend income from subsidiaries and lower disposal gains (intra-Group disposal gains in 2016)
- Other: Lower FX result partly offset by lower tax expenses
- Level of distributable earnings almost unchanged at €4.0bn

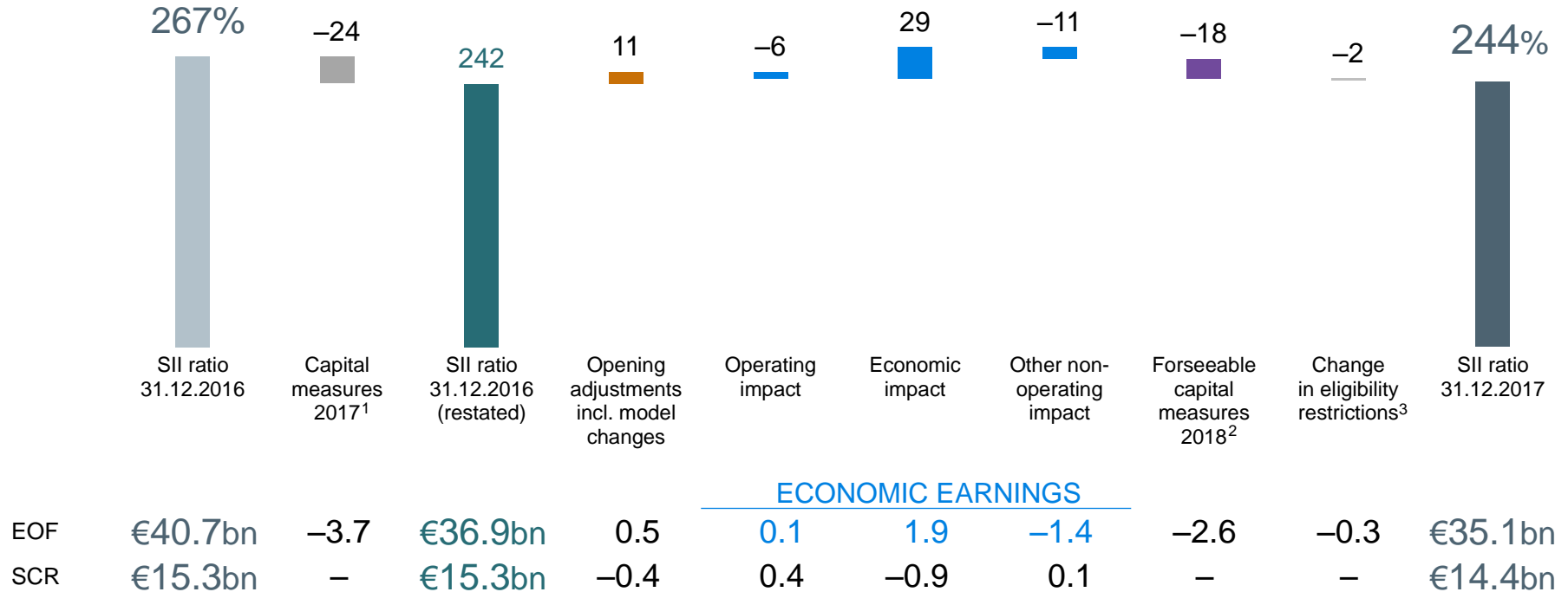
## Equalisation provision

ILLUSTRATIVE



- 2012–2016: Strengthening of reserve
- 2017: Relief in fire and aviation
- Replenishment in the following years

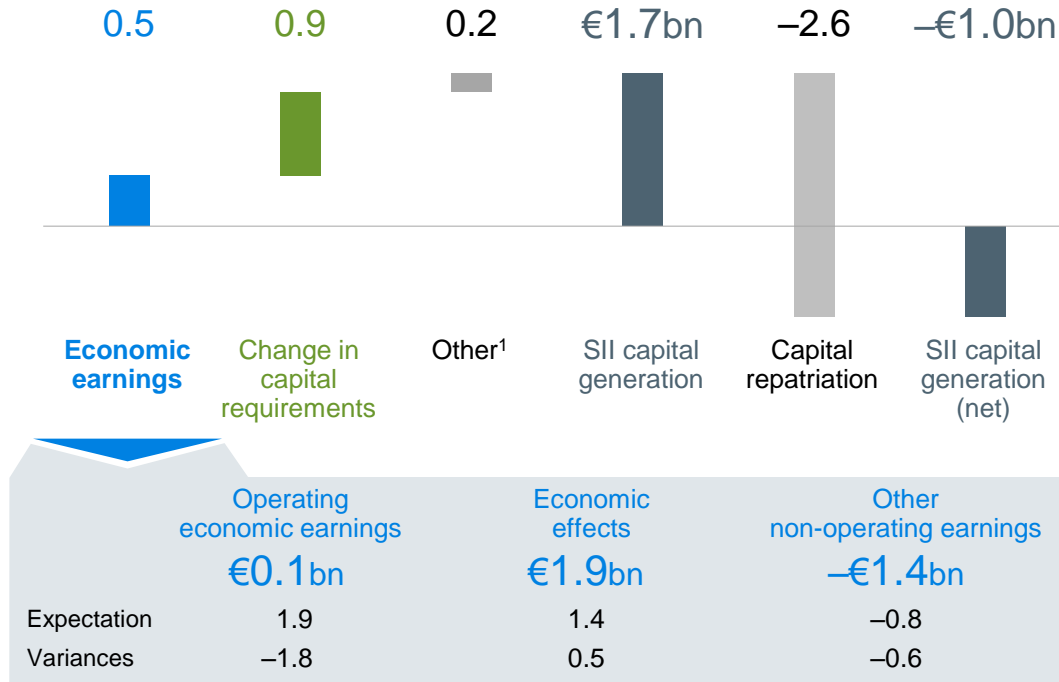
# SII ratio in a comfortable range



Operating impact and economic impact pre tax; taxes incl. in other non-operating impact. 1 Dividend payment in 2017 (€1.3bn), share buy-back (€1.0bn) and repayment of subordinated bond in 2017 (€1.4bn). 2 Foreseeable dividend for 2017 (€1.3bn), foreseeable share buy-back in 2018/19 (€1.0bn) and foreseeable repayment of subordinated bond in 2018 (€0.3bn). 3 Change in non-available own fund items.



# Nat cat impact on economic earnings influences capital generation



## Change in capital requirements

Reduction mainly driven by

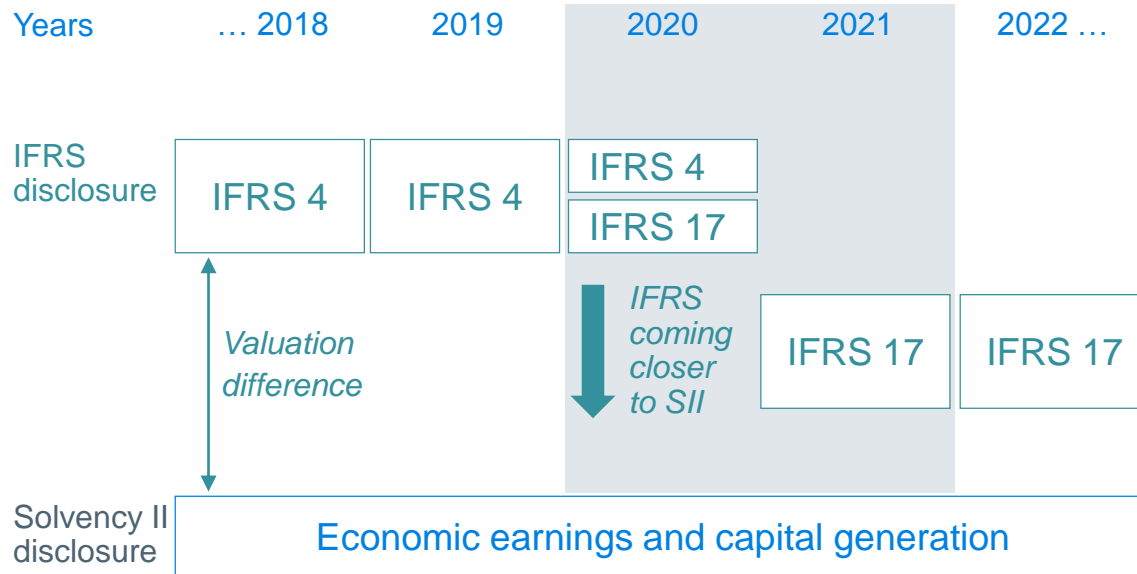
- FX (strong euro)
- Higher interest rates

## Economic earnings

- Operating: Reinsurance P-C impacted by major losses, pleasing contribution from Reinsurance Life/Health and ERGO
- Economic effects: Benefit from benign capital markets (interest rates, equities, credit spreads) partly offset by FX losses
- Other non-operating including tax effects
- Expected economic earnings of €2.4bn<sup>2</sup> supporting current level of capital repatriation

<sup>1</sup> Opening adjustments EOF (€0.5bn) and change in non-available own fund items (-€0.3bn). <sup>2</sup> Further details see slide 45.

# Economic earnings as a continuous performance measure in course of uncertain IFRS transition



- Economic earnings as established and increasingly matured reporting metric providing high transparency during uncertain IFRS transition
- Economic earnings not perfectly suited regarding earnings guidance due to limited cross-sector comparability and volatility due to economic valuation
- IFRS net result as a proxy for medium-term profitability guidance until IFRS 17/9 introduction
- New long-term target KPI to be introduced after the transition to IFRS 17/9

Delivering on IFRS while keeping up transparency on economic performance reporting through SII disclosure

# Outlook 2018

## GROUP

Gross premiums written

€46–49bn

Net result

€2.1–2.5bn

Return  
on investment

~3%

## REINSURANCE

Gross premiums written

€29–31bn

Net result

€1.8–2.2bn

P-C  
combined ratio<sup>1</sup>

~99%

L/H technical result  
incl. fee income

≥€475m

## ERGO

Gross premiums written

€17–18bn

Net result

€250–300m

P-C combined ratio  
Germany International

~96%

~97%

<sup>1</sup> Expectation of reserve releases in 2018 of at least 4%-pts.

ERGO

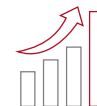
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# ERGO Strategy Programme (ESP) on track – Groundwork for growth laid – first success visible

	Guidance 2017	Actual 2017	ESP Plan 2020
Total premiums ERGO	€18–19bn <sup>1</sup>	€18.5bn	€19.5bn
Net profit ERGO	€200–250m <sup>2</sup>	€273m	~€530m
Investments (net)	€259m <sup>3</sup>	€170m	€1,008m
Total cost savings (accumulated)	€96m <sup>3</sup>	€91m	€279m
Combined ratio P-C Germany	98% <sup>2</sup>	97.5%	92%

## GROUNDWORK FOR GROWTH

- Sales: Overheads reduced by 36%
- New products launched – revamping of portfolio P-C, Life and investment funds moving ahead
- Sales results 2017 higher than planned



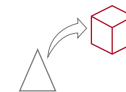
## INNOVATIVE INITIATIVES

- Successful start of nexible in Germany
- Strategic partnership with Deutsche Telekom to develop Safe Home won “Insurance Innovation of the Year”
- ERGO Mobility Solutions started, strategic partnership with Ford Germany



## DIGITAL TRANSFORMATION PROCEEDS

- Go-live of ERGO group-wide customer self-service portal, number of users increased by 43% to 685,000
- STP<sup>4</sup> in P-C from 2015 to 2017 significantly increased, e.g. in motor to 53% (37%), in legal protection to 66% (52%)
- Digital IT fully up and running – currently ~120 experts at locations in Berlin and Warsaw



# ESP – Timeline

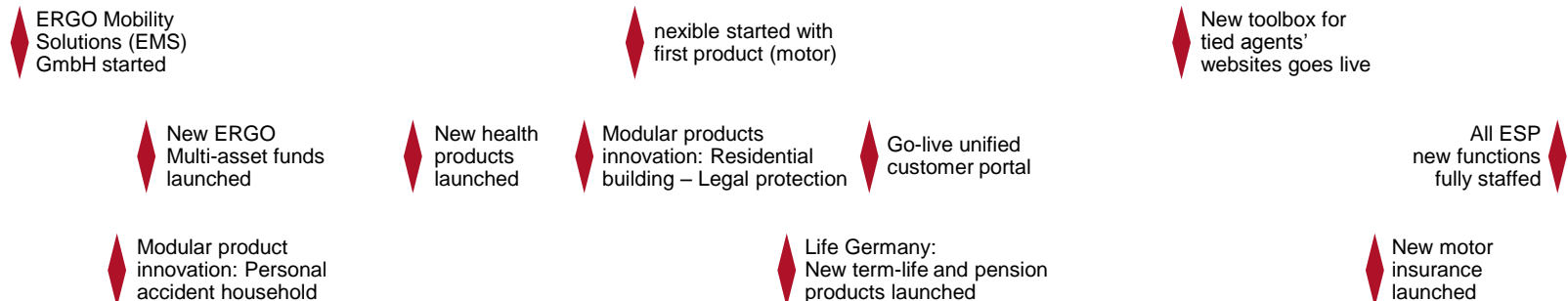
## Fit



## Digital



## Successful!



Q1 2017

Q2 2017

Q3 2017

Q4 2017

Q1 2018

Q2 2018

Q3 2018

Q4 2018

# Life and Health Germany – Status 2017

## GROSS PREMIUMS WRITTEN

€9.2bn (€9.2bn)

Four new life and pension products  
for individual coverage  
Supplementary health:  
market leadership extended

## NET RESULT

€175m (€114m)

Enhanced profitability in Life,  
Health and Direct business  
supported by one-offs in Life

## RETURN ON INVESTMENT

3.5% (3.6%)

Significantly lower derivatives result –  
positive effects from disposal gains

# Life Germany – New set-up for traditional book, revised product portfolio

## Strategic rationale

- Decision to keep and manage traditional life back-book – make most of value potential
- Run-off significantly improves capital position
- Dividends from traditional life companies for 2017
  - ▶ Continuous free-up of tied capital expected
  - ▶ Opportunity to unlock earnings potential in in-force

## Ringfencing of back-book – building on expertise

- Long duration of fixed-income portfolio with return of 3.0% – above-average guarantee<sup>1</sup> (2.1%)
- ALM: Asset/liability duration difference about 1 year
- Hedging programme against reinvestment risk in place since 2005 – continuous roll-over and adjustments
- Cash flows matched for 40 years

## Managing the run-off

- Separate organisational unit for traditional life business established – fully operational as at 1 January 2018
- ERGO and IBM agreed on life portfolio management partnership – start of migration onto new IT platform in 2018
- Medium-term ambition: transform existing entity into a professional run-off business model
  - ▶ Significant earnings potential by reduction of IT costs (sourcing/partnership) and realisation of efficiency gains

## New business approach – revised product portfolio

- New business via ERGO Vorsorge
- New product suite focusing on biometric and capital-efficient products
- New life and pension products successfully launched in 12/2017
- Dependency on products with long-term interest guarantees will be significantly lower compared with traditional life book

<sup>1</sup> Actuarial interest rate incl. effect of ZZR. German GAAP figures.



# Property-casualty Germany – Status 2017

## GROSS PREMIUMS WRITTEN

**€3.3bn** (€3.2bn)

Growth mainly driven by  
fire/property and marine  
New modular product concept  
with consistent look and  
feel fully implemented

## NET RESULT

**€57m** (–€72m)

Non-recurring restructuring  
expenses and higher investment  
gains – expectations exceeded

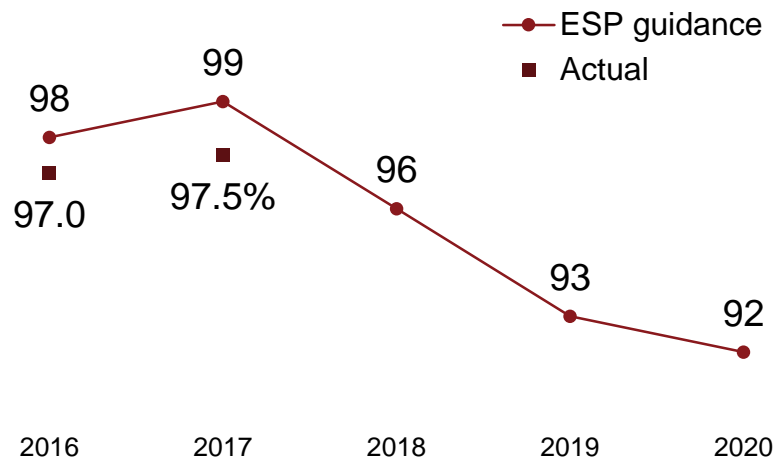
## COMBINED RATIO

**97.5%** (97.0%)

Better than ERGO Strategy  
Programme guidance (–1.5%-pt.)  
Strategic investments with impact  
of ~2.7%-pts. on combined ratio  
Peak level reached as expected –  
gradual improvement until 2020

# Property-casualty Germany – Shaping and strengthening a balanced portfolio

## P-C Germany – Combined ratio



Significant cost reduction in the medium term – Improvement of expense ratio main driver of higher profitability

## Product innovations

### Private clients 2017

- New modular product concept and consistent look and feel fully implemented in 2017
  - Personal accident, homeowners', household and legal expenses
- Sale of smart home solution started in cooperation with Deutsche Telekom (ERGO Safe Home)

### Prospects 2018

- Private clients
  - Focus on hybrid customer and new motor tariff
  - Product adjustments in liability and personal accident
- Commercial/Industrial clients
  - Focus on digital transformation
  - Product facelift, e.g. cyber and liability

# International – Status 2017

## PROPERTY-CASUALTY GROSS PREMIUMS WRITTEN

**€2.8bn** (€2.5bn)

Strong new business growth –  
driven by motor business in Poland,  
acquisition of ATE in Greece

## LIFE GROSS PREMIUMS WRITTEN

**€0.9bn** (€1.2bn)

De-risking of traditional life  
business continued as planned –  
bancassurance reduced in Poland

## HEALTH GROSS PREMIUMS WRITTEN

**€1.4bn** (€1.4bn)

Successful further  
development due to growth  
in Spain and Belgium

## COMBINED RATIO

**95.3%** (98.0%)

Significantly better  
than recent target of 97%  
Overall improvement in claims and  
costs, mainly on account of good  
developments in Poland

## NET RESULT

**€40m** (–€1m)

Positive development in  
several markets, e. g. P-C  
business in Poland and India –  
partly offset by one-off effects,  
e.g. in Belgium

# International portfolio management

## STRATEGY WELL ON TRACK



- Fostering strong market positions, e.g. in Poland (P-C result of +€50m in 2017) and India (31% profitable growth in 2017)
- Belgium: Run-down successfully initiated, de-risking of life business
- First results of portfolio optimisation: Sale of entities in Switzerland, Slovakia and Luxembourg
- Successful integration of international health business
- New governance implemented and executed

We laid a solid base for  
our international business ...

## ONGOING PORTFOLIO OPTIMISATION



- Analysing further divestment opportunities
- Realising efficiency gains and enhancing productivity
- nexible to launch its Austrian operations in 2018
- Coherent cost-saving programme initiated

... with multiple  
initiatives on the way ...

## ACHIEVING MEDIUM- TERM TARGETS



- Completing portfolio optimisation
- Identifying and securing new markets and business opportunities
- Driving technological innovation and thought leadership across all international business activities

... to further  
improve profitability

# Reinsurance

4

# Substantial impact of large nat cat losses in P-C – Favourable claims experience in Life and Health

## NET RESULT

**–€476m** (€2,025m)

Accumulation of  
large nat cat losses –  
sound underlying profitability

## PROPERTY-CASUALTY

### COMBINED RATIO

**114.1%** (95.7%)

Substantial impact from  
hurricanes Harvey, Irma and Maria –  
normalised combined ratio ~100%

## RESERVE RELEASES

**5.2%** (5.5%)

Confidence level  
preserved

## LIFE AND HEALTH

### NET RESULT

**€596m** (€515m)

Positive one-off effect  
of US tax reform

### TECHNICAL RESULT INCL. FEE INCOME

**€428m** (€561m)

Close to original guidance,  
despite strain from US  
in-force management

### NEW BUSINESS VALUE (NBV)

**€1.1bn** (€1.2bn)

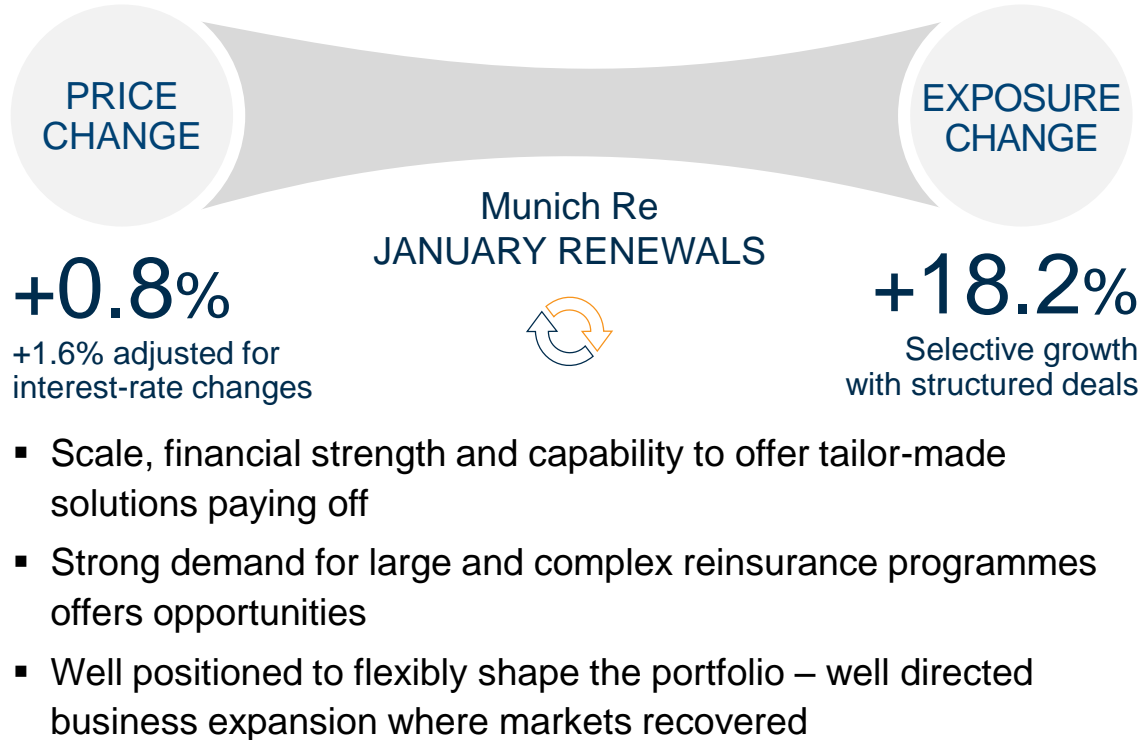
Very attractive level – driven by strong  
traditional business development in  
NA and Asia as well as FinMoRe

# January renewals driven by recent hurricane events – Munich Re able to capitalise on value proposition

## MARKET DEVELOPMENTS

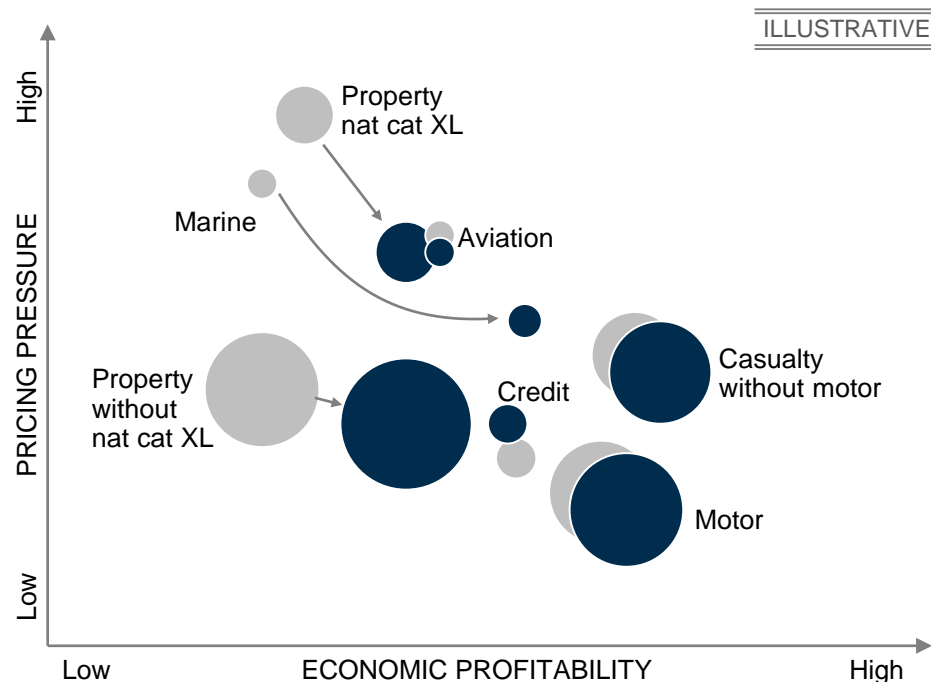


- Substantial price increases in cat-loss-affected business lines and regions
- Selective price increases in other segments, esp. casualty
- Stabilisation elsewhere
- Traditional reinsurance capital: stable overall
- Alternative capital: remains at a high level



# Firming market environment post HIM – Total portfolio profitability comfortably exceeds cost of capital

## Traditional P-C portfolio – Outlook 2018<sup>1</sup>



### OVERALL

Expected profitability is up, pricing pressure is down

### PROPERTY MARINE

Rate increases on loss-affected business, with stabilisation elsewhere

### CASUALTY

Gaining momentum

### AVIATION

Stabilisation

### CREDIT

Ongoing competitive environment – not affected by HIM, no major market loss

### NEW BUSINESS OPPORTUNITIES

Further enhance expected profitability and detach portfolio from potential pricing pressure

<sup>1</sup> Bubble size reflecting gross premiums written as at 31.12.2017 (grey) – Outlook 2018 (blue).



# Significant proof-points for medium-term dynamics through smart growth, new structured quota shares and tailored solutions

## MUNICH RE STRATEGIC ADVANTAGES



Leading underwriting quality



Global reach – regional expertise



Trusted advisor & reliable partner



High, reliable capacity

## TAILORED SOLUTIONS<sup>1</sup>

~30%

## EXAMPLES<sup>2</sup>

Multi-year whole account quota share in Australia – enables new capital strategy for market leader

Multinational reinsurance programme in post-merger situation in the Americas

Large quota share to support growth objectives of a major US personal lines insurer

Comprehensive flight cancellation cover

<sup>1</sup> Related to premium volume in 2017 renewals. <sup>2</sup> Refer to 2017 financial year and January renewals in 2018.

# Munich Re is well positioned to profitably grow its core business fields and drive innovation in the industry

## 1 | TRADITIONAL REINSURANCE

Effectively serving our clients and strengthening the business model

## 2 | RISK SOLUTIONS

Reinforcing underlying profitability and growth

## 3 | NEW STRATEGIC OPTIONS

Building a diversified profit base



# 1 | Strategic initiatives – Significant additional result contribution expected

## BUSINESS GROWTH

### Top position in core mature markets

- Expansion in currently under-represented segments/markets
- Stronger focus on US regional business
- Selective expansion of cat XL business

### Smart growth in core emerging markets

- Focus on Asia, Latin America and Africa
- Expansion of specialty business
- Public sector development

### Capital management solutions

- Expanding global footprint
- Diversifying portfolio

### Living client centricity

- Shifting client-facing functions to regional centers, e.g. Asia, Latin America
- Strengthening client proximity, e.g. ADVANCE<sup>1</sup>

### First-class underwriting and risk management

- Invest in in-house cyber expertise and technology partnerships

### Efficient and agile processes

- Complexity and cost reduction
- Digitalisation of selective processes and functions

<sup>1</sup> Renewed top-talent programme for clients

## 2 | Risk Solutions: Continued strong earnings contribution adjusted for one-offs – medium-term ambition confirmed

GROSS  
EARNED  
PREMIUMS

€4.5bn (€4.8bn)

Portfolio consolidation –  
profitability over growth

COMBINED  
RATIO

106.7% (95.4%)

Adjusted for one-offs in line with  
medium-term ambition

Organic  
growth



- Hartford Steam Boiler (HSB) personal lines
- American Modern (AMIG)
- Lloyds

Continuous  
M&A screening



- Focus on specialty lines

Build out digital  
capabilities



- HSB multi-channel strategy
- AMIG renewed operational infrastructure

Spearhead  
innovation



- Cyber
- Performance guarantees, e.g. Greentech

# 3 | We invest in data and technology as enablers for innovation and focus on tangible business impact

## MUNICH RE STRATEGIC ADVANTAGES

Domain expertise in underwriting, claims, risk management

Efficient access to new solutions

Global presence

Financial strength

Strong brand and reputation

No IT legacy

### Reshuffling the value chain



- Digital cooperation models (Digital Partners, multi-channel distribution, ...)
- IoT applications and services (via HSB)

### Expanding the boundaries of insurability



- Cyber (re)insurance and embedded service solutions for cedants and insureds
- GWP 2017 US\$ 354m, low loss ratios, stringent accumulation control

### Data-driven solutions



- Digitally augmented underwriting/claims solutions for our cedants

### Investments in technology and people



- Bi-modal IT, smart data analytics, data storage ("data lake"), cooperation with technology analytics providers
- >150 FTEs with data-science background

### Strategic investments in partnerships



- >€60m invested into >10 assets focusing on InsurTech, IoT and data specialists
- Focus on joint value creation

# Life and Health: Tapping growth opportunities in North America and Asia

## Canada

(€5.1bn / 37%)

- Competitive environment, but still very good profits under all metrics
- Leading market position allows for one-off opportunities
- Multi-channel distribution initiative to become a leading writer of group benefits

## USA

(€2.8bn / 20%)

- High new business value with attractive risk-return profile
- Dedication to develop FinMoRe business and predictive analytics to foster growth
- Rigorous in-force management addressing performance issues in pre-2009 legacy block

UK (€1.9bn / 14%)

- Successful FinMoRe and longevity proposition
- Strong results from in-force portfolio
- Unattractive margins in protection business

## Continental Europe

(€0.6bn / 5%)

- Sound but stagnating traditional business overall
- Solvency II generates demand for tailor-made solutions

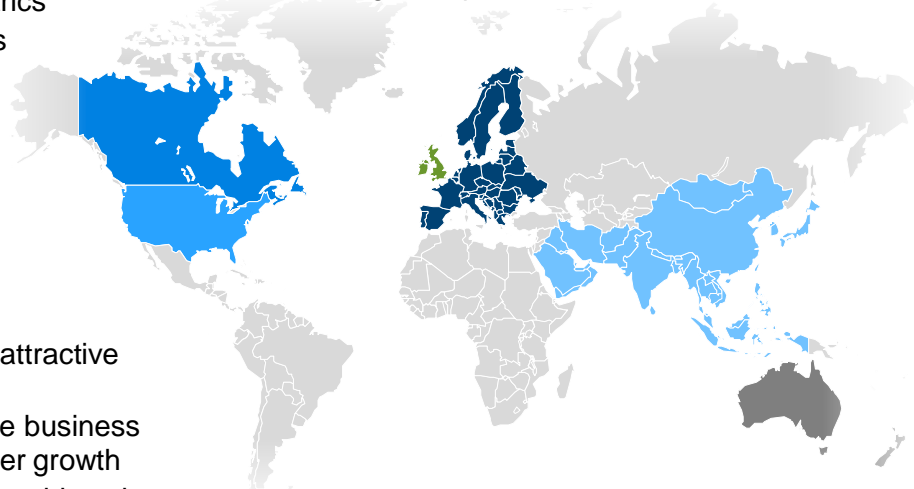
## Asia

(€2.2bn / 16%)

- Pleasing development of new and in-force business
- Persistingly high demand for FinMoRe and successful offering of asset protection
- Substantial contribution from health business

Australia (€0.8bn / 6%)

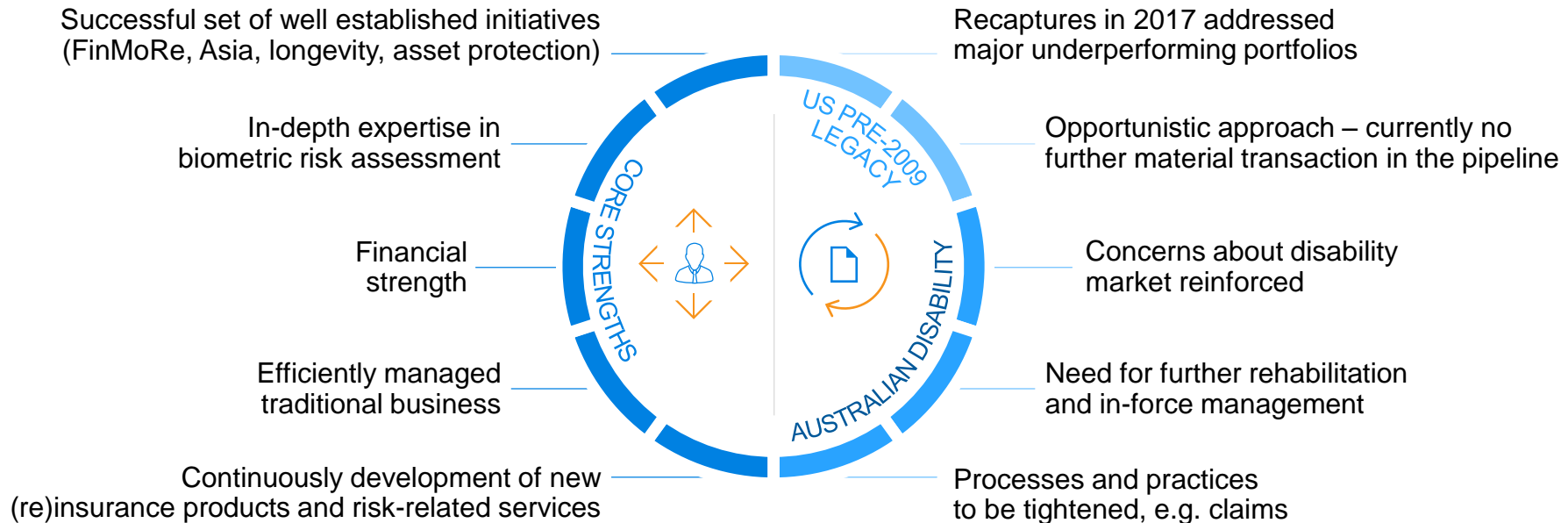
- Rehabilitation efforts and in-force management continue
- Opportunistic approach to new business



# Life and Health: Focus on business opportunities and portfolio management secures future success

## CORE STRENGTHS DRIVING BUSINESS OPPORTUNITIES

## ACTIVE PORTFOLIO MANAGEMENT FIXING ISSUES

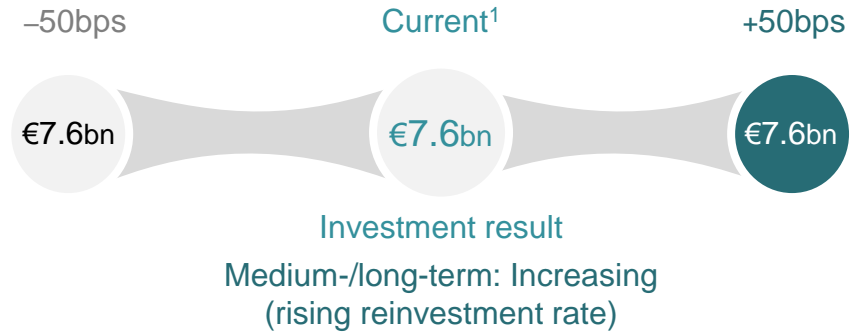
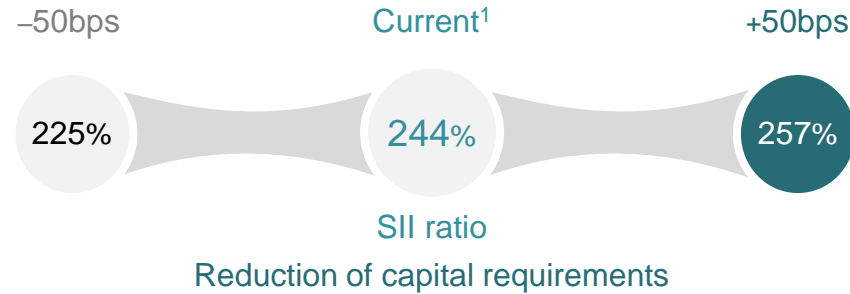


Additional  
information

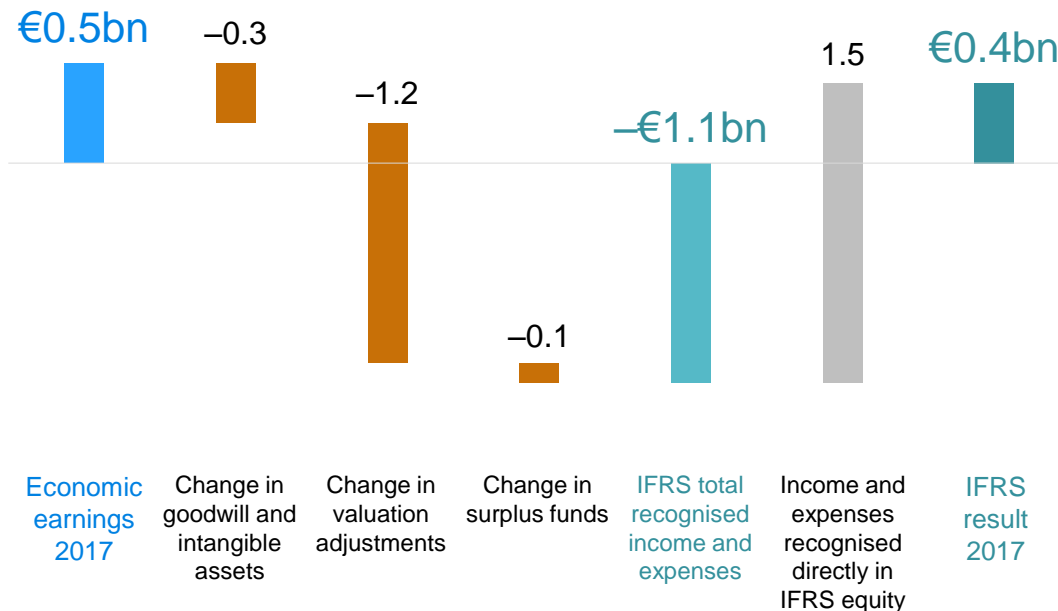
5



# Impact from rising interest rates positive overall, manageable short-term effects



# Reconciliation of economic earnings to IFRS result



## Change in goodwill/intangibles

Not recognised in Solvency II – Reduction of goodwill/intangibles mainly driven by negative currency effects in reinsurance

## Change in valuation adjustments

Assets and liabilities not measured at fair value in IFRS, e.g. loans, technical provisions

## Change in surplus funds

Recognised in Solvency II as own funds, in IFRS as liabilities

## Income and expenses recognised directly in IFRS equity

For example change in unrealised gains and losses and currency translation reserve not considered in IFRS result

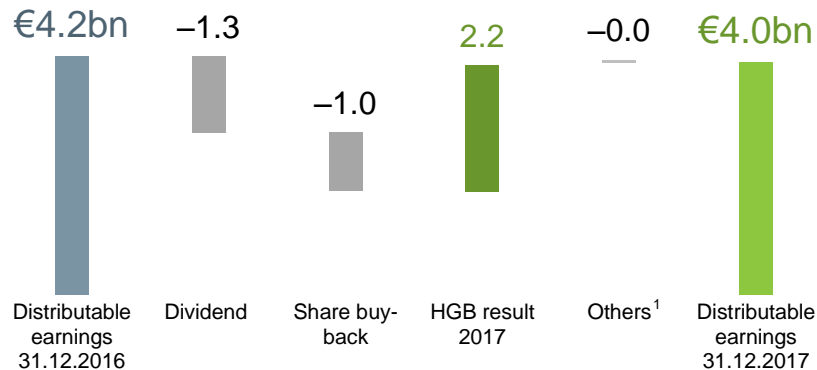
# SII ratios of Munich Re (Group) and solo entities<sup>1</sup>

€bn		EOF (without LTG)	SCR (without LTG)	SII ratio (without LTG)	SII ratio (incl. LTG)
Internal model	Munich Re (Group)	35.1	14.4	244%	297%
	Munich Reinsurance Company	35.3 <sup>2</sup>	14.4	246% <sup>2</sup>	299%
	Munich Re of Malta	2.9	0.6	496%	–
	Great Lakes (£bn)	0.4	0.2	239%	–
	ERGO Versicherung AG	2.2	0.6	383%	–
	DKV	2.9	0.8	372%	–
Standard formula	ERGO Leben	2.4 <sup>3</sup>	1.9	128%	397%
	Victoria Leben	1.4 <sup>4</sup>	0.6	214%	574%
	ERGO Direkt <sup>5</sup>	1.0	0.4	284%	–
	ERGO Austria	0.5 <sup>6</sup>	0.3	175%	342%
	ERGO Belgium Life	0.8	0.4	211%	217%
	ERGO Poland P-C (PLN bn)	2.0	1.5	136%	–

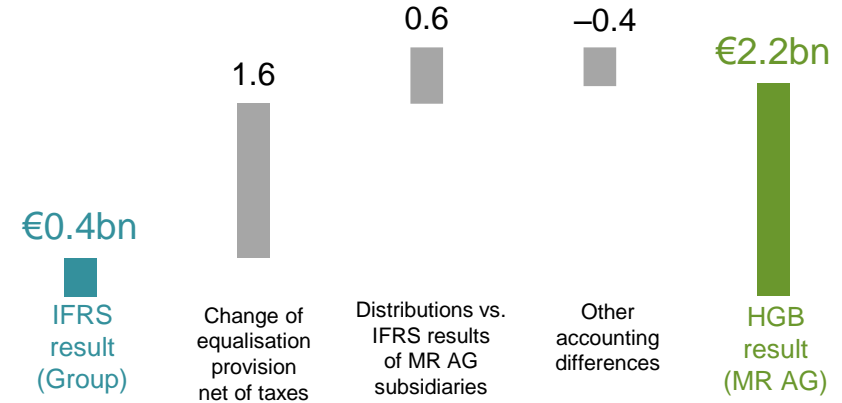
<sup>1</sup> Entities with internal model and selected companies with standard formula application. <sup>2</sup> Pro-forma, deducting impact of LTG measures from ERGO Leben and Victoria Leben.  
<sup>3</sup> Including transitionals €7.3bn. <sup>4</sup> Including transitionals €3.6bn. <sup>5</sup> SCR-weighted average of ERGO Direkt companies. ERGO Direkt Versicherungs AG applies an internal model, the life and health companies apply the standard formula. <sup>6</sup> Including transitionals €1.0bn.

# Distributable earnings largely stable – Solid result of parent company safeguards financing of capital repatriation

## HGB result financing capital repatriation



## Reconciliation of IFRS (Group) to German GAAP (HGB) result (Munich Reinsurance Company)



<sup>1</sup> Changes in restrictions on distribution.

# Munich Re (Group) – Economic earnings 2017

€bn	Actual	Expectation
<b>Operating economic earnings</b>	<b>0.1</b>	<b>1.9</b>
Expected return existing business	0.7	
New business value	−1.0	
Operating variances existing business	0.4	
<b>Economic effects</b>	<b>1.9</b>	<b>1.4</b>
Interest rate	1.3	
Equity	1.2	
Credit	1.1	
Currency	−2.5	
Other <sup>1</sup>	0.7	
<b>Other non-operating earnings</b>	<b>−1.4</b>	<b>−0.8</b>
<b>Total economic earnings 2017</b>	<b>0.5</b>	<b>2.4</b>
Total economic earnings 2016	2.3	2.5

## Operating economic earnings

- Positive operating economic earnings in Reinsurance Life and Health and ERGO offset by negative contribution from Reinsurance P-C (major losses −€2.3bn above expectation)
- Expectation: Operating economic earnings without variances in new and existing business

## Economic effects

- Both reinsurance and ERGO with high economic gains on risk-free interest rates, credit spreads and infrastructure
- Reinsurance with high economic loss from FX development over the year, partially compensated for by high gains on equities
- Expectation: Influence of capital market parameters on assets and liabilities, assuming stability





## Other non-operating earnings

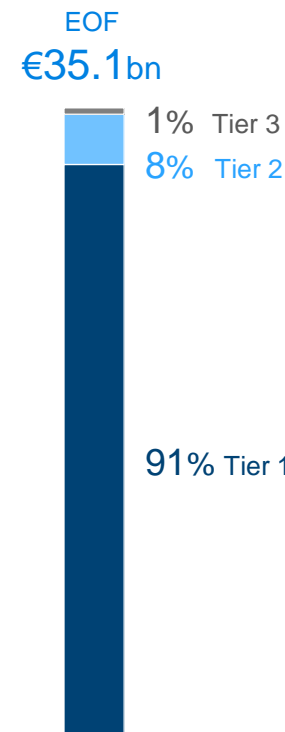
- Expectation: Taxes on expected earnings in particular, as all other line items are pre-tax

**Outlook 2018: Slightly above IFRS result outlook of €2.1–2.5bn**

<sup>1</sup> Primarily related to illiquid investments: Property, infrastructure, forestry, hedge funds, private equity.

# Change in eligible own funds (EOF)

EOF 31.12.2016 (restated)		€36.9bn	Closing balance FY2016 (€40.7bn) incl. foreseeable dividends and distributions (–€3.7bn <sup>1</sup> ) according to BaFin interpretation in 2017
Opening adjustments		0.5	Model changes and other effects not subject to change in FY 2017
EOF 1.1.2017		37.4	Opening balance after adjustment of prior year's closing balance; determines change in reporting period
Economic earnings		0.5	Economic performance of the period from new and existing business as well as influence of capital-market parameters on assets and liabilities
Foreseeable capital measures		–2.6	Foreseeable dividend €1.3bn, foreseeable share buy-back €1.0bn and foreseeable redemption of subordinated liability €0.3bn
Change in eligibility restrictions		–0.3	Development of non-available own funds items
EOF 31.12.2017		€35.1bn	Closing balance without transitional effect; subject to regulatory SII reporting

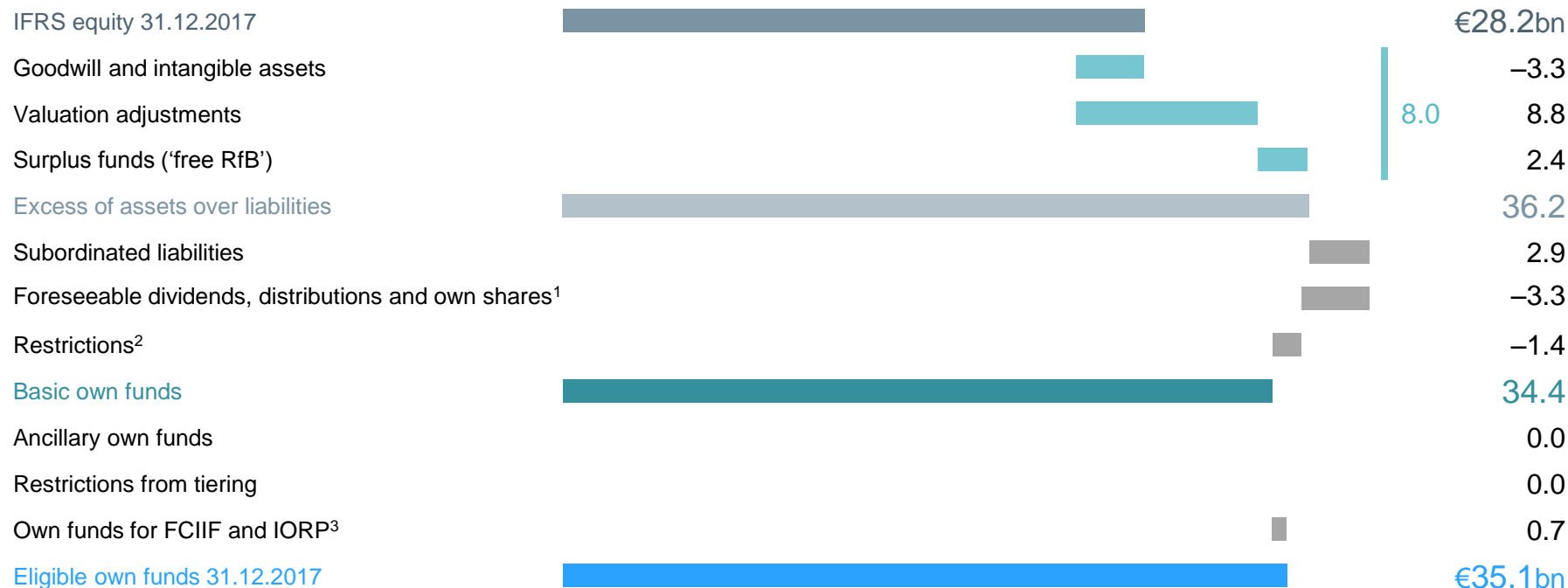


<sup>1</sup> Dividend payment in FY 2017 (€1.3bn), share buy-back (€1.0bn) and repayment of subordinated bond in 2017 (€1.4bn).

# P&L attribution – Pleasing economic earnings in RI L/H and ERGO compensates for nat-cat-driven loss at RI P-C

Munich Re (Group) 2017 €bn	Reinsurance L/H	Reinsurance P-C	ERGO L/H Germany	ERGO P-C Germany	ERGO International	Munich Re (Group)
Operating economic earnings	1.6	−2.0	0.0	0.2	0.3	0.1
Expected return existing business	0.2	0.2	0.2	0.0	0.1	0.7
New business value	1.1	−2.4	0.1	0.0	0.2	−1.0
Operating variances existing business	0.3	0.2	−0.3	0.2	0.0	0.4
Economic effects	0.3	0.6	0.6	0.2	0.3	1.9
Other non-operating earnings	−0.8	0.0	−0.3	−0.1	−0.2	−1.4
<b>Total economic earnings</b>	<b>1.0</b>	<b>−1.4</b>	<b>0.3</b>	<b>0.2</b>	<b>0.3</b>	<b>0.5</b>

# Reconciliation of IFRS equity to eligible own funds



<sup>1</sup> Foreseeable distributions from share buy-backs (–€1.3bn), foreseeable dividends (–€1.3bn) and own shares (–€0.7bn). <sup>2</sup> Deduction of non-available own funds items of –€0.7bn (e.g. non-available surplus funds) and deduction of own funds from participations in other financial sectors. <sup>3</sup> Own funds for other financial sectors (financial, credit institutions and investment firms and institutions for occupational retirement provision).



# From IFRS to SII excess of assets over liabilities – Difference especially driven by market values of investments

€bn Assets/Liabilities (clustered) as at 31.12.2017	SII	IFRS	▲	Comments	
Goodwill and intangible assets <sup>1</sup>	0.0	3.3	–3.3	No recognition of goodwill and intangible assets in SII	
Investments, including loans, deposits with cedants, cash	240.4	231.0	9.5	SII: Fair values lead to higher balances (off-balance-sheet reserves on investments IFRS: +€14.3bn); investments from ERGO Pensionskasse not included in SII (presentation and valuation as participation)	8.8
Technical accounts <sup>1</sup> without surplus funds	–192.3	–192.0	–0.3	SII: Discounted cash-flow-based best estimate calculation; risk margin (–€9.2bn)	
Subordinated liabilities	–3.4	–2.8	–0.6	Fair values in SII lead to higher balances	
Net deferred tax assets/liabilities <sup>1</sup>	–2.9	–0.9	–2.0	Different valuation methods produce difference in deferred taxes	
Other assets and other liabilities <sup>1</sup>	–5.7	–7.9	2.2	Several opposite effects: higher fair value for owner-occupied property (+€0.4bn); own shares (+€0.7bn) eliminated in IFRS; fair values of financial liabilities (–€0.6bn); several entities not consolidated in SII	
Surplus funds	0.0	–2.4	2.4	Surplus funds ('free RfB') are own funds in SII and are therefore not classified as liabilities	
<b>SII EAoL versus IFRS equity</b>	<b>36.2</b>	<b>28.2</b>	<b>8.0</b>		

<sup>1</sup> IFRS balances reflect reclassifications in order to facilitate comparison with IFRS equity/eligible own funds reconciliation.

# IFRS capital position

## Equity

		€m
Equity 31.12.2016	31,785	
Consolidated result	392	538
Changes		
Dividend	-1,333	0
Unrealised gains/losses	360	452
Exchange rates	-1,837	-267
Share buy-backs	-1,015	-272
Other	-154	-23
Equity 31.12.2017	28,198	428

## Unrealised gains/losses

Fixed-interest securities

2017: €97m Q4: €217m

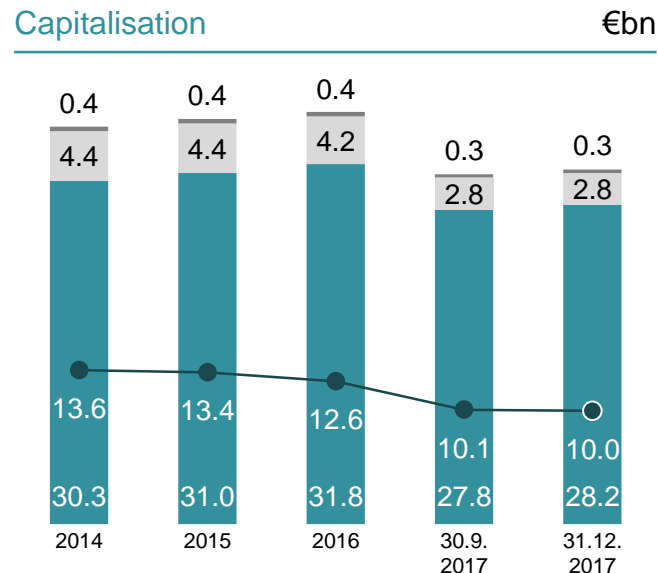
Non-fixed-interest securities

2017: €260m Q4: €224m

## Exchange rates

FX effect mainly driven by US\$

## Capitalisation



- Debt leverage<sup>1</sup> (%)
- Senior and other debt<sup>2</sup>
- Subordinated debt
- Equity



1 Strategic debt (senior, subordinated and other debt) divided by total capital (strategic debt + equity). 2 Other debt includes Munich Re bank borrowings and other strategic debt.

# Premium development

## Gross premiums written €m

2016  48,851

Foreign exchange  -517

Divestments/  
investments  -84

Organic change  865

2017  49,115

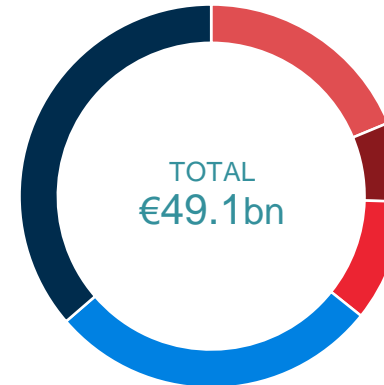
## Segmental breakdown €m

Reinsurance  
Property-casualty  
17,843 (36%) (▲ 0.1%)

ERGO  
Life and Health Germany  
9,210 (19%) (▲ 0.4%)

ERGO  
Property-casualty Germany  
3,293 (7%) (▲ 3.1%)

ERGO  
International  
5,043 (10%) (▲ 0.5%)



Reinsurance  
Life and Health  
13,726 (28%) (▲ 0.7%)

# Reconciliation of operating result with net result

## Reconciliation of operating result with net result

	2017	Q4 2017
Operating result	1,241	864
Other non-operating result	−926	−266
Goodwill impairments	−9	−4
Net finance costs	−211	−52
Taxes	298	−4
<b>Net result</b>	<b>392</b>	<b>538</b>

## Other non-operating result (€m)

	2017	Q4 2017	Tax rates (%)	2017	Q4 2017
Foreign exchange	−294	−1	Group	−315.0	0.8
Restructuring expenses	−76	−64	Reinsurance	140.9	−6.1
Other	−556	−201	ERGO	29.6	40.1

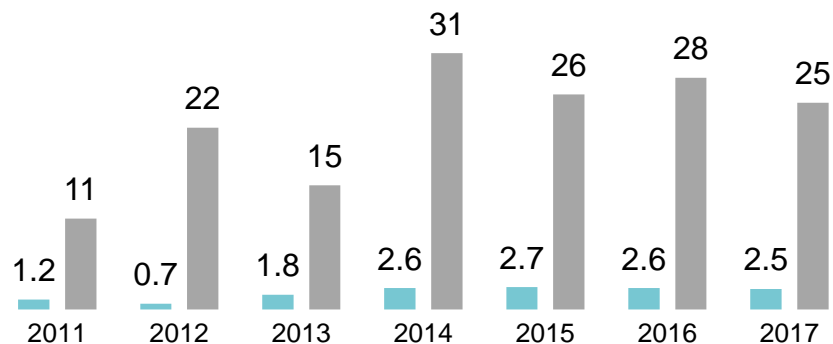
# Short-term earnings pressure mitigated by strong balance sheet

## Investment result

€bn

+ Ongoing disposal gains      — Low reinvestment yields

■ Net disposal gains      ■ Unrealised gains

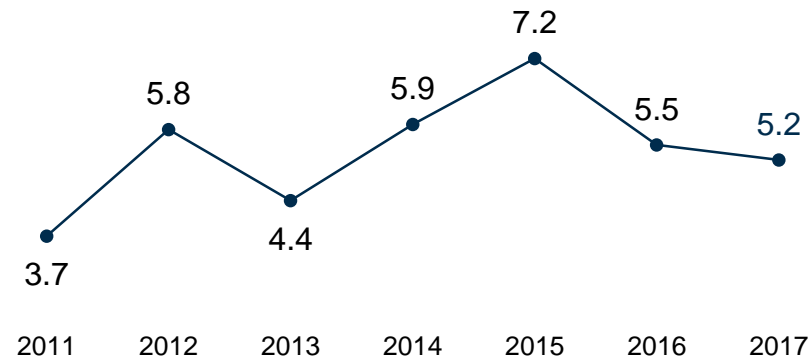


Part of the valuation reserves realised as a result of usual portfolio turnover

## P-C reinsurance – Release of loss reserves<sup>1</sup>

%

+ Strong reserving position      — Reinsurance cycle



Ongoing releases of loss reserves without weakening resilience against future volatility

## Conservative accounting translates into earnings as a result of ordinary business activity

<sup>1</sup> Basic losses, in % of net earned premiums, adjusted for corresponding commission effects.

# Reserving: Global hot spots well managed – Provisions for risk scenarios adequately set

Motor liability	Industry impact	Munich Re impact	Casualty	Industry impact	Munich Re impact
<b>UK</b> Significant reduction of discount rate for claims settlement (“Ogden”) implemented in 2017; plan for further Ogden rate update announced later in 2017, but remaining uncertainty about timing and impact	Material reserve strengthening required in the market in 2017 due to lower Ogden discount rate	No reserve strengthening required due to very strong reserving position where the corresponding reserve risk had been identified for many years and provisions were adequately set; risk mitigation through significant exposure reduction for XL business and external protection for large losses in proportional treaties	<b>USA</b> Comparatively high litigation risk, late loss emergence	Volatile loss developments; reserve strengthening for increasing number of companies	Specific IBNR for accumulation risk available – stable reserve situation overall
<b>USA</b> Distracted driving, higher vehicle miles travelled, increase in truck tonnage	Continued increasing loss frequency and severity lead to reserve increases for whole US primary market	Decisive reaction at year-end 2017 in selected portfolios to ensure prudent reserving position in US primary liability book	<b>US workers’ compensation</b> High losses for reinsurers in business underwritten during soft market (late 90s)	Long-tail development with significant late loss emergence	Stringent execution of exit strategy combined with prudent reserving situation again allowed for reserve releases
			<b>Asbestos</b> Complex litigation, changes in legal and regulatory environment	Change in projected costs and number of claims	De-risking with large claim settlements in the past, and improved survival ratio at year-end 2017

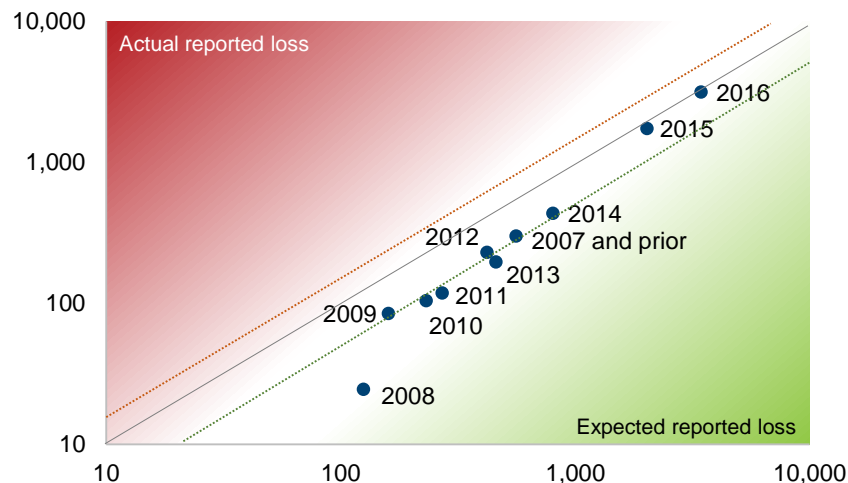
Prudent reserving approach for all hot spot areas,  
ensuring resilience and solid reserve position going forward

# Very strong reserve position – Actual losses consistently below actuarial expectations throughout the years

## Reinsurance group – Comparison of incremental expected losses with actual reported losses<sup>1</sup>

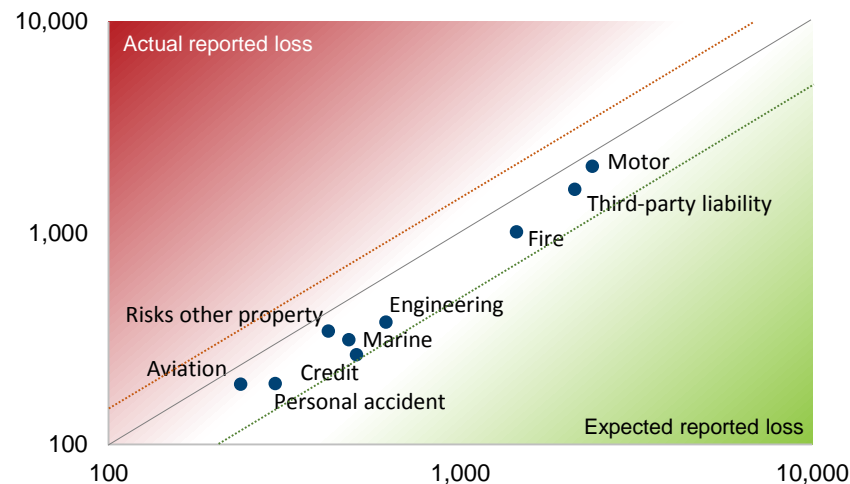
€m

### By exposure year



Actuals for first run-off year (2016) are around 10% below expectations – consistent with picture in previous years

### By line of business



Very stable actual-versus-expected development per line of business

Legend: **Green** Actuals below expectation **Red** Actuals above expectation **Solid line** Actuals equal expectation **Dotted line** Actuals 50% above/below expectations

<sup>1</sup> Reinsurance group losses as at Q4 2017, not including parts of Risk Solutions, special liabilities and major losses (i.e. events of over €10m or US\$ 15m for Munich Re's share).

# Positive run-off result without weakening resilience against future volatility

Ultimate losses<sup>1</sup> (adjusted to exchange rates as at 31.12.2017)

€m

Ultimate reduction

Date	Accident year (AY)											Total
	≤2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
31.12.2007	49,058											
31.12.2008	48,729	13,108										
31.12.2009	48,550	13,508	13,034									
31.12.2010	47,965	13,474	12,973	13,412								
31.12.2011	47,761	13,202	12,529	13,578	17,241							
31.12.2012	46,915	13,064	12,418	13,466	17,307	14,200						
31.12.2013	46,611	12,892	12,407	13,550	17,039	13,982	14,155					
31.12.2014	46,267	12,636	12,085	13,581	16,668	13,786	14,360	14,113				
31.12.2015	45,738	12,488	11,881	13,390	16,534	13,587	14,321	14,143	13,449			
31.12.2016	45,502	12,424	11,846	13,174	16,095	13,551	14,038	14,122	13,499	14,370		
31.12.2017	45,401	12,377	11,829	13,053	16,075	13,445	13,935	13,910	13,297	14,244	17,390	
CY 2017 run-off change	102	47	17	122	20	106	102	212	202	126	–	1,056
CY 2017 run-off change (%)	0.2	0.4	0.1	0.9	0.1	0.8	0.7	1.5	1.5	0.9	–	0.6

Prior-year releases of €1.1bn driven by reinsurance portfolio

- Favourable actual vs. expected comparison facilitates ultimate reductions for prior years
- Reserve position remains strong

Reinsurance<sup>2</sup>

€1,047m

ERGO

€9m

1 Basic and major losses; accident-year split partly based on approximations. 2 Thereof €984m basic and €63m major losses.



# Response to benign emergence of basic losses in line with considered judgement

## Actual vs. expected

## Changes in projection

## Business rationale

### Property



### Releases follow favourable indications

- Positive actual-versus-expected indications
- Short-tail lines develop relatively quickly
- Release spread across all property lines of business

### Specialty<sup>1</sup>



### Favourable loss development leads to release

- Favourable indications across all lines
- Reserve release primarily in marine

### Casualty



### Small releases despite favourable indications

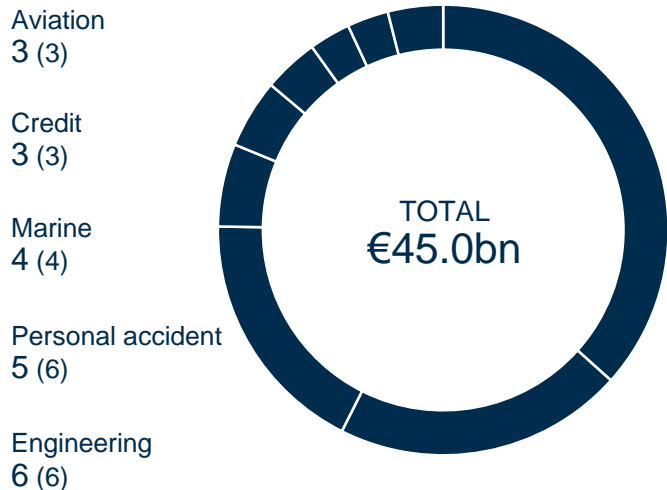
- Deliberately small reserve release, despite favourable overall actual-versus-expected development
- Releases<sup>2</sup> in personal accident and third-party liability
- Cautious reaction to signs of deterioration in selected casualty portfolios

# Property-casualty provision for outstanding claims

## By line of business

%

Other	Third-party liability
4 (1)	37 (41)



Fire	Motor
18 (14)	21 (22)

## By maturity

%

>15 years	0–1 years
5 (6)	35 (32)

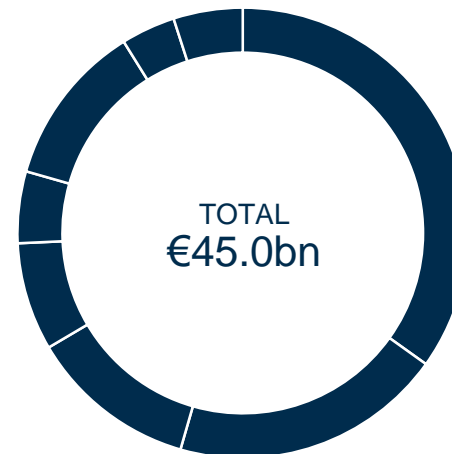
10–15 years  
4 (5)

5–10 years  
12 (13)

4–5 years  
5 (6)

3–4 years  
8 (8)

2–3 years  
12 (12)



2–3 years	1–2 years
12 (12)	20 (19)

# Asbestos and environmental survival ratio 31 December 2017

Munich Re (Group) – Net definitive as at 31 December 2017<sup>1</sup>

€m

	Asbestos	Environmental	A&E total
Paid	3,013	906	3,919
Case reserves	413	134	547
IBNR	682	178	860
<b>Total reserves</b>	<b>1,095</b>	<b>312</b>	<b>1,407</b>
3-year average annual paid losses <sup>2</sup>	78	19	97
Survival ratio 3-year average <sup>2</sup> %	14.1	16.1	14.5

<sup>1</sup> Non-euro currencies converted at rate of exchange year-end 2017. <sup>2</sup> Adjusted for a settlement of major asbestos claim in 2016.

# Investment portfolio

## Investment portfolio<sup>1</sup>

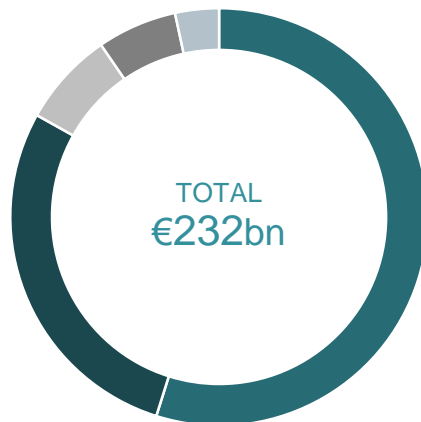
Land and buildings  
3.4 (2.9)

Miscellaneous<sup>2</sup>  
6.2 (6.2)

Shares, equity funds and  
participating interests<sup>3</sup>  
7.3 (6.1)

Loans  
28.2 (28.6)

Fixed-interest securities  
54.9 (56.2)



%

## Portfolio management in Q4

- Ongoing geographic diversification
- Increase in Spanish government bonds
- Reduction in covered bonds and bank bonds
- Further increase in equity exposure
- Investments in infrastructure

<sup>1</sup> Fair values as at 31.12.2017 (31.12.2016). <sup>2</sup> Deposits retained on assumed reinsurance, deposits with banks, investment funds (excl. equities), derivatives and investments in renewable energies and gold. <sup>3</sup> Net of hedges: 6.7% (5.0%).

# Investment result

Investment result (€m)	Q4 2017	Return <sup>1</sup>	2017	Return <sup>1</sup>	2016	Return <sup>1</sup>
Regular income	1,557	2.7%	6,438	2.7%	6,663	2.8%
Write-ups/write-downs	–82	–0.1%	–241	–0.1%	–400	–0.2%
Disposal gains/losses	755	1.3%	2,494	1.1%	2,603	1.1%
Derivatives <sup>2</sup>	–59	–0.1%	–470	–0.2%	–713	–0.3%
Other income/expenses	–188	–0.3%	–609	–0.3%	–586	–0.2%
Investment result	1,982	3.4%	7,611	3.2%	7,567	3.2%
Total return		4.9%		1.9%		4.2%

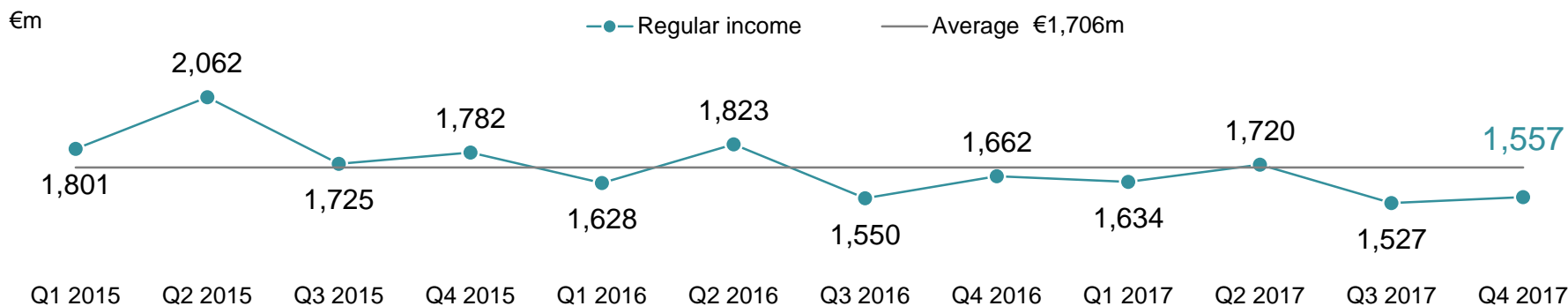
3-month reinvestment yield		Q4 2017	Write-ups/ write-downs	Disposal gains/losses	Derivatives	2017	Write-ups/ write-downs	Disposal gains/losses	Derivatives
Q4 2017	1.9%	Fixed income <sup>3</sup>	–9	578	–78	Fixed income <sup>3</sup>	–13	1,605	–95
Q3 2017	2.0%	Equities	–60	184	11	Equities	–133	886	–363
		Commodities/inflation	2		16	Commodities/inflation	40		–3
Q2 2017	1.8%	Other	–14	–7	–7	Other	–136	3	–10

1 Annualised return on quarterly weighted investments (market values) in %. 2 Result from derivatives without regular income and other income/expenses. 3 Thereof interest-rate hedging ERGO: Q4 –€18m/€1m (gross/net); 2017 –€126m/–€18m (gross/net).

# Breakdown of regular income

## Investment result – Regular income (€m)

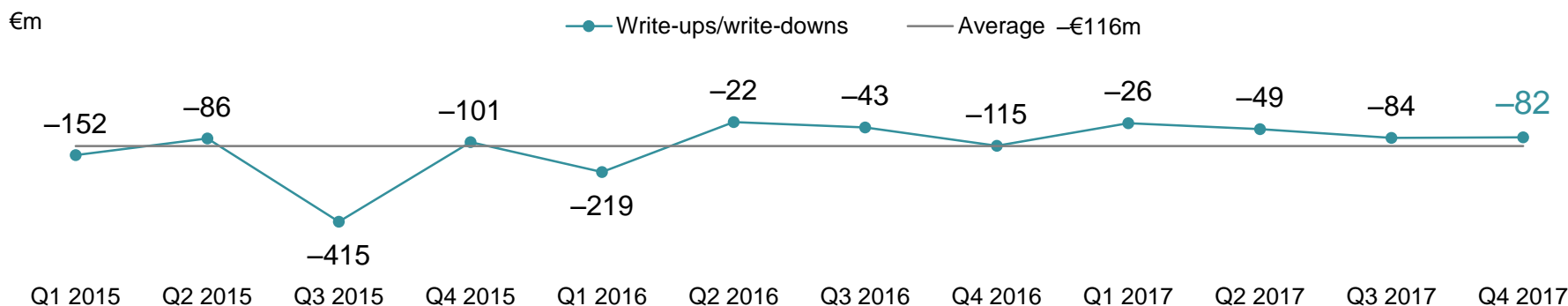
	Q4 2017	2017	2016	Change
Afs fixed-interest	717	2,941	3,200	–259
Afs non-fixed-interest	107	606	556	51
Derivatives	29	112	114	–2
Loans	479	1,929	2,063	–134
Real estate	115	427	405	21
Deposits retained on assumed reinsurance and other investments	110	423	325	98
<b>Total</b>	<b>1,557</b>	<b>6,438</b>	<b>6,663</b>	<b>–225</b>



# Breakdown of write-ups/write-downs

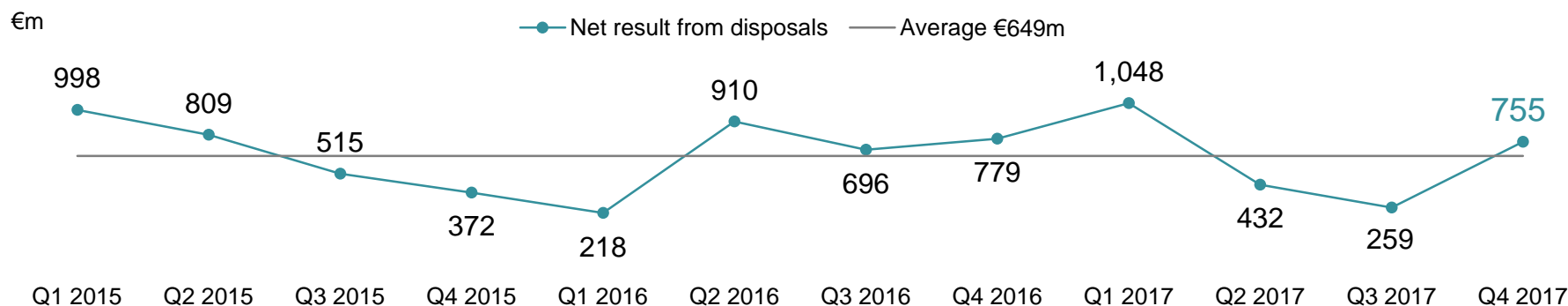
## Investment result – Write-ups/write-downs (€m)

	Q4 2017	2017	2016	Change
Afs fixed-interest	1	–4	1	–6
Afs non-fixed-interest	–60	–133	–323	190
Loans	–10	–9	–37	28
Real estate	–9	–108	–51	–57
Deposits retained on assumed reinsurance and other investments	–3	13	9	3
<b>Total</b>	<b>–82</b>	<b>–241</b>	<b>–400</b>	<b>158</b>



# Breakdown of net result from disposals

Investment result – Net result from disposal of investments (€m)	Q4 2017	2017	2016	Change
Afs fixed-interest	393	701	1,656	–955
Afs non-fixed-interest	184	886	440	446
Loans	184	905	606	298
Real estate	0	6	29	–23
Deposits retained on assumed reinsurance and other investments	–7	–3	–128	125
<b>Total</b>	<b>755</b>	<b>2,494</b>	<b>2,603</b>	<b>–109</b>



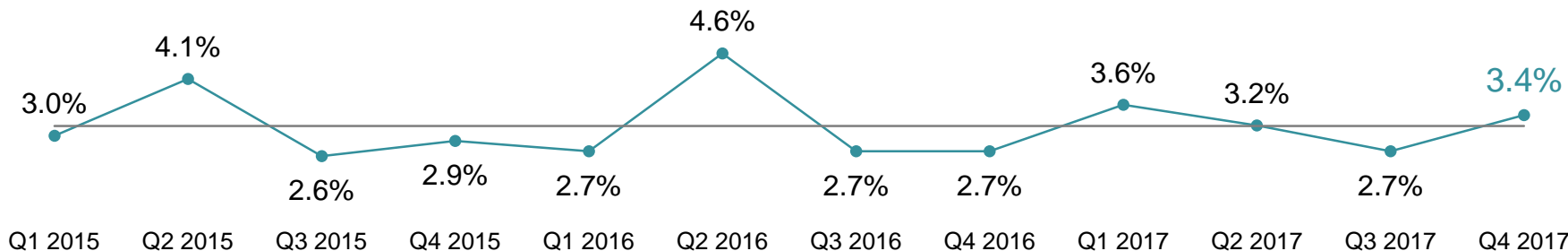


## Return on investment by asset class and segment

2017

% <sup>1</sup>	Regular income	Write-ups/-downs	Disposal result	Extraord. derivative result	Other inc./exp.	Rol	Market value (€m)
Afs fixed-income	2.3	0.0	0.5	0.0	0.0	2.8	129,418
Afs non-fixed-income	3.6	-0.8	5.3	0.0	0.0	8.2	16,617
Derivatives	6.5	0.0	0.0	-27.1	-0.4	-21.0	1,738
Loans	2.9	0.0	1.4	0.0	0.0	4.3	65,894
Real estate	5.8	-1.5	0.1	0.0	0.0	4.4	7,346
Other <sup>2</sup>	3.2	0.1	0.0	0.0	-4.6	-1.3	13,194
<b>Total</b>	<b>2.7</b>	<b>-0.1</b>	<b>1.1</b>	<b>-0.2</b>	<b>-0.3</b>	<b>3.2</b>	<b>234,207</b>
Reinsurance	2.7	-0.1	0.8	0.1	-0.3	3.1	89,359
ERGO	2.8	-0.1	1.2	-0.4	-0.2	3.3	144,849

Return on investment — Average 3.2%



# Investment result by segment

## Reinsurance Life and Health (€m)

	Q4 2017	Return <sup>1</sup>	2017	Return <sup>1</sup>	2016	Return <sup>1</sup>
Regular income	183	2.8%	762	2.9%	729	2.8%
Write-ups/write-downs	–11	–0.2%	–21	–0.1%	–40	–0.1%
Disposal gains/losses	50	0.8%	175	0.7%	189	0.7%
Derivatives <sup>2</sup>	0	0.0%	12	0.0%	–136	–0.5%
Other income/expenses	–19	–0.3%	–63	–0.2%	–57	–0.2%
<b>Investment result</b>	<b>204</b>	<b>3.2%</b>	<b>865</b>	<b>3.3%</b>	<b>686</b>	<b>2.6%</b>
Average market value		25,896		26,407		26,479

## Reinsurance Property-casualty (€m)

	Q4 2017	Return <sup>1</sup>	2017	Return <sup>1</sup>	2016	Return <sup>1</sup>
Regular income	383	2.5%	1,622	2.6%	1,719	2.6%
Write-ups/write-downs	–29	–0.2%	–83	–0.1%	–133	–0.2%
Disposal gains/losses	174	1.1%	548	0.9%	800	1.2%
Derivatives <sup>2</sup>	1	0.0%	34	0.1%	–578	–0.9%
Other income/expenses	–71	–0.5%	–225	–0.4%	–219	–0.3%
<b>Investment result</b>	<b>459</b>	<b>3.0%</b>	<b>1,895</b>	<b>3.0%</b>	<b>1,589</b>	<b>2.4%</b>
Average market value		60,878		62,950		65,050

# Investment result by segment

## ERGO Life and Health Germany (€m)

	Q4 2017	Return <sup>1</sup>	2017	Return <sup>1</sup>	2016	Return <sup>1</sup>
Regular income	845	2.8%	3,487	2.9%	3,588	2.9%
Write-ups/write-downs	–33	–0.1%	–118	–0.1%	–181	–0.1%
Disposal gains/losses	392	1.3%	1,539	1.3%	1,188	1.0%
Derivatives <sup>2,3</sup>	–51	–0.2%	–435	–0.4%	77	0.1%
Other income/expenses	–87	–0.3%	–278	–0.2%	–257	–0.2%
<b>Investment result</b>	<b>1,066</b>	<b>3.5%</b>	<b>4,196</b>	<b>3.5%</b>	<b>4,415</b>	<b>3.6%</b>
Average market value		120,598		120,823		123,604

## ERGO Property-casualty Germany (€m)

	Q4 2017	Return <sup>1</sup>	2017	Return <sup>1</sup>	2016	Return <sup>1</sup>
Regular income	36	2.1%	157	2.3%	160	2.3%
Write-ups/write-downs	–2	–0.1%	–8	–0.1%	–47	–0.7%
Disposal gains/losses	21	1.2%	69	1.0%	31	0.5%
Derivatives <sup>2</sup>	–4	–0.2%	–19	–0.3%	–42	–0.6%
Other income/expenses	–3	–0.2%	–14	–0.2%	–23	–0.3%
<b>Investment result</b>	<b>48</b>	<b>2.8%</b>	<b>185</b>	<b>2.7%</b>	<b>80</b>	<b>1.2%</b>
Average market value		6,936		6,877		6,836

<sup>1</sup> Return on quarterly weighted investments (market values) in % p.a.    <sup>2</sup> Result from derivatives without regular income and other income/expenses.

<sup>3</sup> Thereof interest-rate hedging ERGO: Q4 €20m/€2m (gross/net); 2017 –€115m/–€11m (gross/net).

# Investment result by segment

<b>ERGO International (€m)</b>	<b>Q4 2017</b>	<b>Return<sup>1</sup></b>	<b>2017</b>	<b>Return<sup>1</sup></b>	<b>2016</b>	<b>Return<sup>1</sup></b>
Regular income	110	2.5%	409	2.4%	466	2.9%
Write-ups/write-downs	–7	–0.2%	–12	–0.1%	1	0.0%
Disposal gains/losses	117	2.7%	163	0.9%	394	2.4%
Derivatives <sup>2</sup>	–6	–0.1%	–62	–0.4%	–33	–0.2%
Other income/expenses	–8	–0.2%	–29	–0.2%	–31	–0.2%
<b>Investment result</b>	<b>206</b>	<b>4.8%</b>	<b>470</b>	<b>2.7%</b>	<b>797</b>	<b>4.9%</b>
Average market value		17,291		17,150		16,151

<sup>1</sup> Return on quarterly weighted investments (market values) in % p.a.    <sup>2</sup> Result from derivatives without regular income and other income/expenses.

# Investment portfolio

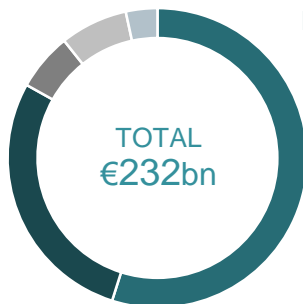
## Fixed-interest securities and miscellaneous

### Investment portfolio

%

Miscellaneous  
6.2 (6.2)

Fixed-interest securities  
54.9 (56.2)



Loans  
28.2 (28.6)

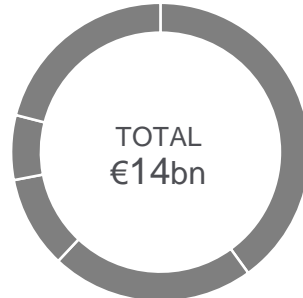
### Miscellaneous

%

Other  
21 (19)

Derivatives<sup>2</sup>  
7 (10)

Investment funds<sup>3</sup>  
10 (15)



Deposits on  
reinsurance  
40 (35)

### Fixed-interest securities<sup>1</sup>

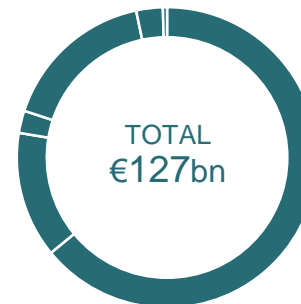
%

Cash/Other  
0 (0)

Structured products  
3 (4)

Corporates  
17 (16)

Banks  
2 (3)



Governments/  
Semi-governments  
64 (63)

Pfandbriefe/  
Covered bonds  
14 (15)

### Loans<sup>1</sup>

%

Loans to policyholders/  
mortgage loans  
11 (10)

Corporates  
2 (1)

Banks  
3 (3)



Governments/  
Semi-governments  
41 (41)

Pfandbriefe/  
Covered bonds  
44 (44)

# Fixed-income portfolio

## Total

### Fixed-income portfolio

%

Loans to policyholders/  
mortgage loans

3 (3)

Governments/  
Semi-governments

54 (53)

Structured products

2 (2)

Bank bonds

2 (3)

Cash/other

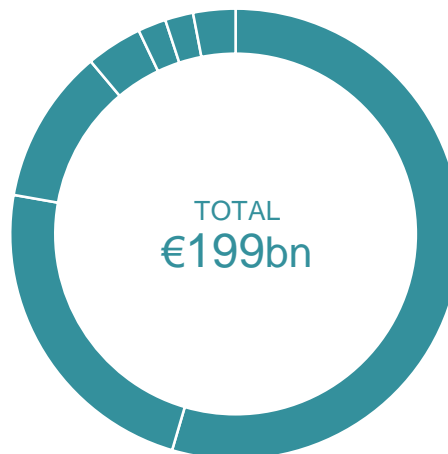
4 (4)

Corporate bonds

11 (11)

Pfandbriefe/covered bonds

23 (24)



# Fixed-income portfolio

## Total

### Rating structure



### Maturity structure



### Regional breakdown

	Without policyholder participation	With participation	Total 31.12.2017	31.12.2016
Germany	4.7	23.7	28.3	28.2
US	13.1	1.4	14.5	16.0
France	2.2	5.8	8.0	8.0
UK	2.8	2.3	5.1	5.3
Canada	4.0	0.4	4.4	4.5
Netherlands	1.2	3.0	4.3	4.3
Supranationals	0.7	3.2	3.9	4.0
Spain	1.1	1.9	3.0	2.8
Australia	2.2	0.5	2.7	2.4
Italy	0.7	1.6	2.3	2.4
Austria	0.4	1.9	2.3	2.0
Belgium	0.6	1.6	2.2	2.3
Ireland	0.6	1.5	2.1	2.0
Sweden	0.2	1.3	1.5	1.6
Norway	0.3	1.2	1.5	1.5
Other	7.6	6.2	13.8	12.6
<b>Total</b>	<b>42.5</b>	<b>57.5</b>	<b>100.0</b>	<b>100.0</b>

# Fixed-income portfolio

## Governments/semi-governments

### Rating structure



### Maturity structure



### Regional breakdown

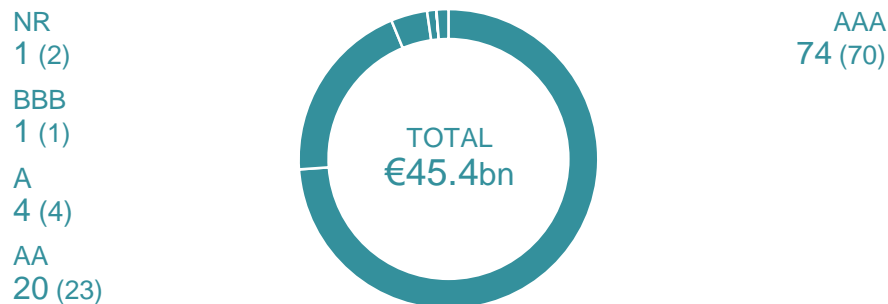
	Without policyholder participation	With participation	Total 31.12.2017	31.12.2016
Germany	3.6	21.9	25.6	26.7
US	15.3	0.9	16.1	18.0
Supranationals	1.3	6.0	7.3	7.4
Canada	5.6	0.4	6.0	6.1
Spain	1.7	2.5	4.2	3.1
France	1.6	2.4	4.1	4.2
Belgium	0.9	2.8	3.7	3.8
Australia	3.3	0.0	3.3	2.8
UK	2.9	0.1	3.0	3.4
Italy	0.8	2.2	3.0	3.1
Austria	0.5	2.4	3.0	2.7
Poland	1.9	0.9	2.7	2.3
Finland	0.3	1.8	2.1	1.7
Netherlands	0.7	1.3	2.0	2.2
Ireland	0.4	1.6	1.9	1.6
Other	7.3	4.7	12.0	10.8
<b>Total</b>	<b>48.2</b>	<b>51.8</b>	<b>100.0</b>	<b>100.0</b>



# Fixed-income portfolio

## Pfandbriefe/covered bonds

### Rating structure



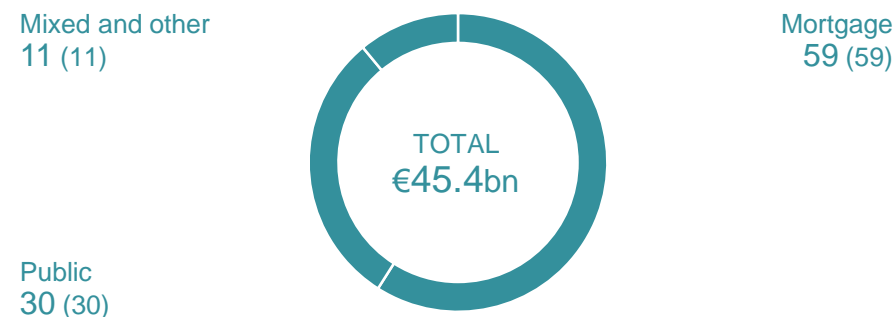
### Maturity structure



### Regional breakdown

	31.12.2017	31.12.2016
Germany	37.1	35.2
France	20.0	19.9
UK	8.6	8.6
Netherlands	8.0	7.4
Sweden	6.1	6.0
Norway	5.9	5.9
Spain	2.1	3.4
Italy	1.0	1.0
Ireland	0.3	1.0
Other	11.1	11.6

### Cover pools

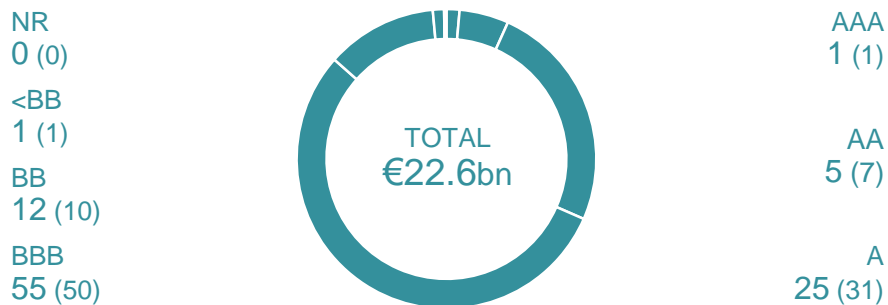




# Fixed-income portfolio

## Corporate bonds (excluding bank bonds)

### Rating structure



### Maturity structure



### Regional breakdown

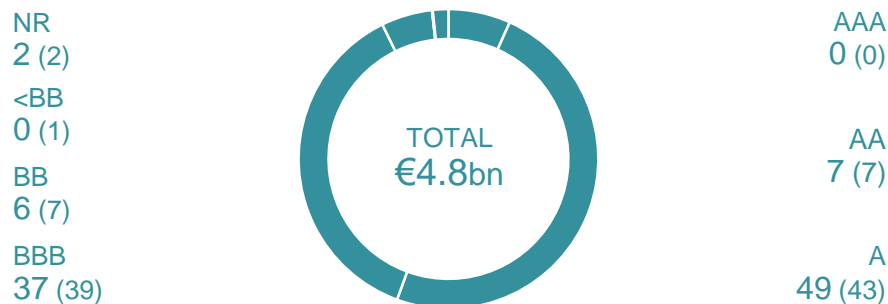
	31.12.2017	31.12.2016
Utilities	16.5	18.5
Industrial goods and services	13.6	12.5
Oil and gas	11.1	11.8
Telecommunications	9.1	8.8
Financial services	8.0	7.1
Healthcare	7.1	6.4
Technology	5.7	5.0
Food and beverages	4.1	4.9
Personal and household goods	3.7	2.9
Automobiles	3.5	3.8
Media	3.4	3.8
Retail	3.3	3.9
Basic resources	3.1	3.9
Other	7.8	6.7



# Fixed-income portfolio

## Bank bonds

### Rating structure



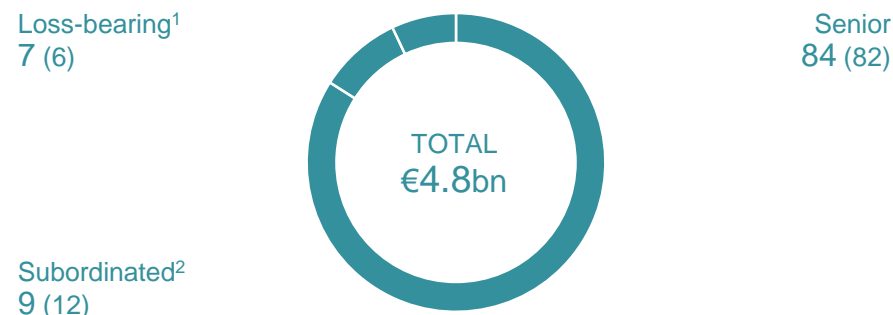
### Maturity structure



### Regional breakdown

	Senior bonds	Subordinated	Loss-bearing	Total 31.12.2017	Total 31.12.2016
US	34.3	4.3	0.5	39.2	38.6
Germany	15.2	1.1	4.4	20.7	23.3
Ireland	7.6	0.1	0.0	7.7	6.8
UK	6.7	0.4	0.3	7.3	7.6
France	2.2	0.7	1.8	4.7	4.3
Canada	2.9	0.4	0.0	3.3	2.8
Jersey	2.4	0.0	0.0	2.4	2.4
Norway	1.7	0.0	0.0	1.7	0.6
Belgium	1.5	0.0	0.0	1.5	1.1
Other	9.8	1.5	0.1	11.5	12.4

### Investment category of bank bonds





# Fixed-income portfolio

## Structured products

### Structured products portfolio (at market values): Breakdown by rating and region

%

		Rating						Region		Total	Market-to-par
		AAA	AA	A	BBB	<BBB	NR	USA + RoW	Europe		
ABS	Consumer-related ABS <sup>1</sup>	207	190	86	32	0	0	240	275	515	100%
	Corporate-related ABS <sup>2</sup>	10	40	192	67	0	0	0	308	308	100%
	Subprime HEL	0	0	1	0	0	0	1	0	1	98%
CDO/ CLN	Subprime-related	0	0	0	0	0	0	0	0	0	0%
	Non-subprime-related	524	758	102	22	0	15	633	788	1,421	101%
MBS	Agency	787	38	0	0	0	0	825	0	825	104%
	Non-agency prime	26	110	22	2	0	0	2	158	160	100%
	Non-agency other (not subprime)	99	52	6	0	0	0	10	147	157	100%
	Commercial MBS	262	30	13	16	0	0	225	95	320	102%
Total 31.12.2017		1,915	1,218	422	138	0	15	1,936	1,771	3,708	101%
In %		52%	33%	11%	4%	0%	0%	52%	48%	100%	
Total 31.12.2016		2,823	1,622	261	95	8	31	2,303	2,537	4,839	101%

<sup>1</sup> Consumer loans, auto, credit cards, student loans. <sup>2</sup> Asset-backed CPs, business and corporate loans, commercial equipment.  
Approximation – not fully comparable with IFRS figures. Fair values as at 31.12.2017.

# Sensitivities to interest rates, spreads and equity markets

## Sensitivity to risk-free interest rates – Basis points

	–50	–25	+50	+100
Change in gross market value (€bn)	+8.2	+4.0	–7.5	–14.4
Change in on-balance-sheet reserves, net (€bn) <sup>1</sup>	+1.9	+0.9	–1.8	–3.4
Change in off-balance-sheet reserves, net (€bn) <sup>1</sup>	+0.4	+0.2	–0.3	–0.7
P&L impact (€bn) <sup>1</sup>	–0.0	–0.0	+0.0	+0.1

## Sensitivity to spreads<sup>2</sup> (change in basis points)

	+50	+100
Change in gross market value (€bn)	–5.3	–10.3
Change in on-balance-sheet reserves, net (€bn) <sup>1</sup>	–1.1	–2.2
Change in off-balance-sheet reserves, net (€bn) <sup>1</sup>	–0.3	–0.5
P&L impact (€bn) <sup>1</sup>	–0.0	–0.0

## Sensitivity to equity and commodity markets<sup>3</sup>

	–30%	–10%	+10%	+30%
EURO STOXX 50 (3,504 as at 31.12.2017)	2,453	3,154	3,854	4,555
Change in gross market value (€bn)	–5.5	–1.8	+1.8	+5.7
Change in on-balance-sheet reserves, net (€bn) <sup>1</sup>	–1.5	–0.7	+1.1	+3.2
Change in off-balance-sheet reserves, net (€bn) <sup>1</sup>	–0.8	–0.3	+0.3	+0.8
P&L impact (€bn) <sup>1</sup>	–1.8	–0.4	+0.0	+0.2

<sup>1</sup> Rough calculation with limited reliability assuming unchanged portfolio as at 31.12.2017. After rough estimation of policyholder participation and deferred tax; linearity of relations cannot be assumed. Approximation – not fully comparable with IFRS figures. <sup>2</sup> Sensitivities to changes of spreads are calculated for every category of fixed-interest securities, except government securities with AAA ratings. <sup>3</sup> Worst-case scenario assumed, including commodities: impairment as soon as market value is below acquisition cost. Approximation – not fully comparable with IFRS figures.

# On- and off-balance-sheet reserves (gross)

€m	31.12.2015	31.12.2016	31.3.2017	30.6.2017	30.9.2017	31.12.2017
Market value of investments	233,023	238,490	237,562	231,786	231,313	231,885
Total reserves	25,969	28,496	26,180	24,743	24,565	25,395
On-balance-sheet reserves						
Fixed-interest securities	7,886	8,649	7,815	7,658	7,496	7,622
Non-fixed-interest securities	2,446	2,924	3,311	2,917	3,011	3,261
Other on-balance-sheet reserves <sup>1</sup>	201	186	201	191	196	189
Subtotal	10,533	11,759	11,327	10,766	10,702	11,072
Off-balance-sheet reserves						
Real estate <sup>2</sup>	2,273	2,413	2,450	2,450	2,516	2,744
Loans	12,610	13,591	11,692	10,761	10,589	10,788
Associates	553	733	711	767	758	792
Subtotal	15,436	16,738	14,853	13,977	13,863	14,323
Reserve ratio %	11.1%	11.9%	11.0%	10.7%	10.6%	11.0%

# On-balance-sheet reserves

## On-balance-sheet reserves

€m

	31.12.2017	Change Q4
Investments afs	10,883	377
Valuation at equity	89	–21
Unconsolidated affiliated enterprises	78	14
Cash-flow hedging	21	0
Total on-balance-sheet reserves (gross)	11,072	369
Provision for deferred premium refunds	–4,856	–92
Deferred tax	–1,195	142
Minority interests	–10	5
Consolidation and currency effects	–193	13
Shareholders' stake	4,818	437

# Off-balance-sheet reserves

## Off-balance-sheet reserves

€m

	31.12.2017	Change Q4
Real estate <sup>1</sup>	2,744	228
Loans	10,788	199
Associates	792	33
Total off-balance-sheet reserves (gross)	14,323	460
Provision for deferred premium refunds	−9,861	−212
Deferred tax	−1,352	−77
Minority interests	0	0
Shareholders' stake	3,110	170

<sup>1</sup> Excluding reserves for owner-occupied property.



## Group Internal Model (GIM) – Conservatively calibrated, safeguards sound risk measurement and provides adequate management impulses

### Specific features of GIM

- GIM approved by core college covers all risk categories
- Own funds and SCR based on fully consolidated accounts – no use of deduction and aggregation, e.g. for US subsidiaries
- All figures do not include effects from transitionals or long-term-guarantee (LTG) measures, e.g. volatility adjustment
- Stable and market-consistent calibration of pricing scenarios<sup>1</sup>
- Pricing models fully capable of reflecting market distortions, e.g. negative interest rates
- Conservative treatment of loss-absorbing capacity of deferred taxes
- Consideration of tail dependencies via Gumbel copula

### Relevant driver of capital requirements

- Migration, default (credit risk) and spread variations (market risk), capitalised for all fixed-income securities<sup>2</sup>, e.g. government bonds
- Capitalisation of all relevant pension liabilities, type DBO, also in case of externally-managed pension funds
- Capitalisation of significant interest rate “down” shocks also in case of negative interest rates
- Consideration of interest rate sensitivity of risk margin in GIM
- Internal Model also capitalises variations at the very long end of the interest-rate curve, i.e. no convergence towards UFR implemented in real-world scenarios
- No expected return considered in real-world projections

<sup>1</sup> This implies that (i) asset prices observed in financial markets are recovered, (ii) “no arbitrage” condition is fulfilled, and (iii) pricing scenarios fully reflect risk-free interest-rate curve.

<sup>2</sup> Validation via extreme events, e.g. pandemic. <sup>3</sup> Including EEA sovereign bonds, AAA and AA-rated non-EEA sovereign bonds, supranationals, and mortgage loans on residential property.

# Breakdown of solvency capital requirement (SCR) by risk category and segment

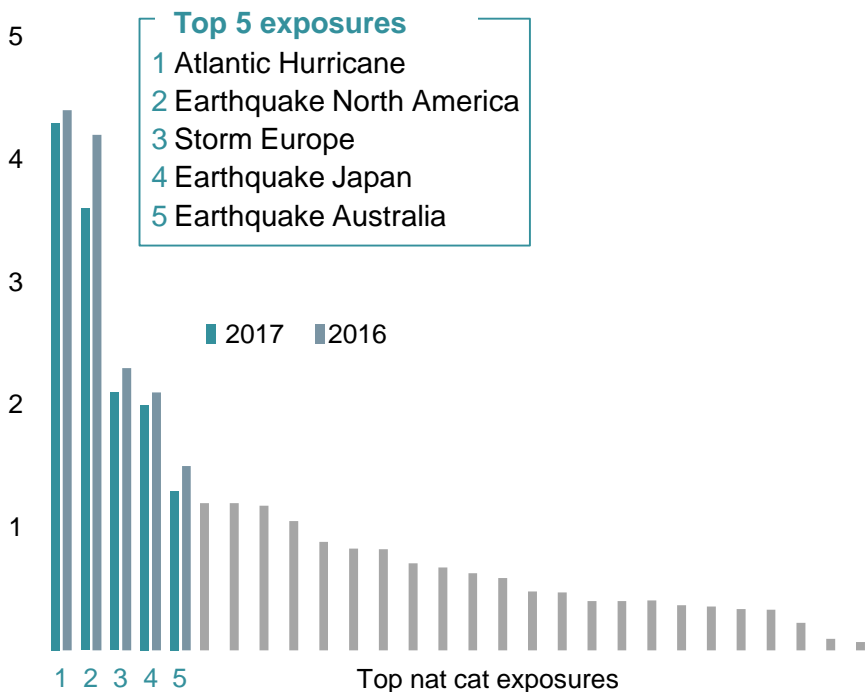
Risk category (€bn)	Group		Delta	RI	ERGO	Div.	Remarks
	2016	2017		2017	2017	2017	
Property-casualty	6.8	6.3	−0.5	6.2	0.4	−0.3	Appreciation of euro
Life and Health	5.2	4.9	−0.3	4.3	0.8	−0.2	
Market	9.9	9.2	−0.7	5.9	5.6	−2.3	Higher interest rates reduce interest-rate risk
Credit	4.0	3.4	−0.6	2.2	1.3	−0.1	Appreciation of euro
Operational risk	1.4	1.2	−0.2	0.8	0.8	−0.3	
Other <sup>1</sup>	0.6	0.7	+0.1	0.5	0.2		
Simple sum	27.9	25.8	−2.1	19.9	9.1	−3.2	
Diversification	−10.0	−9.1	+0.9	−7.4	−2.0		Diversification benefit: 35%
Tax	−2.6	−2.3	+0.3	−2.1	−0.6		
<b>Total SCR</b>	<b>15.3</b>	<b>14.4</b>	<b>−0.9</b>	<b>10.4</b>	<b>6.6</b>	<b>−2.6</b>	

Appreciation of euro and increase in interest rates largest determinant of SCR changes

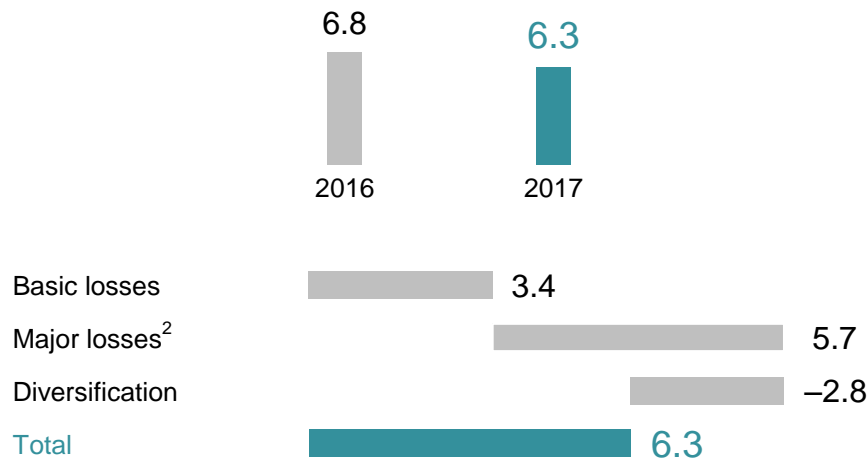
<sup>1</sup> Capital requirements for associated insurance undertakings and other financial sectors, e.g. institutions for occupational retirement provisions.

# Property-casualty risk

## Nat cat exposure (net of retrocession) – AggVaR<sup>1</sup> €bn



## SCR property-casualty €bn

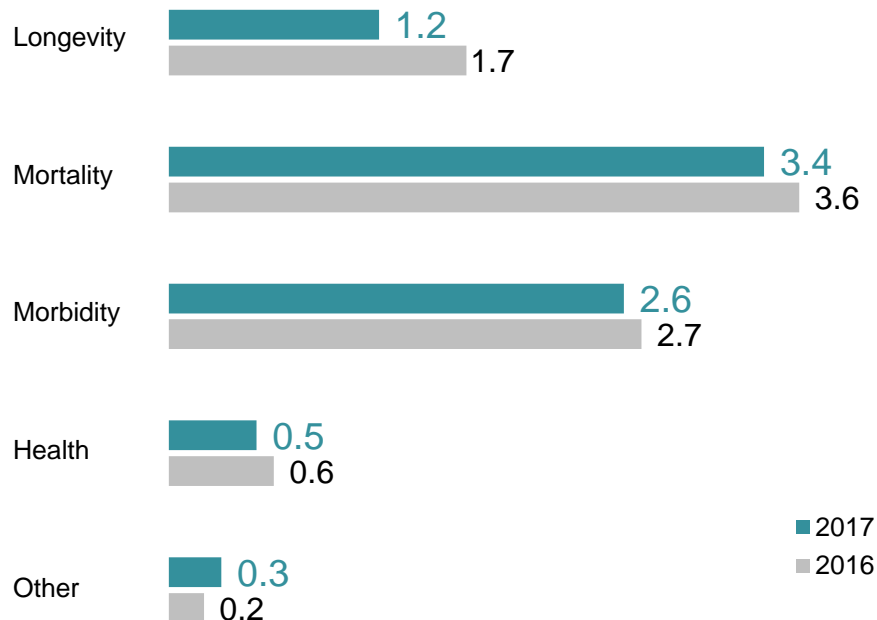


- Overall slight portfolio growth compared with last year
- SCR decrease mainly due to FX, esp. weaker US\$, affecting both major and basic losses

# Life and Health risk

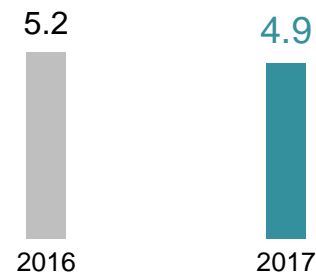
## Life and Health – VaR<sup>1</sup>

€bn



## SCR Life and Health

€bn



Overall decrease driven by

- Reinsurance  
Appreciation of the euro against major currencies, esp. US\$
- ERGO  
Increase of euro interest rates

# Market risk – Solvency capital requirement



Risk category €bn	Group		RI	ERGO	Div.	Remarks
	2016	2017	2017	2017	2017	
Equity	3.8	4.3	3.3	1.1	–0.1	Increase in equity exposure
General interest rate	4.0	3.4	1.4	3.3	–1.3	Slight increase in euro interest rates, model improvements and tightened credit spreads
Credit spread	5.0	3.9	1.4	3.3	–0.8	
Real estate	1.4	1.5	1.0	0.6	–0.1	Increased market value of real estate portfolio
Currency	3.9	3.9	3.8	0.2	–0.1	Total FX mismatch position nearly unchanged
Simple sum	18.1	17.0	10.9	8.5	–2.4	
Diversification	–8.2	–7.8	–5.0	–2.9	–	
<b>Total market risk SCR</b>	<b>9.9</b>	<b>9.2</b>	<b>5.9</b>	<b>5.6</b>	<b>–2.3</b>	

# Duration and DV01

## Portfolio duration<sup>1</sup>

## DV01<sup>2</sup>

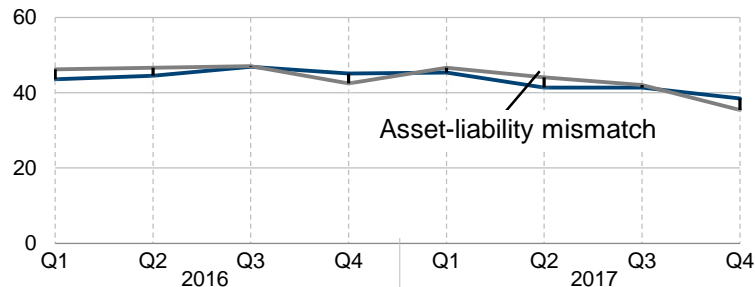
€m

		Assets	Liabilities		Assets	Liabilities	Net
Reinsurance	5.8 (5.9)		4.2 (4.6)		39 (45)	35 (42)	3
ERGO	8.8 (9.3)		9.5 (10.6)		115 (121)	125 (143)	-10
Munich Re (Group)	7.8 (8.0)		7.5 (8.1)		153 (166)	160 (185)	-7

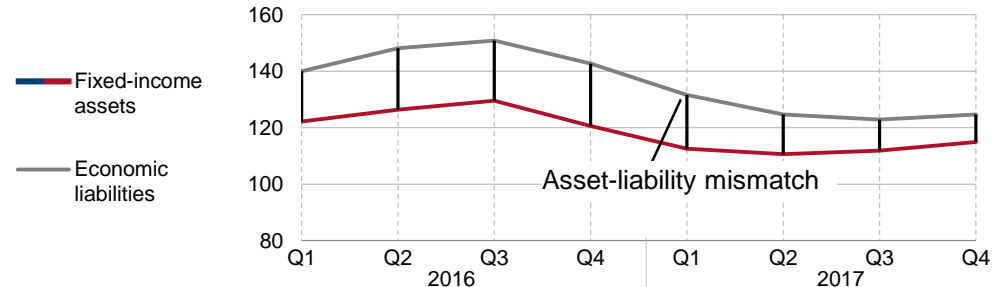
## DV01<sup>2</sup> – Development reinsurance and ERGO

€m

### Reinsurance



### ERGO

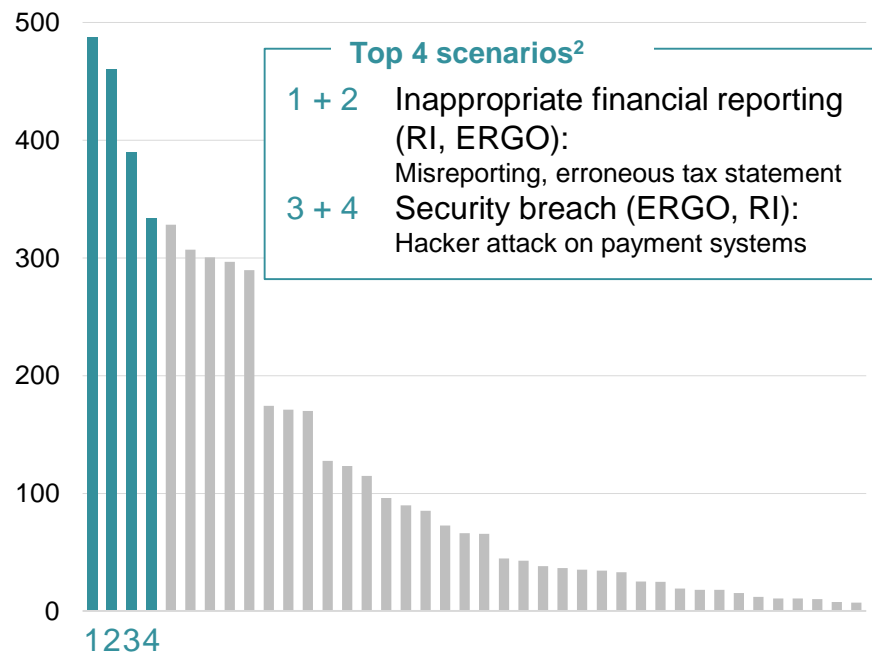


1 Fair values as at 31.12.2017 (31.12.2016). 2 Market value change due to a parallel downward shift in yield curve by one basis point, considering the portfolio size of assets and liabilities (pre-tax). Negative net DV01 means rising interest rates are beneficial.

# Operational risk

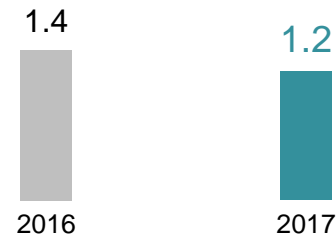
## Operational risk scenarios<sup>1</sup> – VaR

€m



## Group SCR operational risk

€bn



## Integral part of the internal model

- Calculation based on ~20 scenarios for each field of business
- Scenario categorisation based on ORIC standard<sup>2</sup>
- Risk strategy for operational risk:  
Trigger defined at field-of-business level
- Internal control system implemented to actively manage operational risks for Munich Re (Group)

# Sensitivities of SII ratio



<sup>1</sup> Parallel shift until last liquid point, extrapolation to unchanged UFR. <sup>2</sup> Based on CPI inflation. <sup>3</sup> Based on 200-year event.



# Development of Munich Re's Solvency II ratio

## Munich Re actions

### >220%: Above target capitalisation

- Capital repatriation
- Increased risk-taking
- Holding excess capital to meet external constraints

### 175–220%: Target capitalisation

- Optimum level of capitalisation

### 140–175%: Below target capitalisation

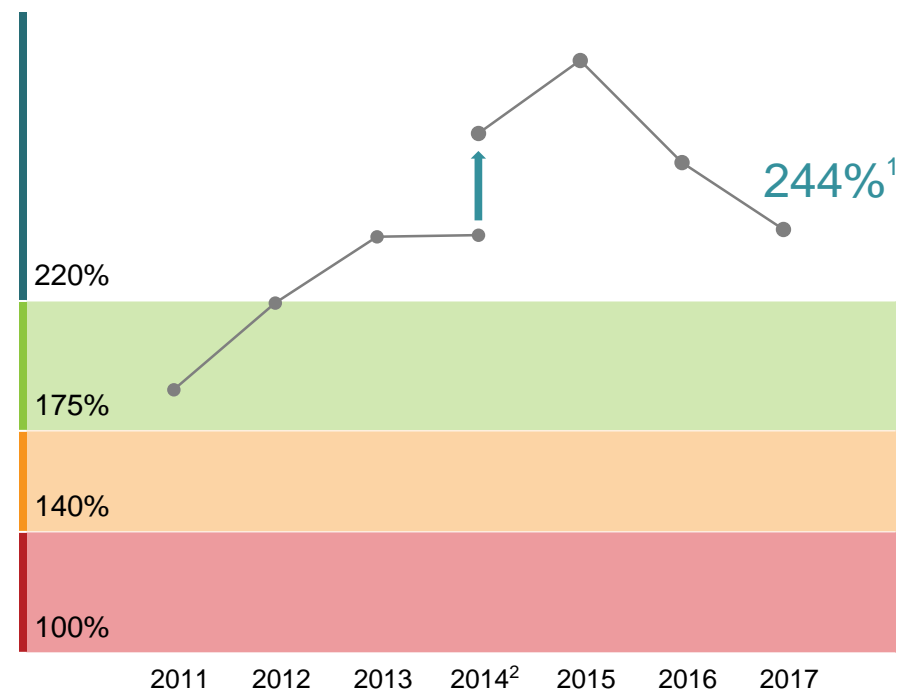
- Tolerate (management decision) or
- If necessary, take management action (e.g. risk transfer, scaling-down of activities; raising of hybrid capital)

### <140%: Sub-optimal capitalisation

- Take risk-management action (e.g. risk transfer, scaling-down of activities; raising of hybrid capital) or
- In exceptional cases, tolerate situation (management decision)

## SII ratio

%

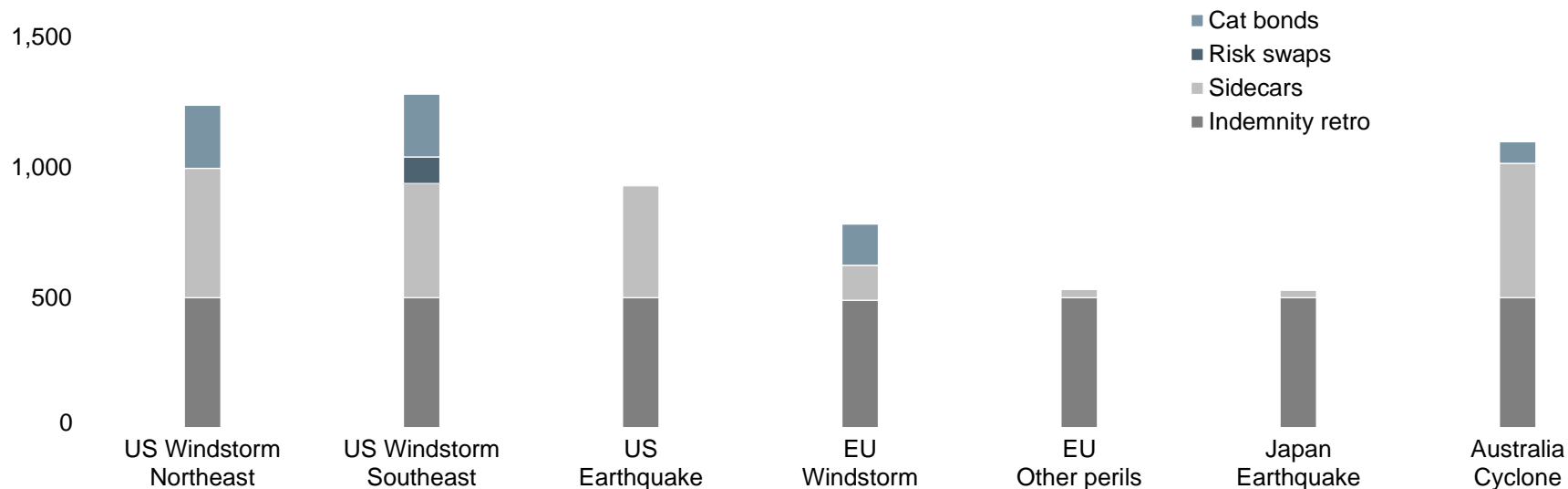


1 Including all planned capital measures. 2 Transition into SII metric.

# Munich Re's maximum in-force nat cat protection

Nat cat protection before reinstatement premiums, as at January 2018

€m



# Reinsurance – Munich Re is utilising multiple channels as instrument for risk management

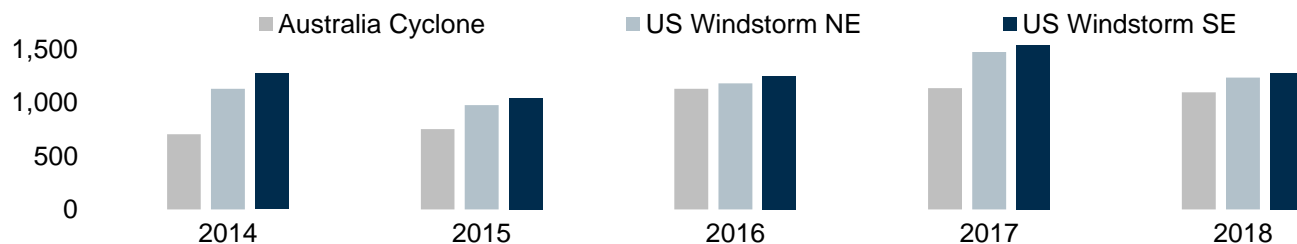
## Munich Re channels to tap alternative capacity sources

### Sidecar programme<sup>1</sup>

- Size of programme placed to institutional investors increased to US\$ 700m
- Broad investor base
- Peak nat cat exposures

### Retrocession – Protection per nat cat scenario<sup>2</sup>

€m



Retrocession use reflects favourable market terms and strong Munich Re capital base

### Enhanced risk management and client offerings on basis of ART channels

- Combining Munich Re's unique value proposition in managing peak risk with client access to institutional investor capacity
- Taking advantage of alternative sources of capital for clients and Munich Re's own book
- Munich Re ILS service for third parties completes offer as customised stand-alone service or integrated into traditional solutions

Broad distribution channels to ART markets increase flexibility of Munich Re balance sheet – relationship-based approach allows for scaling-up

# ESP – Update “Fit, Digital & Successful!”


## Groundwork for growth – first success visible

	Elements		Achievements 2017
<b>Fit</b>	<b>F1</b> Sales	<b>F2</b> Administration	<ul style="list-style-type: none"> <li>▪ Implementation of new structures in admin and central functions</li> <li>▪ Planned cost measures implemented and annual cost objectives reached</li> <li>▪ Sales: Central back office units implemented and agents sales system (EASY) updated</li> <li>▪ Optimisation international set-up started and with good progress</li> </ul>
	<b>F3</b> Governance International	<b>F4</b> Life Germany	
<b>Digital</b>	<b>D5</b> Foundational IT	<b>D6</b> Digital IT	<ul style="list-style-type: none"> <li>▪ New sourcing organisation implemented</li> <li>▪ Digital IT fully established</li> <li>▪ Further improvement of Straight-through-processing rate</li> </ul>
	<b>D7</b> Processes		
<b>Successful!</b>	<b>S8</b> Product portfolio	<b>S9</b> Hybrid customers	<ul style="list-style-type: none"> <li>▪ Successful launch of new P-C products customised for the online market; the new modular design is offered across all P-C personal lines</li> <li>▪ Successful start of new life and health products, in particular three innovative old-age pension products and term-life insurance launched by ERGO Vorsorge</li> <li>▪ Realignment of investment products at ERGO: reviewed product portfolio with 11 focus funds, largest qualification initiative of EBV, digital advisory process</li> <li>▪ Purely digital motor insurance launched by nexible</li> <li>▪ ERGO Mobility Solutions GmbH started</li> </ul>
	<b>S10</b> Online customers	<b>S11</b> Commercial/ industrial business	
	<b>S12</b> Mobility solutions	<b>S13</b> Strategy international	

# ERGO Life and Health Germany

## Key financials 2017

### Gross premiums written €m

2016		9,177
Foreign exchange		-10
Divestments/investments		0
Organic change		43
2017		9,210

- Life: -€123m  
Decline mainly in regular premiums due to attrition of back book
- Health: +€141m  
Positive development due to premium adjustments and new business in supplementary health

### Major result drivers

	2017	2016	▲
Technical result	435	270	164
Non-technical result	270	357	-87
thereof investment result	4,196	4,415	-219
Other	-529	-513	-16
Net result	175	114	61
	Q4 2017	Q4 2016	▲
Technical result	184	141	43
Non-technical result	58	-52	110
thereof investment result	1,066	717	349
Other	-176	6	-182
Net result	66	95	-28

€m

### Technical result

- FY: Enhanced profitability in Life, Health and Direct business supported by one-offs in Life
- Q4: Increased shareholder participation in Life

### Investment result

- FY: Moderate decrease in regular income
- FY: Lower result from derivatives partly reversed in Q4
- Q4: Return on investment: 3.5%

### Other

- FY: Restructuring expenses in 2016, ESP investments in 2016 and 2017
- FY: Tax rate of 34.4% vs. 25.3%
- Q4: Tax refund in 2016; higher costs for Strategy Programme

# ERGO Life Germany: Total premiums and new business, incl. direct business (statutory premiums)

Total premiums (€m)	2017	2016	▲ abs.	▲ %
Gross premiums written	3,240	3,380	–141	–4.2
Statutory premiums	693	832	–139	–16.8
Total premiums	3,932	4,212	–280	–6.7

New business (€m)	2017	2016	▲ abs.	▲ %
Total new business	662	815	–153	–18.8
Regular premiums	204	220	–16	–7.3
Single premiums	458	595	–137	–23.0
Annual premium equivalent (APE) <sup>1</sup>	250	279	–30	–10.6

<sup>1</sup> Regular premiums +10% single premiums.

# ERGO Life Germany – Key figures and ZZR

## Key figures<sup>1</sup> %

	2021	...	2017	2016	2015
Reinvestment yield	n.a.		1.5	1.3	1.8
Average yield	~2.0		3.0	3.4	3.4
Average guarantee <sup>4</sup>	~1.1		2.1	2.4	2.7

## Key financials<sup>3</sup> €bn

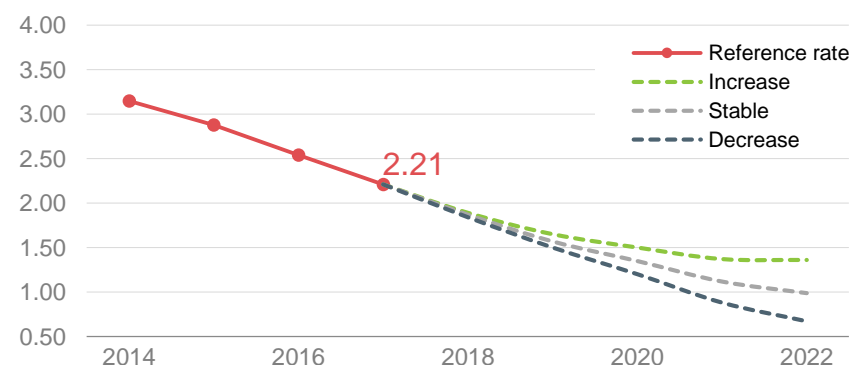
	2017	2016	2015
Free RfB	1.4	1.2	0.9
Terminal bonus fund	0.9	1.1	1.6
Unrealised gains	10.4	13.7	12.2

## ZZR – Low interest-rate reserve €bn

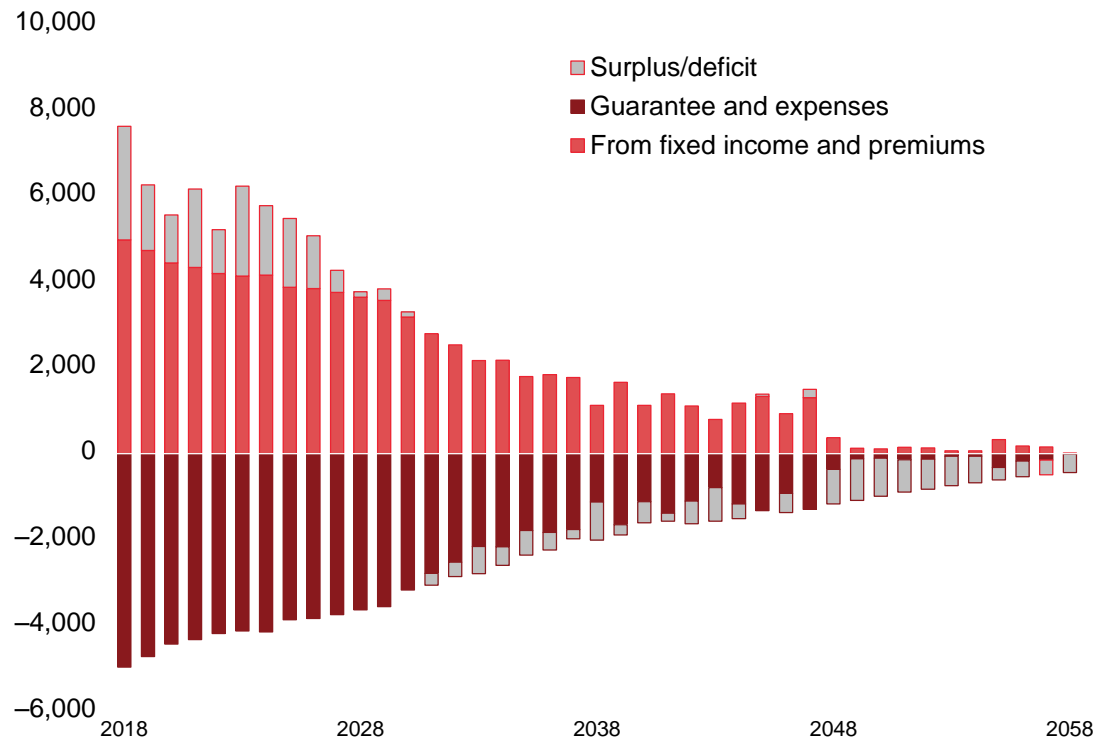
- Local GAAP reserve against low interest rates
- Expected accumulated ZZR in 2018: ~€6.5bn
- Partly financed through unrealised gains – positive impact on IFRS earnings when realised

	2017	2016	2015	2014
Accumulated ZZR	5.0	3.6	2.5	1.5

## ZZR reference rate – Projection<sup>2</sup>



# ERGO Life Germany – Sufficient cash-flow buffers



Cumulated surplus years 1-40	€2,789m
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Non-fixed-income assets	€4,594m
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Market-value swaptions	€1,952m
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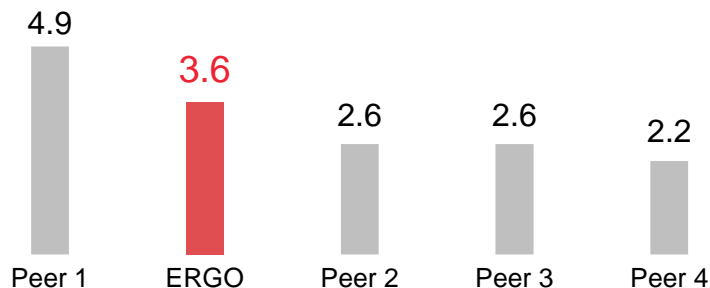
<b>Available as buffer</b>	<b>€9,335m</b>
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- Cash flows as shown with low-interest-rate sensitivity
- Swaptions provide additional protection against further decline of interest rates

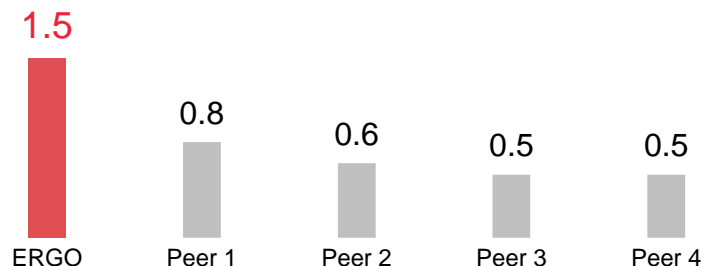


# Health Germany – Stabilise comprehensive insurance, strengthen supplementary insurance

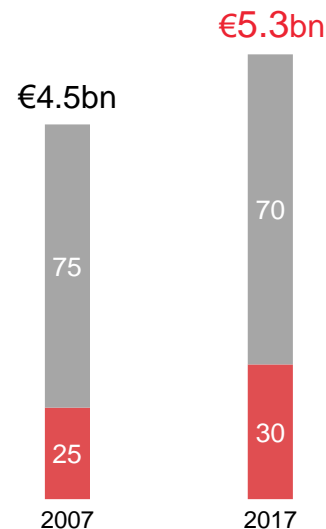
## Market view on comprehensive insurance (GWP)<sup>1</sup> €bn



## Market view on supplementary insurance (GWP)<sup>1</sup> €bn



## ERGO business mix – Gross premiums written %



### Comprehensive insurance

ERGO number 2 in German market – stable results and stable political environment

### Supplementary insurance

ERGO clear market leader – expansion in long-term care and direct insurance

# ERGO Property-casualty Germany (1)

## Key financials 2017

### Gross premiums written €m

2016		3,194
Foreign exchange		-8
Divestments/investments		0
Organic change		107
2017		3,293

- Organic growth mainly driven by fire/property and marine

### Major result drivers

	2017	2016	▲
Technical result	138	139	0
Non-technical result	105	-11	116
thereof investment result	185	80	105
Other	-187	-200	13
Net result	57	-72	129

	Q4 2017	Q4 2016	▲
Technical result	16	15	1
Non-technical result	32	27	5
thereof investment result	48	48	0
Other	-55	-31	-24
Net result	-7	11	-18

### Technical result

- FY: Combined ratio of 97.5% slightly above previous year's level, but below annual guidance; strategic investments had impact on combined ratio of ~1.7%-pts. vs. 2016
- Loss ratio: Overall claims experience in 2017 slightly above expectations due to nat cats in Q4
- Expense ratio improved by 1.6%-pts.
- Q4: Combined ratio at previous year's level, negatively impacted by nat cats

### Investment result

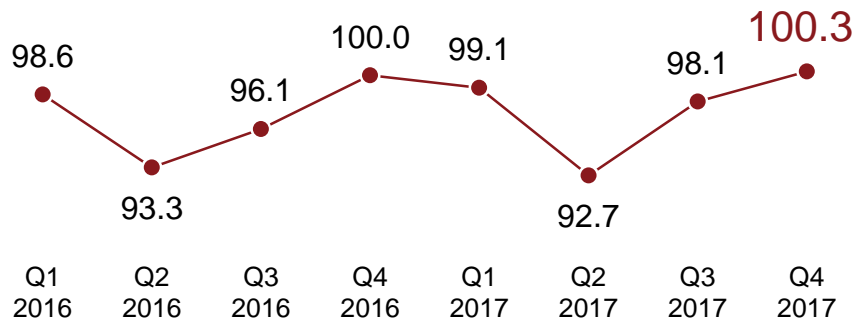
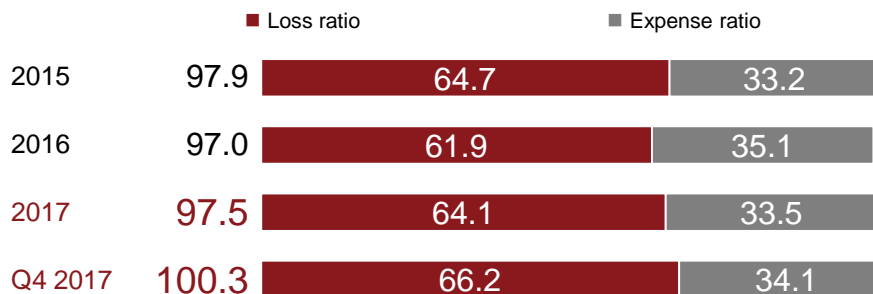
- FY: Higher disposal gains and lower equity impairments
- Q4: Return on investment: 2.8%

### Other

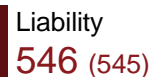
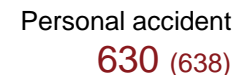
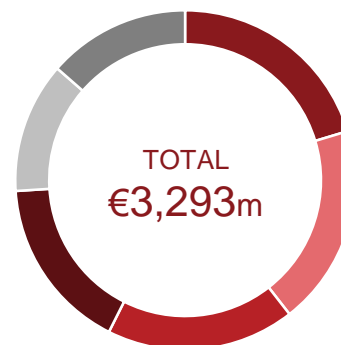
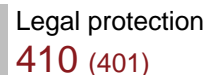
- FY: Restructuring expenses and one-offs in 2016, ESP investments in 2017
- FY: Tax rate of 2.7% vs. 37.0%

# ERGO Property-casualty Germany (2)

## Combined ratio %



## Gross premiums written €m



# ERGO International

## Key financials 2017

### Gross premiums written €m

2016		5,018
Foreign exchange		-7
Divestments/investments		-84
Organic change		116
2017		5,043

- Life: -€306m  
Italy: Sale of entity in Q2 2016 (-€112m)  
Belgium: Discontinuation of new business as from Q3 2017, Poland and Austria: Less new single-premium business
- P-C<sup>1</sup>: +€281m  
Increase mainly driven by strong growth in Poland and the Baltics as well as by integration of ATE in Greece (+€53m)
- Health: +€50m  
Growth in Belgium and Spain

### Major result drivers

	2017	2016	▲
Technical result	20	-72	92
Non-technical result	199	423	-224
thereof investment result	470	797	-327
Other	-179	-352	173
Net result	40	-1	42

	Q4 2017	Q4 2016	▲
Technical result	-100	-86	-14
Non-technical result	151	267	-115
thereof investment result	206	359	-153
Other	-62	-197	134
Net result	-11	-16	5

### Technical result

- Life (+€26m): Improvement mainly due to sale of Italian entity; Belgium again with negative result
- P-C<sup>1</sup> (+€70m): Improvement driven by Poland (tariff adjustments in motor lines)

### Investment result

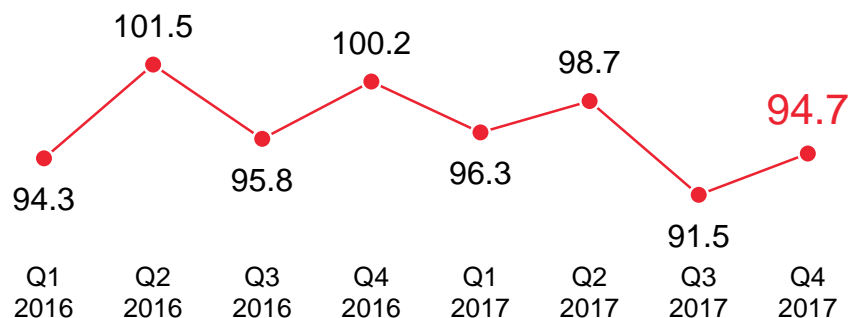
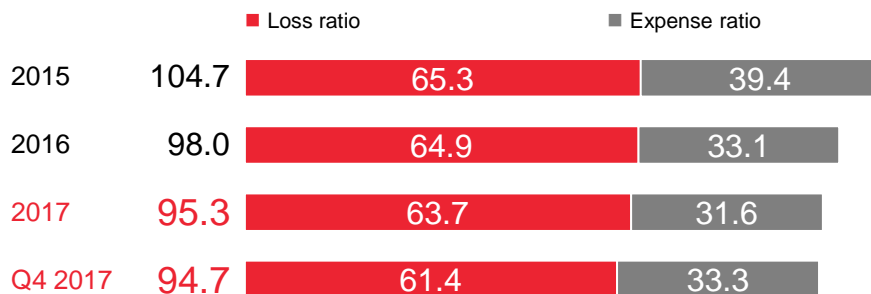
- FY/Q4: High level of realised gains at Belgium Life in 2016
- FY: Lower regular income due to sale of Italian entity
- Q4: Return on investment: 4.8%

### Other

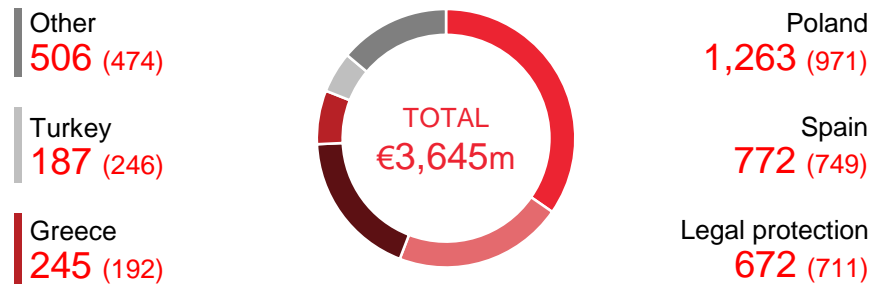
- FY/Q4: High provisions for restructuring expenses at Belgium Life in 2016
- FY: Tax rate of 34.4% vs. 124.2%

# ERGO International – Property-casualty<sup>1</sup>

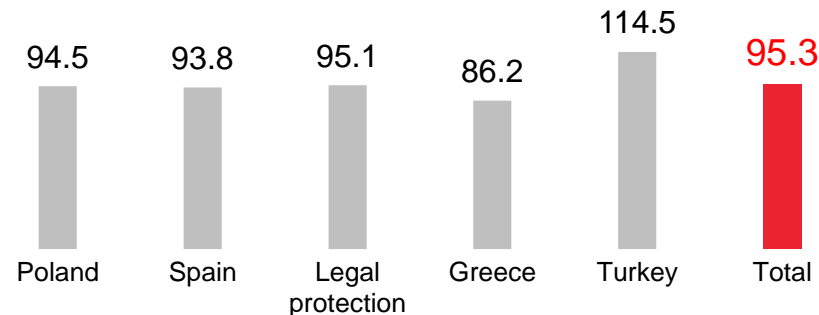
## Combined ratio %



## Gross premiums written €m



## Combined ratio 2017 %



<sup>1</sup> Including short-term health business as from 2016.

# ERGO International life: Total premiums and new business (statutory premiums)

## Total premiums (€m)

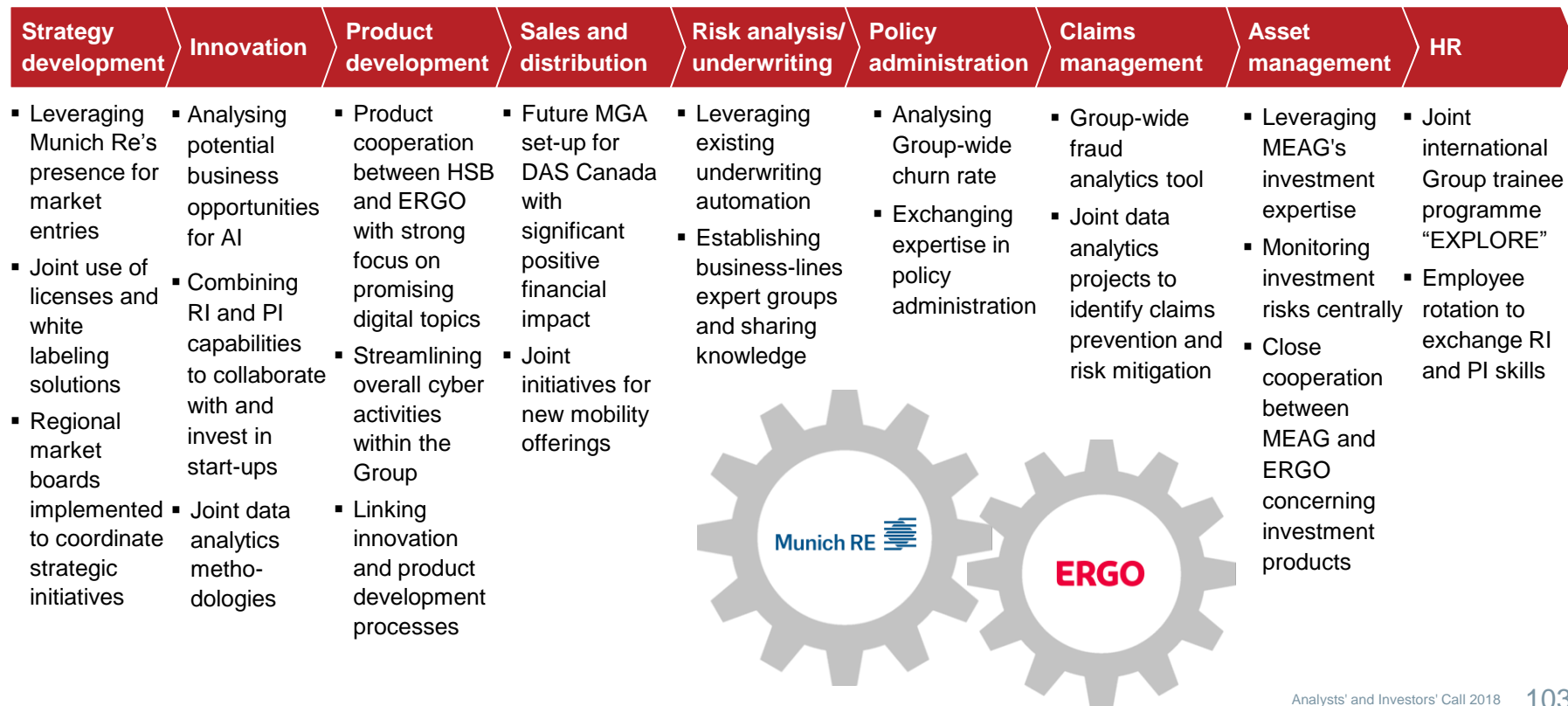
	2017	2016	▲ abs.	▲ %
Gross premiums written	855	1,161	−306	−26.4
Statutory premiums	310	369	−59	−16.1
Total premiums	1,164	1,530	−366	−23.9

## New business (€m)

	2017	2016	▲ abs.	▲ %
Total new business	336	656	−320	−48.8
Regular premiums	74	130	−56	−43.2
Single premiums	262	526	−264	−50.1
Annual premium equivalent (APE) <sup>1</sup>	100	183	−83	−45.2

<sup>1</sup> Regular premiums +10% single premiums.

# ESP shows first results in fostering an interlocked business model between primary insurance and reinsurance



# ERGO – Economic earnings 2017

€bn	L/H Germany	P-C Germany	Inter- national
Operating economic earnings	0.0	0.2	0.3
Expected return existing business	0.2	0.0	0.1
New business value	0.1	0.0	0.2
Operating variances existing business	−0.3	0.2	0.0
Economic effects	0.6	0.2	0.3
Other non-operating earnings	−0.3	−0.1	−0.2
Total economic earnings	0.3	0.2	0.3

## New business value

- Major part of new business value Life and Health Germany contributed by German Health business
- New business value International dominated by profitable business growth in Poland

## Operating variances existing business

- Reduced expense assumptions lead to positive operating variances in Property-casualty Germany
- Portfolio development in traditional life business (e.g. lapse) with adverse impact
- Positive effects of ERGO Strategy Programme reflected in operating economic earnings

## Economic effects

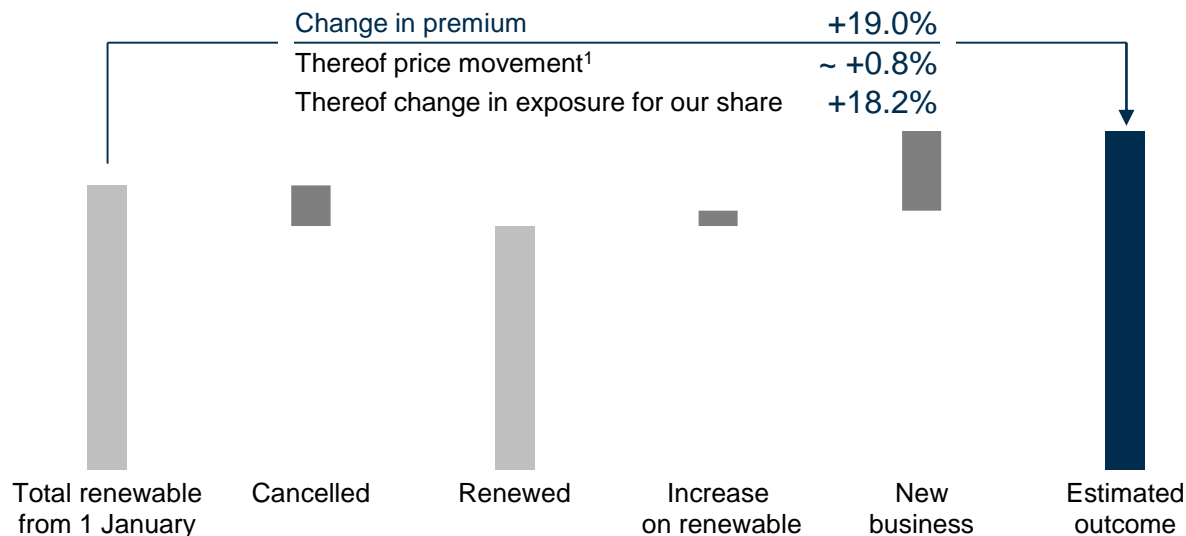
- Positive effect of improved economic environment (mainly higher interest rates)



# Substantial rate increases in loss-affected business – Attractive business opportunities lead to top-line growth

## January renewals 2018

%	100	–14.3	85.7	5.4	27.9	119.0
€m	8,327	–1,190	7,138	446	2,327	9,909

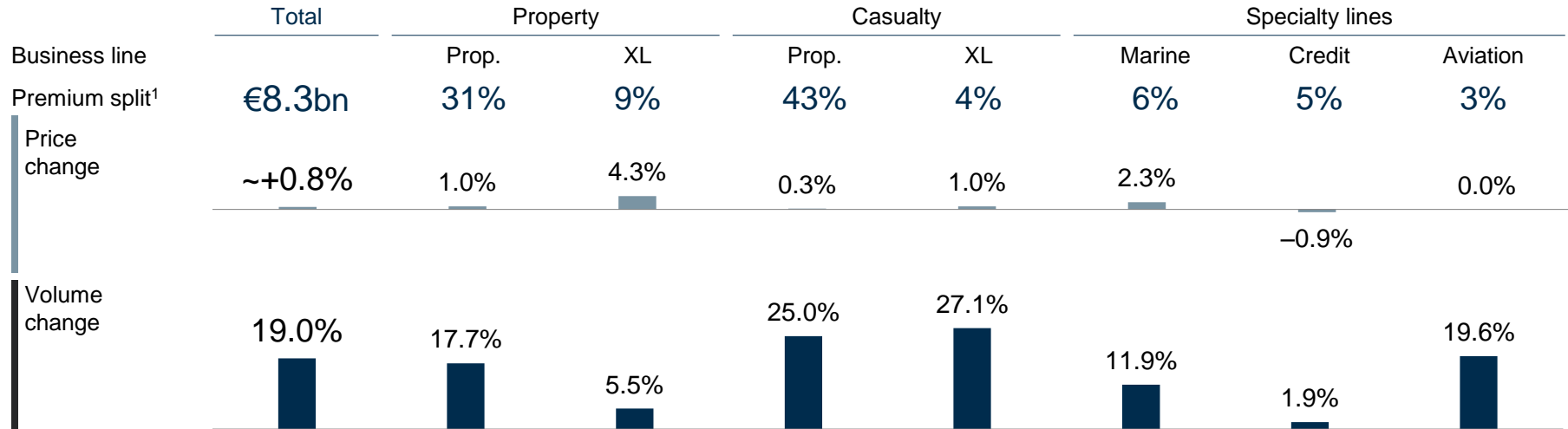


- Positive price change for the first time in four years
- Nat cat losses in 2017 stop downward trend – substantial rate increases in loss-affected business, stabilisation elsewhere
- Significant top-line growth, seizing various opportunities in proportional casualty and property business, ...
- ... including a few very large transactions

<sup>1</sup> Price movement is risk-adjusted, i.e. includes claims inflation/loss trend and is adjusted for portfolio mix effects. Furthermore, price movement is calculated on a wing-to-wing basis (including cancelled and new business).

# January renewals with very satisfactory outcome – Overall portfolio profitability clearly improved

## Munich Re portfolio – Price and volume change in major business lines



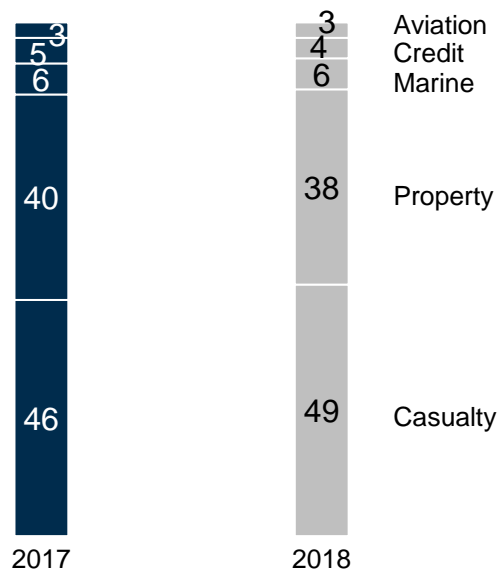
Price  
change

- Positive price change for the first time in four years
- Both proportional and XL business with better performance, especially in property
- Improvement is due to the post-HIM environment (substantial rate increases on loss-affected business, stabilisation elsewhere)

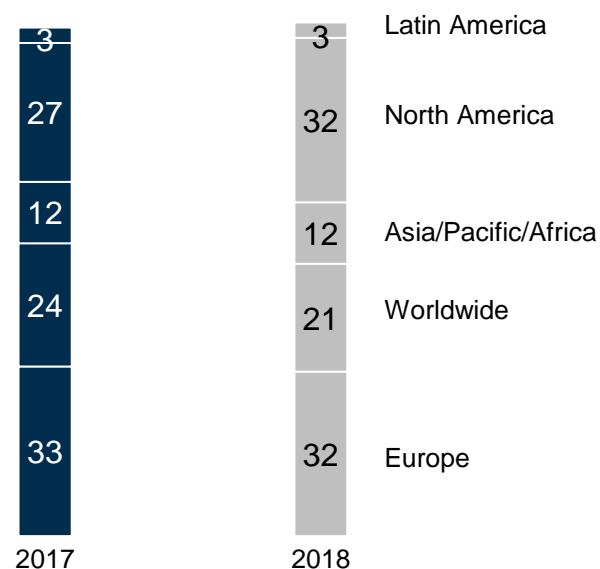
<sup>1</sup> Relative premium share in relation to total renewable business in January.

# January renewals 2018 – Split by line of business and region

## Split by line of business %



## Split by region %

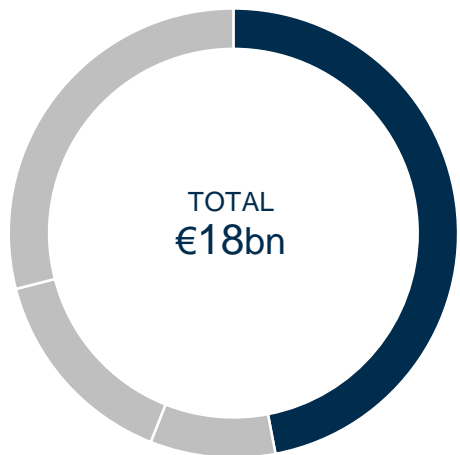


# January renewals – Roughly half of total P-C book up for renewal, regional focus on Europe

## Total property-casualty book<sup>1</sup> %

Remaining business  
29

January renewals  
47



July renewals  
15

April renewals  
9

## Regional allocation of January renewals %

Worldwide  
24

Europe  
33

Latin America  
3

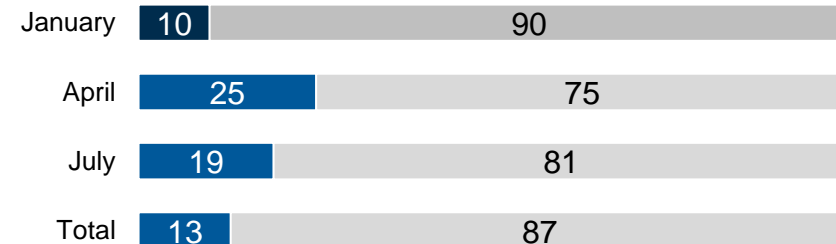
Asia/Pacific/Africa  
12

North America  
27



## Nat cat shares of renewable portfolio<sup>2</sup> %

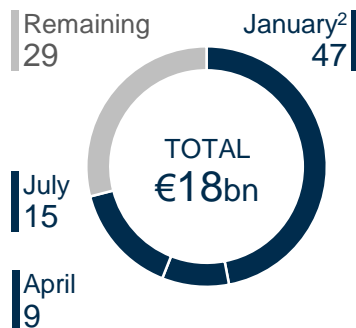
■ Nat cat ■ Other perils



<sup>1</sup> Gross premiums written. Economic view – not fully comparable with IFRS figures. <sup>2</sup> Total refers to total P-C book, incl. remaining business.

# Improvement in market conditions expected to continue

## Total P-C book<sup>1</sup>

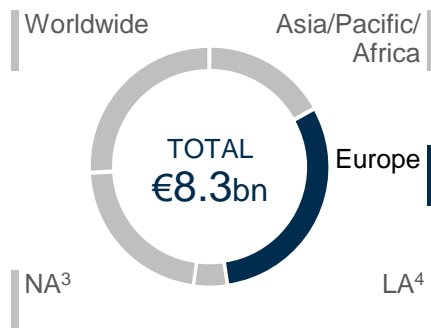


Nat cat share: 13%

~50% of total P-C book renewed in January

## Treaty business

### January

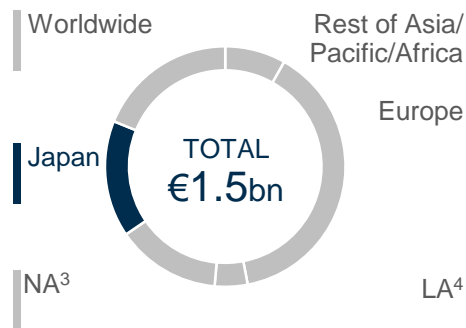


Focus: **Europe**

Nat cat share: 10%

Positive price change of ~+0.8%

### April

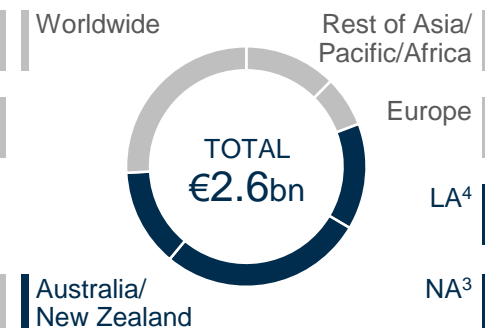


Focus: **Japan**

Nat cat share: 25%

- Capacity expected to remain high
- Claims experience in the individual market segments will play a major role

### July



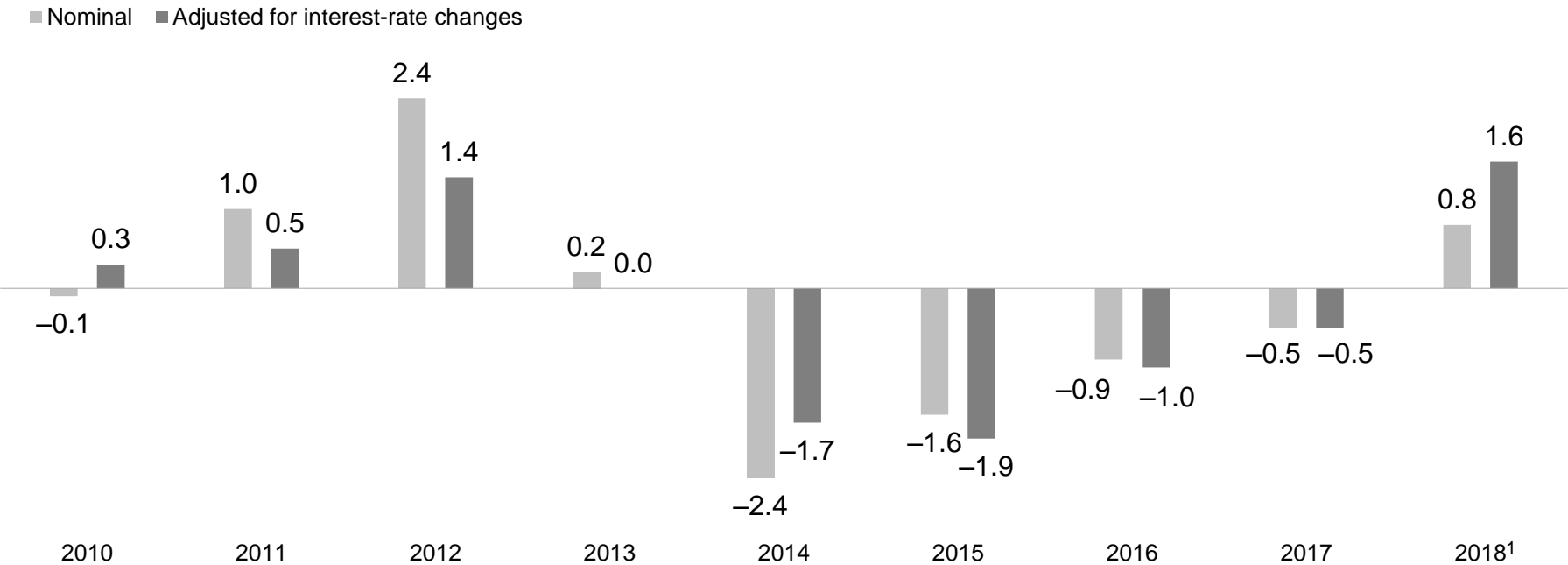
Focus: **USA, LA, Australia**

Nat cat share: 19%

# Renewal results

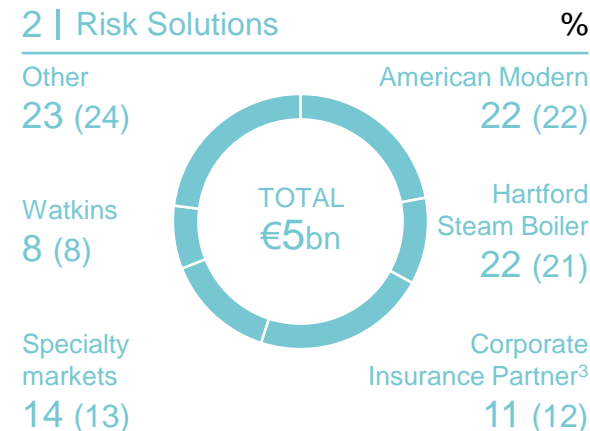
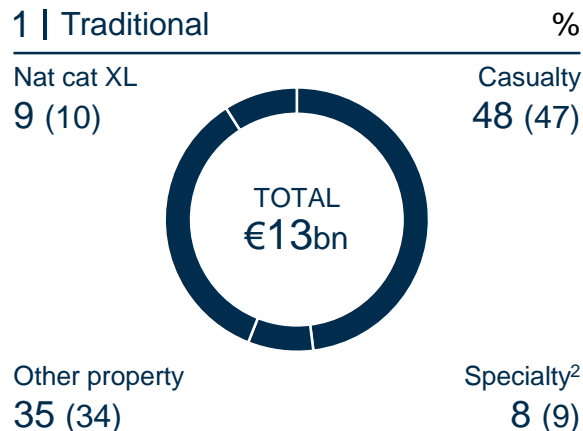
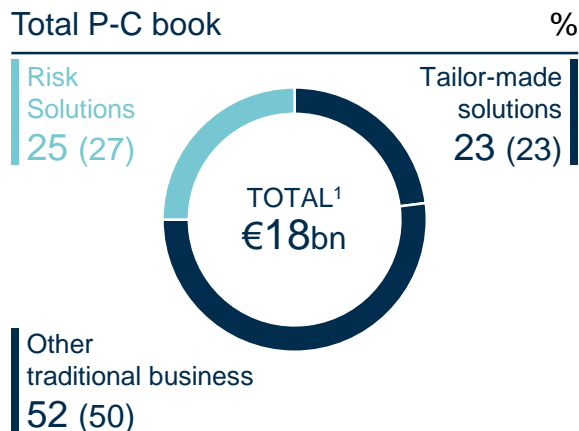


## Year-to-date price change 2010–2018



1 January renewals.

# Stable top line despite portfolio management measures – well balanced diversified portfolio



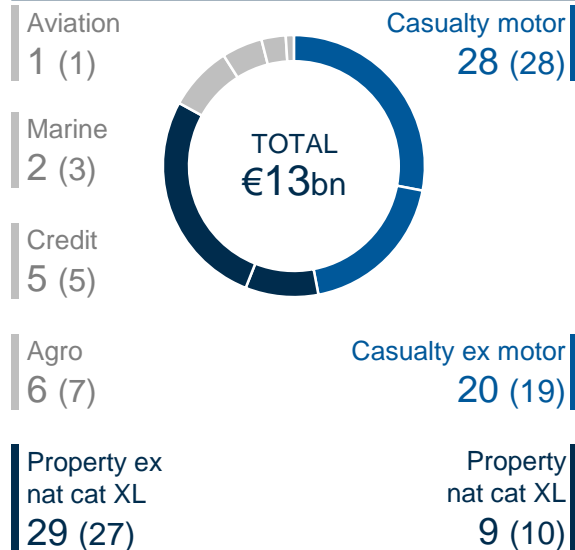
- Targeted withdrawal from unprofitable business
- Offset by selective underwriting of attractive business opportunities in traditional reinsurance
- Sustained high level of tailor-made solutions

- Well balanced traditional portfolio
- Slight move towards casualty and other property

- Dominated by US business – around 60%
- Consistent exit from underperforming business – profitability before growth

# 1 | Portfolio management and high share of proportional business supports earnings resilience

## Traditional



Proportional  
75 (74)

%  
Facultative  
9 (9)



XL  
16 (17)

## Portfolio developments

### Share increases

- Proportional property and casualty – following the realisation of profitable business opportunities
- Accordingly, ongoing slight shift towards proportional business

### Share decreases

- Rigorous top-line reductions in agro and marine, credit volume slightly down
- Property nat cat XL portfolio relatively stable overall



## 2 | Risk Solutions: Outlier emergence above expectation – Active portfolio management secures underlying profitability

### Gross earned premiums<sup>1</sup>

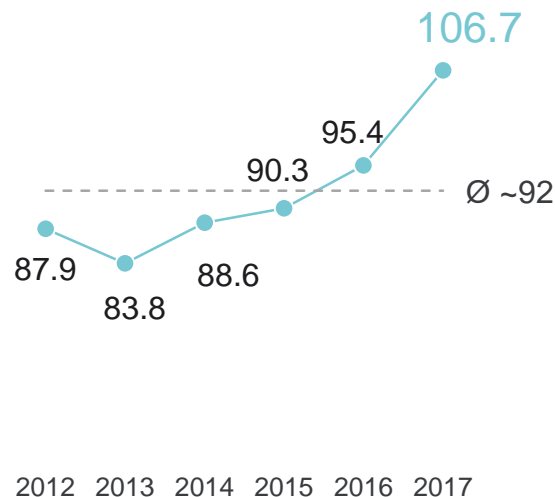
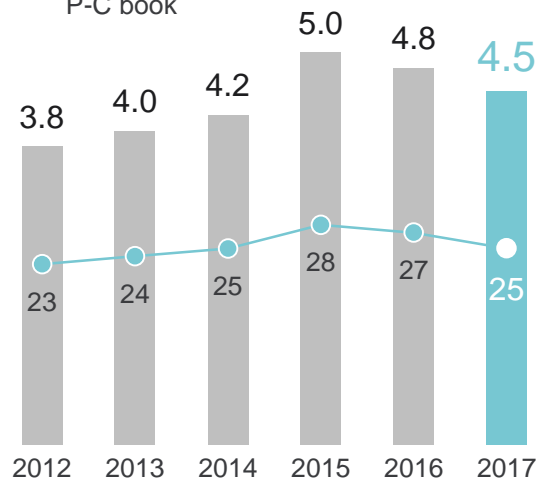
€bn

### Combined ratio<sup>1</sup>

%

### Drivers in 2017

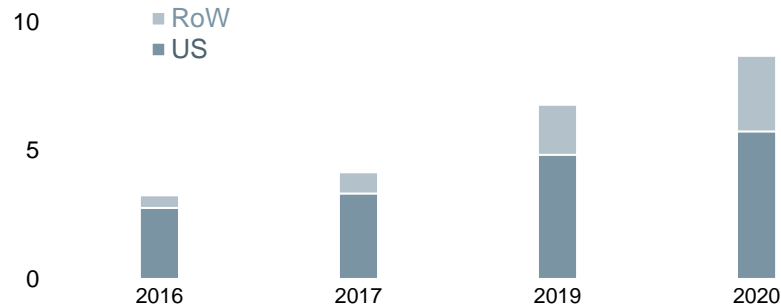
—●— Share in % of total  
P-C book



- Top-line decline driven by FX and portfolio management measures
- Bottom line negatively affected by outlier losses and adverse one-off effects
- Hartford Steam Boiler with sustained positive performance

# Strong long-term growth in cyber (re)insurance expected – Munich Re with leading-edge expertise and market presence

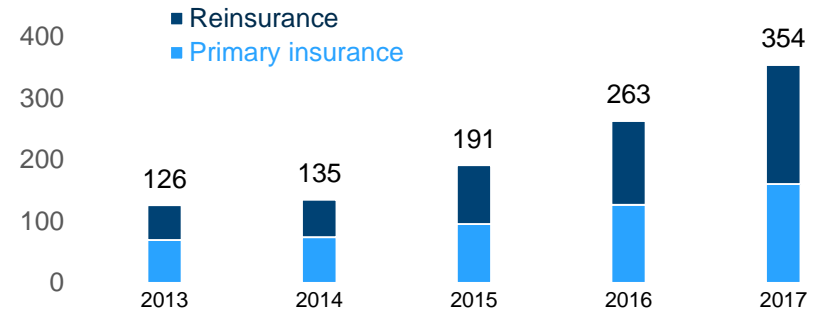
GWP global cyber insurance market<sup>1</sup> US\$ bn



## REINSURANCE: First mover and global market leader

- Dynamic growth through joint projects with cedents
- Steady growth in the US, accelerated growth in Europe
- Strong accumulation models, increased expert headcount
- Network with external cyber service providers established (underwriting, data, claims services for cedents/ insureds)

GWP Munich Re cyber portfolio US\$ m



## PRIMARY INSURANCE: Specialised single-risk taker

- Hartford Steam Boiler: Established player in US for SMEs and individuals
- Corporate Insurance Partner: Focus on larger corporate clients – Cooperation with IT providers and Beazley

# Reinsurance Property-casualty – Economic earnings

€bn	2017	2016
Operating economic earnings	–2.0	0.7
Expected return existing business	0.2	0.2
New business value	–2.4	–0.5
Operating variances existing business	0.2	1.0
Economic effects	0.6	2.0
Other non-operating earnings	0.0	–0.6
Total economic earnings	–1.4	2.1

## Operating economic earnings

- Sharp reduction of –€2.7bn mainly due to higher outlier losses compared with prior year (–€2.7bn)

## New business value

- Strongly affected by high outlier activity in 2017
- In addition, new business value generally affected by unchanged reserving discipline (–€0.7bn prudence margin)

## Operating variances existing business

- Positive impact from ultimate reductions for prior years (–€0.9bn adjusted for commissions)
- Largely offset by major losses being above expectations

# Reinsurance Property-casualty

## Key financials 2017

### Gross premiums written €m

2016		17,826
Foreign exchange		-321
Divestments/investments		0
Organic change		338
2017		17,843

- Negative FX effects, mainly US\$ and GBP
- Growth from new and existing treaties, mainly in motor and property lines
- Cancellation/modification of large proportional treaties in China across several lines of business

### Major result drivers

	2017	2016	▲
Technical result	-1,261	1,859	-3,120
Non-technical result	627	425	202
thereof investment result	1,895	1,589	306
Other	158	-259	417
Net result	-476	2,025	-2,501

	Q4 2017	Q4 2016	▲
Technical result	120	217	-97
Non-technical result	165	57	108
thereof investment result	459	323	136
Other	-94	-10	-84
Net result	191	264	-73

### Technical result

- FY: High nat cat loss ratio of 22.0%, thereof impact from hurricanes Harvey, Irma and Maria: €2.7bn/16.4%
- Q4: Basic loss ratio relatively high, driven by cautious loss picks as well as individual nat cat and property losses
- FY: Elevated expense ratio of 33.5% due to true-ups from prior years (0.5%-pts.) and profit-commission adjustments

### Investment result

- FY: Stable regular income; high disposal gains and improved derivative result
- Q4: Return on investment: 3.0%

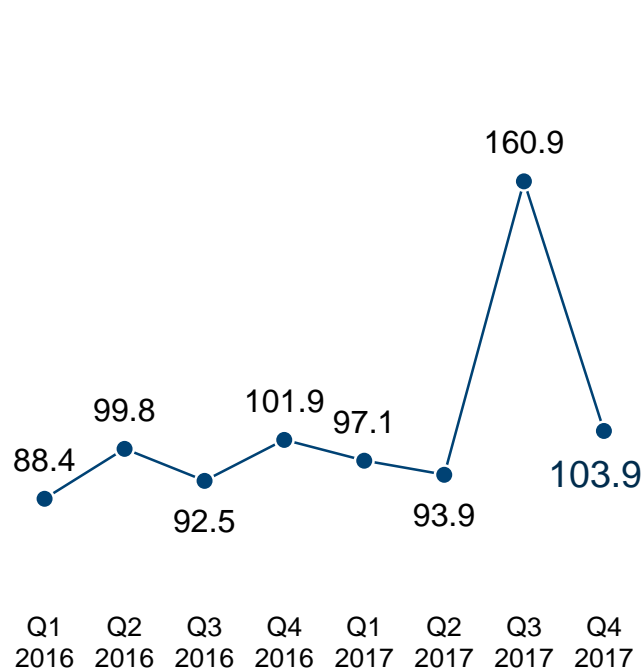
### Other

- FY: FX result of -€141m vs. €445m

# Combined ratio

## Combined ratio

%



		Basic losses	Major losses	Expense ratio
2015	89.7	50.8	6.2	32.6
2016	95.7	54.2	9.1	32.4
2017	114.1	54.8	25.8	33.5
Q4 2017	103.9	55.6	12.0	36.3

	Major losses	Nat cat	Man-made	Reserve releases <sup>1</sup>	Normalised combined ratio <sup>2</sup>
2017	25.8	22.0	3.8	-5.2	100.9
Q4 2017	12.0	12.0	0.0	-3.1	102.7
Ø Annual expectation	~12.0	~8.0	~4.0	~-4.0	

1 Basic losses prior years, already adjusted for directly corresponding sliding-scale and profit commission effects.  
 2 Based on reserve releases of 4%-pts.; 2017 adjusted for several larger prior-year commission effects of 0.5%-pts.

# Reinsurance Life and Health – Economic earnings

€bn	2017	2016
Operating economic earnings	1.6	1.1
Expected return existing business	0.2	0.2
New business value	1.1	1.2
Operating variances existing business	0.3	−0.2
Economic effects	0.3	0.9
Other non-operating earnings	−0.8	−0.3
Total economic earnings	1.0	1.7

## New business value

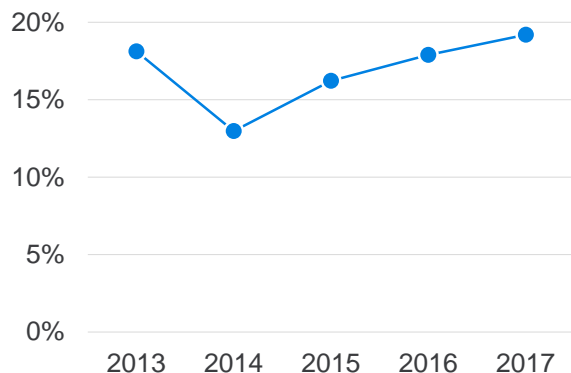
- Exceeding expectations, almost as strong as the already exceptional last year
- Traditional reinsurance resilient overall to mounting pressure on volumes and margins
  - Very strong contribution from North America and Asia
  - Several mid-sized transactions in Europe
- Financially motivated reinsurance: again a successful year with 17 new transactions
- One large full-risk-transfer portfolio transaction

## Operating variances existing business

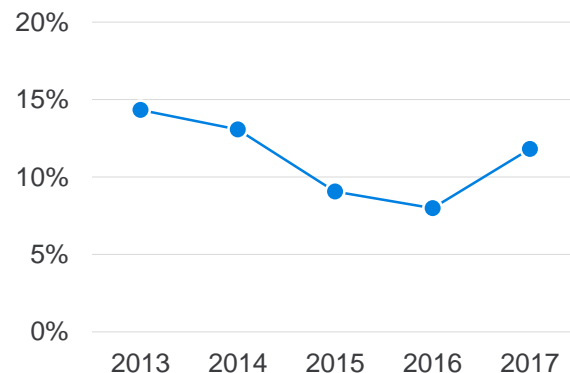
- Significantly positive contribution from US in-force management
- In aggregate, negative impact from model and assumption review

# New-business profitability continues to be strong

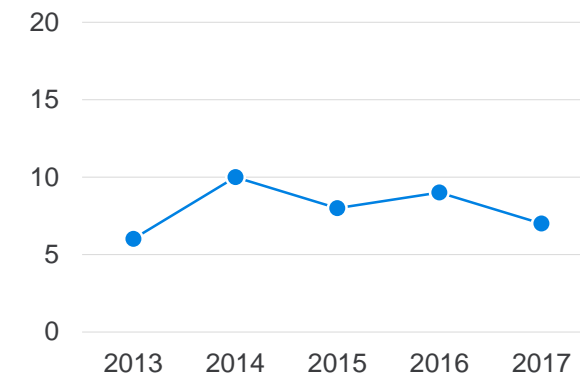
RORAC spread<sup>1</sup> %



IRR spread<sup>1</sup> %



Payback period<sup>2</sup> years



- Very good new-business profitability relative to economic risk capital and total investment
- Composition of new business portfolio main driver of changes over the years
- Positive impact in 2017 from US tax reform
- Payback period particularly influenced by share of business with financing character

# Reinsurance Life and Health

## Key financials 2017

### Gross premiums written €m

2016		13,637
Foreign exchange		-172
Divestments/investments		0
Organic change		261
2017		13,726

- Negative FX effects from GBP und US\$
- Business growth in Australia, Canada, Asia and Middle East

### Major result drivers

	2017	2016	▲
Technical result	376	520	-143
Non-technical result	331	116	216
thereof investment result	865	686	179
Other	-112	-120	8
Net result	596	515	81

	Q4 2017	Q4 2016	▲
Technical result	144	216	-72
Non-technical result	94	22	72
thereof investment result	204	179	25
Other	61	-105	166
Net result	299	132	167

### Technical result incl. fee income of €428m

- FY: Almost meeting original guidance, despite negative impact from recaptures in Q2 and Q3
- Q4: Strong contribution from North America and the UK, some positive one-offs, partly offset by negative result in Australia

### Investment result

- FY: High regular income supported by deposits retained on assumed reinsurance; high disposal gains
- Q4: Return on investment: 3.2%

### Other

- FY: FX result of -€27m vs. €128m
- Q4: Tax gain of €80m driven by US tax reform



# Strong results from Canada and Europe offset strain from US in-force management and Australian claims burden

€m	2017	2016
Gross premiums written	13,726	13,637
Mortality	40%	40%
Morbidity	55%	55%
Other	5%	5%
Technical result	376	520
Mortality	89%	57%
Morbidity	8%	42%
Other	3%	1%
Fee income	51	41

## Gross premiums written

- Negative effects from exchange rates versus 2016 (–€172m)
- Ongoing growth in Asia, particularly Greater China
- Higher premium income in FinMoRe
- Large deals signed in Canada and Australia in Q4 2016
- Terminations in Australia

## Technical result

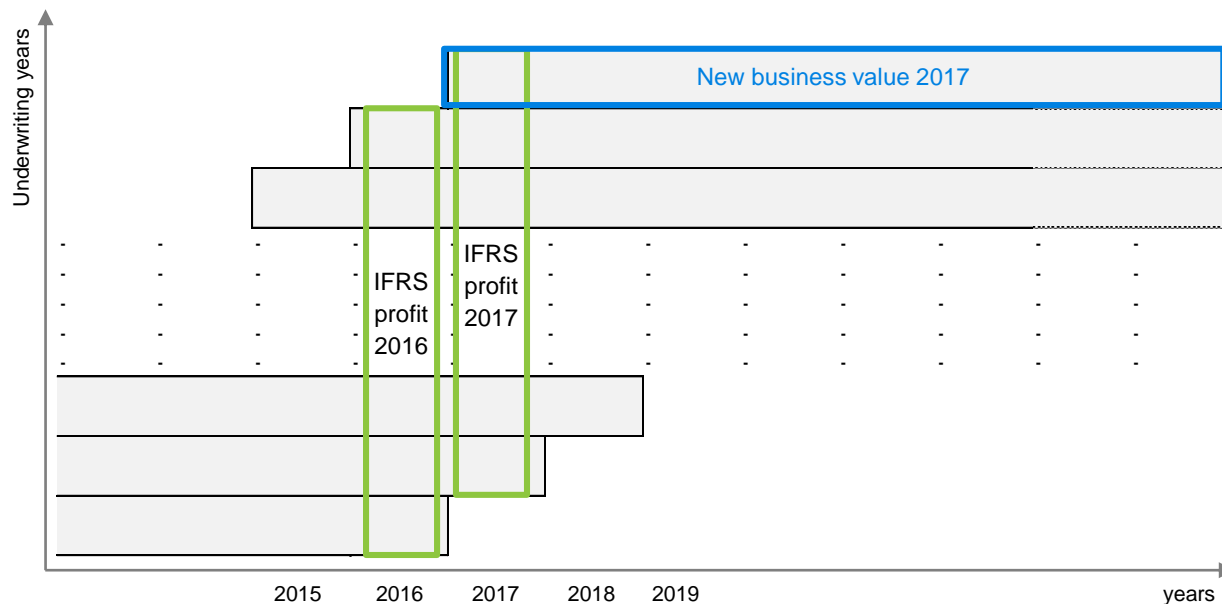
- US recaptures impact result by –€170m
- Positive contribution by model and assumption changes as well as business-related one-time effects
- Higher than expected claims in Australia more than offset by experience in rest of world; US mortality claims in line with expectations

## Fee income

- Generated from reinsurance treaties with little or no risk transfer
- Growing business with stable and predictable result contribution

# IFRS vs SII earnings recognition – NBV to translate into IFRS earnings only over time

IFRS dominated by past underwriting years, while economic earnings take a more prospective view



ILLUSTRATIVE

## Economic earnings

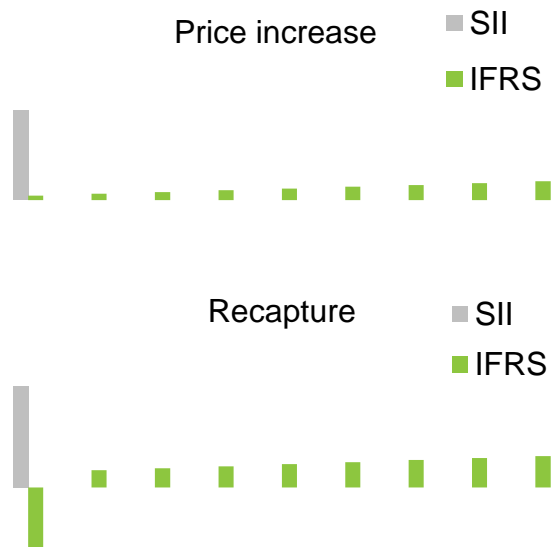
- Immediate risk-adjusted recognition of present value of all expected future profits of the current underwriting year
- Valuation adjustments relative to current best-estimate assumptions of all underwriting years

## IFRS profit

- Margin releases from all past underwriting years
- Valuation adjustments reflecting IFRS reserving and assumption-setting rules (e.g. lock-in principle)

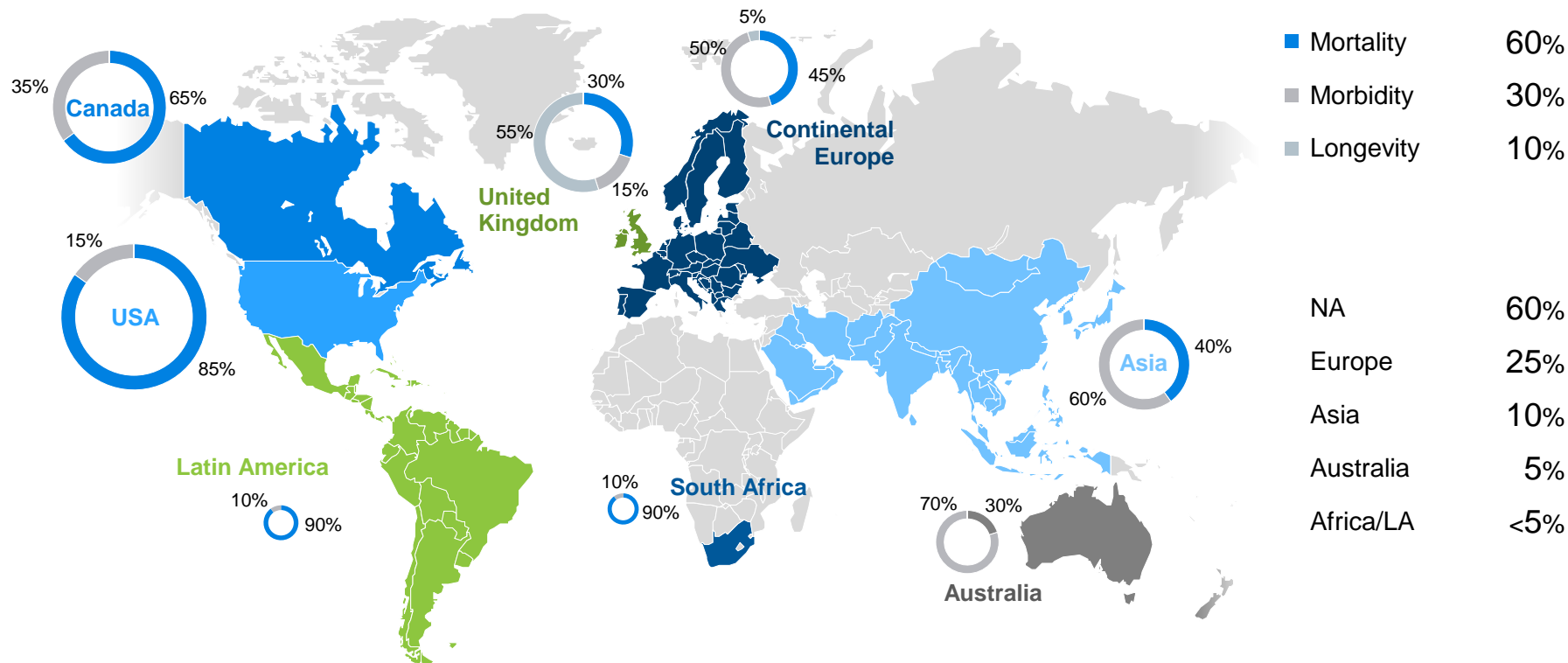
# IFRS vs SII earnings recognition – In-force management

## Measures with equivalent economic value can lead to significantly different recognition patterns in IFRS

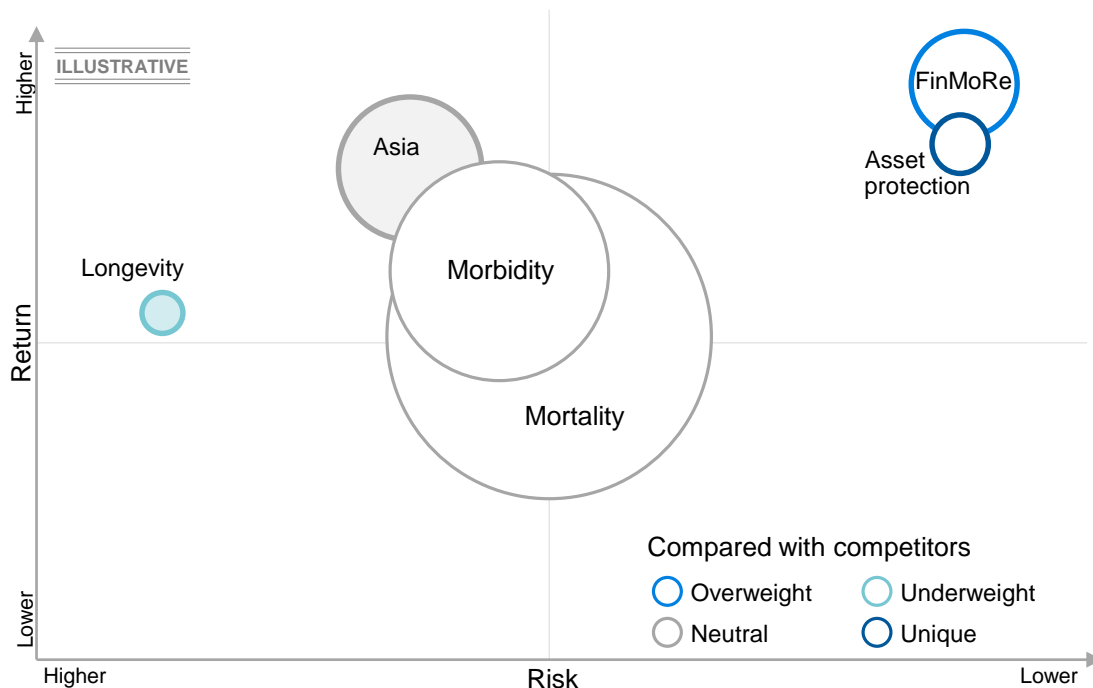


- Measures may include adjustments to prices, terms and conditions of underlying policies as well as negotiated recaptures.
- While rate increases may have the same impact on the economic balance sheet as a recapture, the recognition in IFRS will differ significantly.
- SII/economic balance sheet:
  - Equivalent treatment of price increase and recaptures
  - Immediate recognition of (present value of projected) impact versus economic reserves/BEL in earnings
- IFRS:
  - Improvement of earnings recognised over the (original) life of the contract
  - Significant timing differences, depending on the measure:
    - Premium increase: recognition of premium when received/earned
    - Recapture: loss at inception if consideration to client exceeds release of reserves; relief of future earnings from anticipated (unreserved) losses

# Well diversified portfolio: North American overweight reflects market size – Biometric risk exposure dominated by mortality



# Initiative portfolio – Growing IFRS profit pool and significant contribution to economic earnings



## INITIATIVE PORTFOLIO

### FinMoRe

Well established value proposition – strong demand prevails

### Asia

Vital new business production secures growth across the region

### Longevity

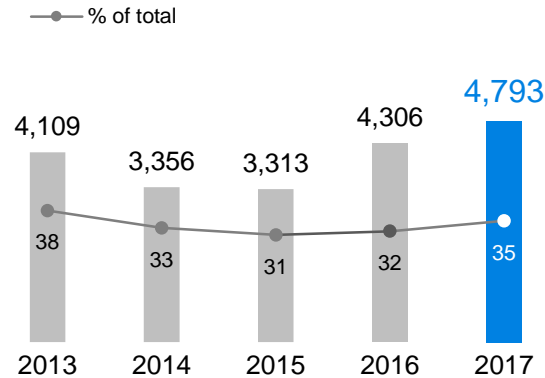
Book developed carefully in line with risk appetite

### Asset protection

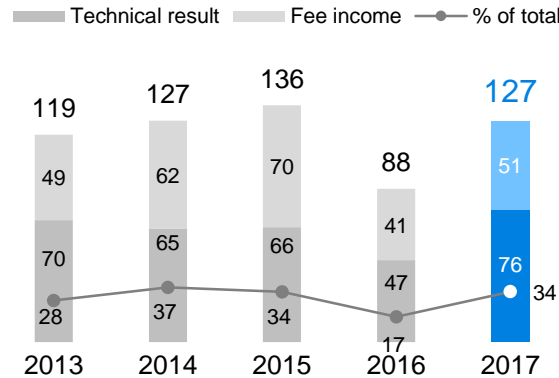
Comprehensive solutions to non-biometric financial risks gaining significance

# Financially Motivated Reinsurance – Well established value proposition – Strong demand prevails

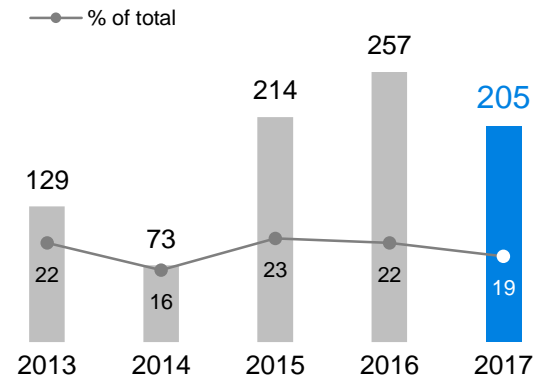
## Gross premiums written<sup>1</sup> €m



## Technical result and fee income<sup>1</sup> €m



## NBV<sup>2</sup> €m



## Portfolio development

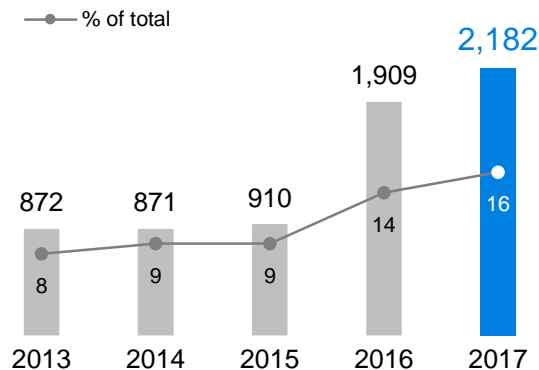
- Geographically well diversified portfolio
- Transaction types tailored to client needs
- 17 new treaties concluded in 2017
- 2017 new business value again at very attractive level, dominated by APAC and Europe

## Expectations going forward

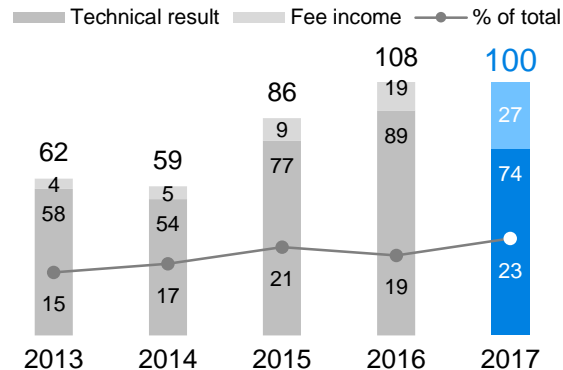
- Demand will remain high
- Number, size and type of transactions are difficult to predict and will vary on an annual basis

# Asia – Vital new business production secures growth across the region

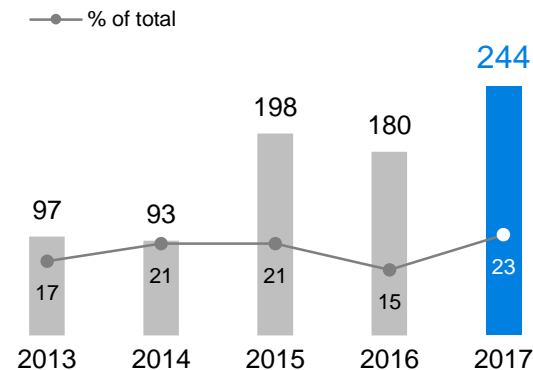
## Gross premiums written<sup>1</sup> €m



## Technical result and fee income<sup>1</sup> €m



## NBV<sup>2</sup> €m



## Portfolio development

- Sustained growth path – recurring business steadily increasing
- Recent growth particularly emanating from Greater China
- Tailor-made market and client strategies, growth supported by broad range of services
- Record NBV in 2017, supported by FinMoRe

## Expectations going forward

- Reinsurance markets will continue their growth path
- Demand for solvency relief and financing solutions will remain high
- Underwriting discipline will remain high although competition and pressure on prices are expected to increase
- Closely watch product trends in critical illness

# Longevity – Book developed carefully in line with risk appetite

## Gross premiums written

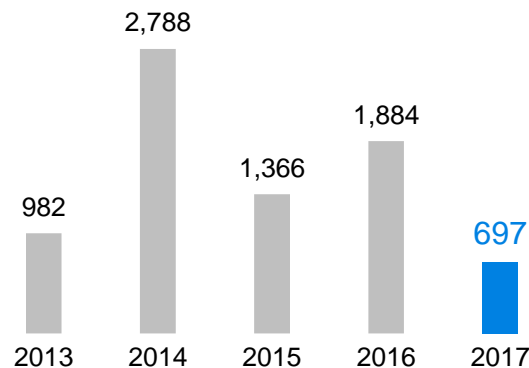
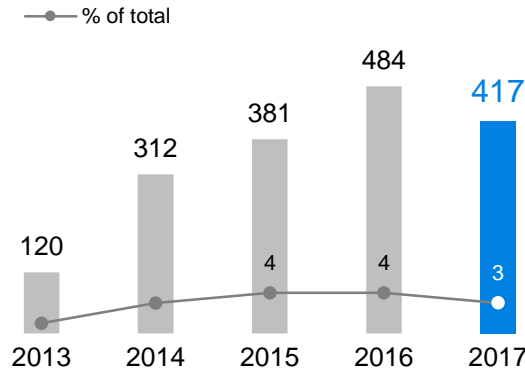
€m

## Liability assumed p.a.

€m

## Strategic proposition

—● % of total



- Longevity considered to be primarily a risk-management tool to balance mortality portfolio and to stabilise earnings
- Prudent approach in pricing and valuation because of uncertainty about future mortality trend

## Portfolio development

- Portfolio comprises longevity swaps in UK
- First transaction concluded in 2011 after in-depth research
- Execution of 1-2 transactions per year
- Claims emerge better than expected in pricing
- Reduction of 2017 premium driven by exchange rate movements

## Expectations going forward

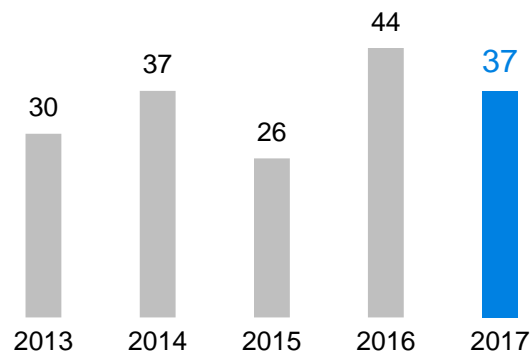
- Evolutionary development of portfolio within clearly defined risk tolerance
- Careful investigation of expansion into other markets
- High market potential but also significant pressure on prices
- Continuation of highly selective approach and prudent valuation (no significant recognition of NBV)



# Asset protection – Comprehensive solutions to non-biometric financial risks gaining significance

## IFRS earnings contribution<sup>1</sup>

€m



## Product portfolio

- Solutions to Basel III and Solvency II needs
- Resolution of accounting asymmetry
- ALM solutions for smaller players, i.e. reinsurance solutions for business with significant market risk
- Development of modern savings products

## Strategic proposition

- Wide range of tailor-made solutions
- Legal, regulatory and structuring expertise
- State-of-the-art in-house hedging platform

## Portfolio development

- Portfolio continues to gain significance
- Growing contribution to NBV
- Positive experience variances indicating effectiveness of market risk hedges

## Expectations going forward

- Existing book dominated by Asia/Japan
- Current opportunities mainly in Europe, Asia/Japan and North America

<sup>1</sup> Part of non-technical-result, incl. insurance-related investment result.

# Financial calendar

## 2018



Annual General Meeting 2018, ICM – International Congress Centre, Munich



Quarterly statement as at 31 March 2018



Half-year financial report as at 30 June 2018



Quarterly statement as at 30 September 2018

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This presentation contains forward-looking statements that are based on current assumptions and forecasts of the management of Munich Re. Known and unknown risks, uncertainties and other factors could lead to material differences between the forward-looking statements given here and the actual development, in particular the results, financial situation and performance of our Company. The Company assumes no liability to update these forward-looking statements or to make them conform to future events or developments.

The primary insurance units of the disbanded Munich Health field of business are now recognised in the ERGO International segment, units with reinsurance business in the Reinsurance Life and Health segment. Previous year's figures were adjusted to ensure comparability.