

Reinsurance Market Report

Results for Half-Year 2018

September 2018



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Key Findings

For the Willis Reinsurance Index* (INDEX):

- Shareholders' equity totalled USD 364.9B at HY 2018, a 1.6% decrease from USD 371.0B at year-end 2017.
- Aggregate net income increased to USD 14.5B (HY 2017: USD 8.3B), largely due to a reduction in Natural Catastrophe losses. This level of profitability also remained reliant on continued support from substantial prior year reserve releases and significant realised investment gains of USD 2.9B (HY 2017: USD 3.4B).
- Active capital management continued with USD 11.1B of capital returned through dividends and share buybacks (HY 2017: USD 10.8B).
- Shareholders' funds were also reduced by unrealised investment depreciation of USD 8.3B which was due in part to rising interest rates. This is in marked contrast to the unrealised investment appreciation of USD 8.3B at HY 2017 which was largely due to rising stock markets.
- HY 2018 headline return on equity (RoE) of 7.7% for the INDEX, up from 4.6% at HY 2017.
- The reported combined ratio for the INDEX at HY 2018 improved to 94.3% (HY 2017: 95.0%).

For the SUBSET** within the INDEX that breaks out the relevant disclosure:

- The majority of reinsurers reported reserve releases at HY 2018 due to a lowering in their estimates for 2017 Natural Catastrophe losses compared to their figures reported at year-end 2017.
- Reported RoE for the SUBSET of 8.5% at HY 2018, broadly unchanged from 8.4% at HY 2017. This stabilisation in the reported RoE follows a period of deterioration from 11.0% at HY 2015 to 8.9% at HY 2016.
- Underlying RoE for the SUBSET deteriorated further to 3.4% at HY 2018, continuing the downward trend from 4.9% at HY 2015 to 4.5% at HY 2016 to 3.7% at HY 2017.
- The HY 2018 reported combined ratio for the SUBSET improved to 93.3% (HY 2017: 94.0%).
- This level of profitability remained reliant on continued substantial reserve releases which lowered the reported combined ratio by 3.0 percentage points. The benefit to the reported combined ratio provided by reserve releases has reduced from 5.5 percentage points at HY 2015 to 5.2 percentage points at HY 2016 to 3.6 percentage points at HY 2017.
- Excluding Natural Catastrophe losses and prior year reserve releases, the Ex-Cat Accident Year combined ratio was marginally lower at 95.1% (HY 2017: 95.3%).
- As noted in our year-end 2017 report, the aggregate expense ratio for the SUBSET has risen by 3.3 percentage points over the last 10 years.
- As shown in Chart 7, reserve releases accounted for 26.1% of net income, broadly unchanged from 26.2% at HY 2017.

Alternative capital increased to USD 88B*** from USD 75B at HY 2017.

*- INDEX relates to those companies listed within the Appendix of this report.

**- SUBSET is defined as those companies that make the relevant disclosure in relation to cat losses and prior year reserve releases. All constituents of the SUBSET are publicly listed groups that comprise 47.8% of the aggregate capital INDEX

***- Capital Markets commentary provided by Willis Towers Watson Securities

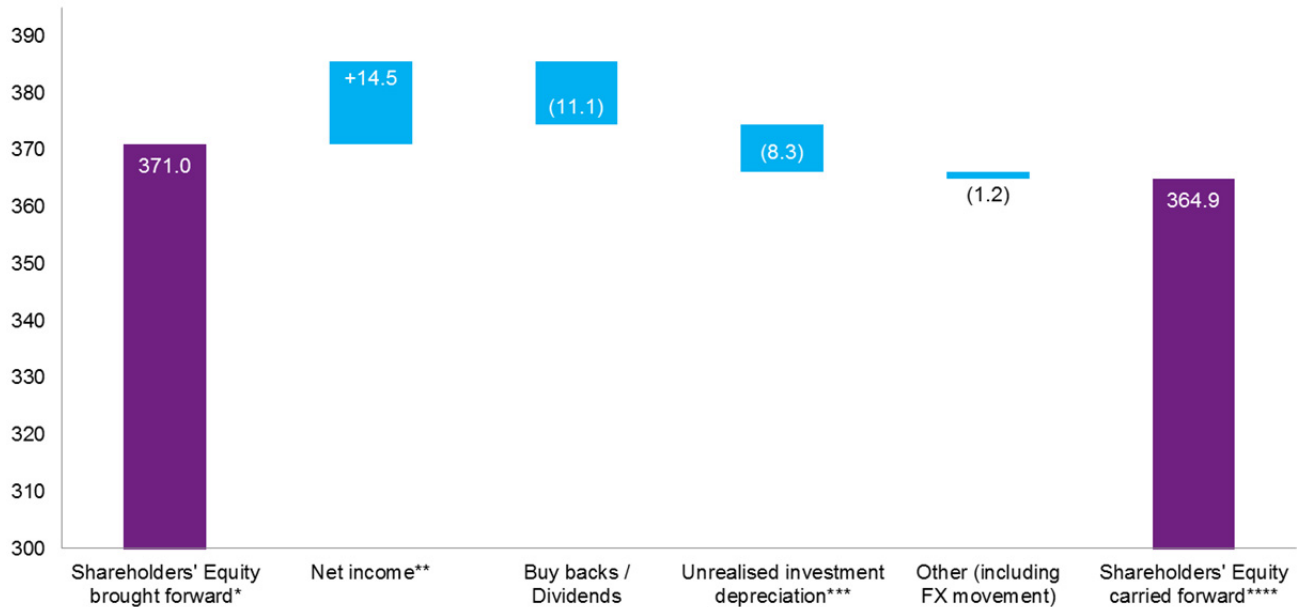
http://www.willis.com/client_solutions/services/wcma/

Summary

Capital

For the INDEX:

- Aggregate shareholders' funds totalled USD 364.9B at HY 2018, a 1.6% decrease since our year-end 2017 report.



* As per latest financial statements issued since date of previous Willis Re report, generally as at half year ending June 30, 2018.

** Net income of USD 14.5B includes a significant level of realised investment gains (USD 2.9B).

*** Unrealised investment depreciation that is not reported within net income.

**** As per latest financial statements issued by Aug 24, 2018 generally as at half year ending June 30, 2018.

- Shareholders' funds reduced despite an increase in net income to USD 14.5B (HY 2017: USD 8.3B).
- Continued active capital management returned USD 11.1B through share buybacks and dividends (HY 2017: USD 10.8B).
- Shareholders' funds were also reduced by unrealised investment depreciation of USD 8.3B which was due in part to rising interest rates. This compares to unrealised investment appreciation of USD 8.3B at HY 2017 which was largely due to rising stock markets.
- Including other major regional and local reinsurers, and a pro-rated portion of capital within major groups whose reinsurance portfolio is <10% of their total premium, we derive an estimate of USD 394B (Year-end 2017: USD 398B) of aggregate shareholders' equity for the traditional reinsurance market.
- Including capital from alternative markets the figure of USD 394B increases by USD 88B to approximately USD 482B (Year-end 2017: USD 486B).
- If 100% of the capital within the major groups above is included the figure is estimated at USD 575B (Year-end 2017: USD 586B).
- Including capital from alternative markets the figure of USD 575B increases by USD 88B to approximately USD 663B (Year-end 2017: USD 674B).

Return of Capital

For the INDEX:

- A total of USD 11.1B was returned to shareholders, accounting for approximately 76.6% of net income (HY 2017: 10.8B, 121%).
 - Share buybacks returned USD 2.0B of capital, equivalent to 0.6% of aggregate opening shareholders' funds (HY 2017: USD 3.4B, 1.0%).
 - USD 9.1B returned through ordinary or special dividends, or 2.4% of aggregate opening shareholders' funds (HY 2017: USD 7.4B, 2.2%).

For the SUBSET:

- A total of USD 7.2B was returned to shareholders, accounting for approximately 95.5% of net income (HY 2017, USD 7.3B, 92%).
 - Share buybacks returned USD 1.9B of capital, equivalent to 1.1% of aggregate opening shareholders' funds (HY 2017: USD 2.1B, 1.1%).
 - USD 5.3B returned through ordinary or special dividends, or 2.9% of aggregate opening shareholders' funds (HY 2017, USD 5.2B, 2.7%).

Return on Equity

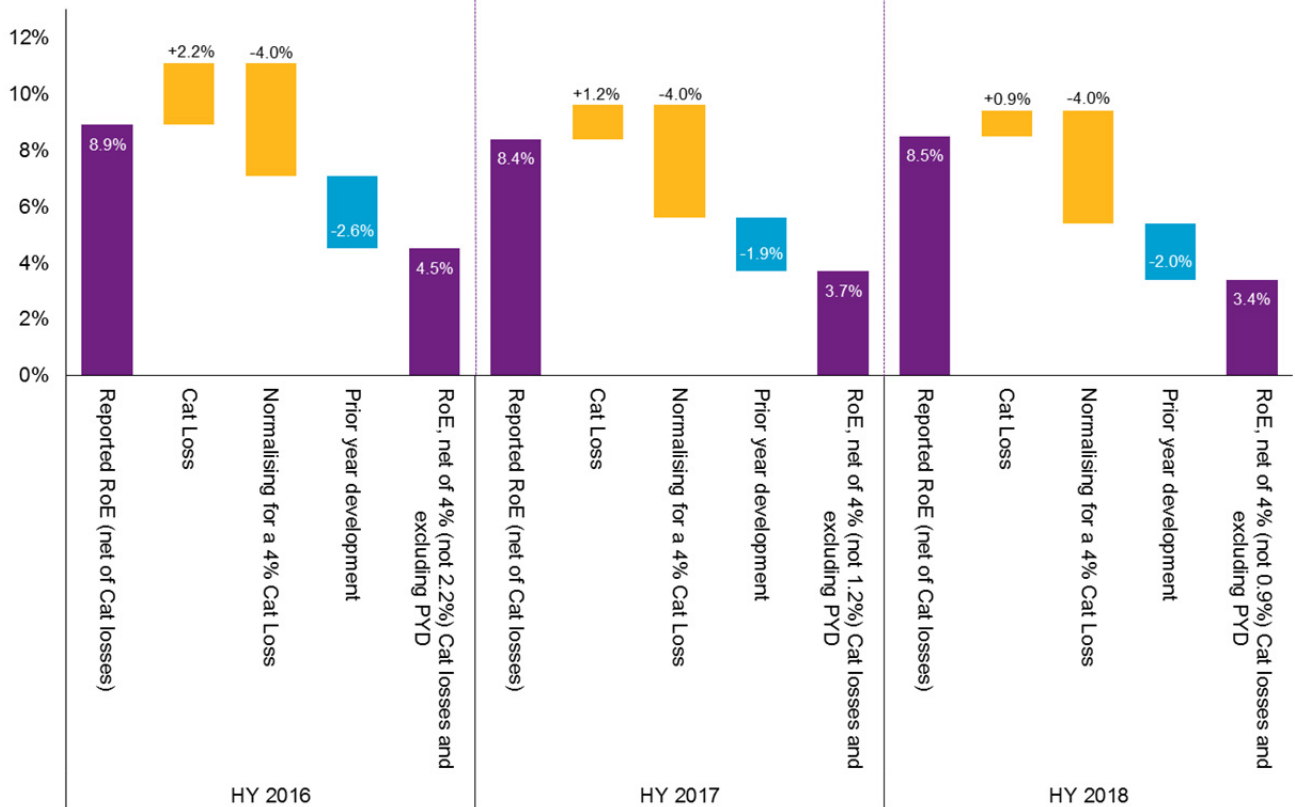
For the INDEX:

- Aggregate RoE of 7.7% for the INDEX, up from 4.6% at HY 2017.
- The increase in reported RoEs was largely due to lower Natural Catastrophe losses.
- Investment yields were broadly unchanged at 2.9% (HY 2017: 2.8%).

For the SUBSET:

- The reported RoE for the SUBSET was 8.5% at HY 2018, broadly unchanged from 8.4% at HY 2017. This stabilisation in the reported RoE follows a period of deterioration from 11.0% at HY 2015 to 8.9% at HY 2016.
- If we normalise for a more typical catastrophe load (equivalent to a c. 4% impact on RoE) and exclude the benefit provided by reserve releases, underlying profitability deteriorated further to 3.4% at HY 2018, continuing the downward trend from 4.9% at HY 2015 to 4.5% at HY 2016 to 3.7% at HY 2017.

RoE analysis for the SUBSET



Underwriting

For the INDEX:

- The aggregate reported net written premium (NWP) rose by 5.8% to USD 149.7B (HY 2017: USD 141.5B).
- A number of reinsurers grew their U.S. property catastrophe business due to the rate increases which followed the 2017 Natural Catastrophe losses.
- Reinsurers continued to diversify, increasing capital allocation to reinsurance lines of business which included structured P&C, cyber, mortgage and life and health business. Some constituents of the INDEX also continued to grow their primary business.
- The reported combined ratio for the INDEX improved to 94.3% (HY 2017: 95.0%).

For the SUBSET:

Combined Ratio analysis for the SUBSET

SUBSET	Weighted Average	
	HY 2017	HY 2018
Reported Combined Ratio	94.0%	93.3%
Favourable Development of Prior Years	3.6%	3.0%
Accident Year Combined Ratio	97.6%	96.3%
Catastrophe Loss	2.3%	1.2%
Ex-Cat Accident Year Combined Ratio	95.3%	95.1%

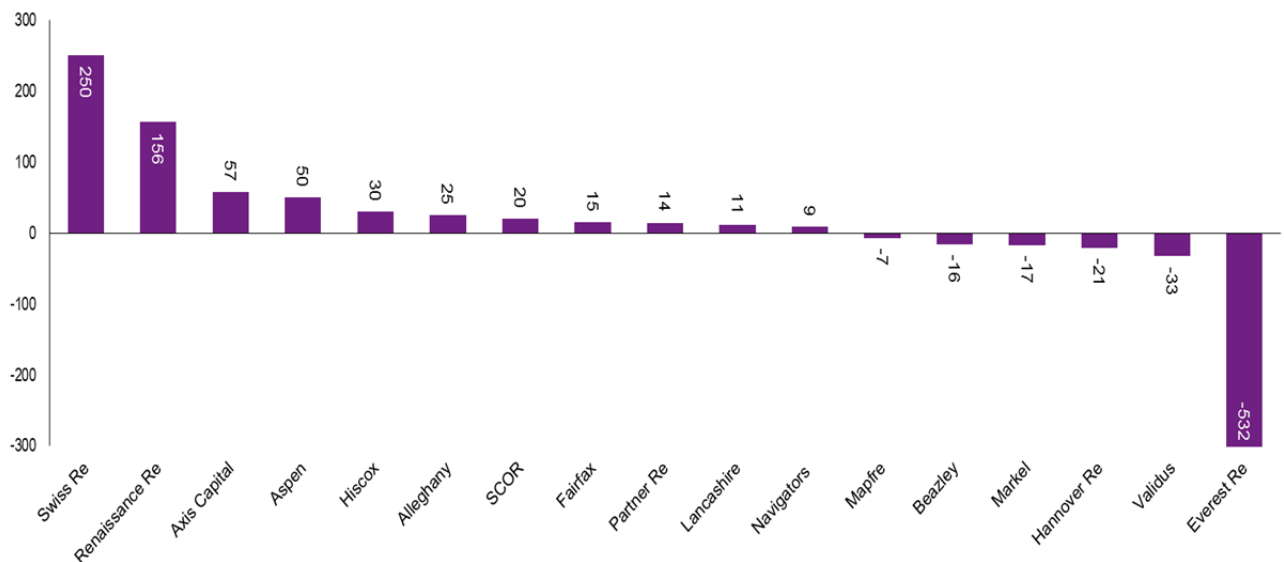
- The reported combined ratio for the SUBSET improved to 93.3% (HY 2017: 94.0%) due to a 1.1 percentage point drop in the impact from Natural Catastrophe losses.
- The benefit provided by reserve releases remained significant, lowering the reported combined ratio by 3.0 percentage points. The benefit to the reported combined ratio provided by reserve releases has reduced from 5.5 percentage points at HY 2015 to 5.2 percentage points at HY 2016 to 3.6 percentage points at HY 2017.
- Excluding Natural Catastrophe losses and prior year reserve releases, the Ex-Cat Accident Year combined ratio was marginally lower at 95.1% (HY 2017: 95.3%).

NEW ANALYSIS – Movement in 2017 Natural Catastrophe loss estimates for the SUBSET

As a new analysis, Willis Re felt it would be useful to review the approximate movements in 2017 Natural Catastrophe loss estimates from FY 2017 to HY 2018.

In the chart below, a positive figure for reserve development represents a release from prior year reserves due to a downwards revision of 2017 Natural Catastrophe loss estimates. Conversely, a negative figure for reserve development indicates a required addition to reserves due to an upwards revision of 2017 Natural Catastrophe loss estimates.

Reserve development in respect of 2017 Natural Catastrophe loss estimates (USD millions)

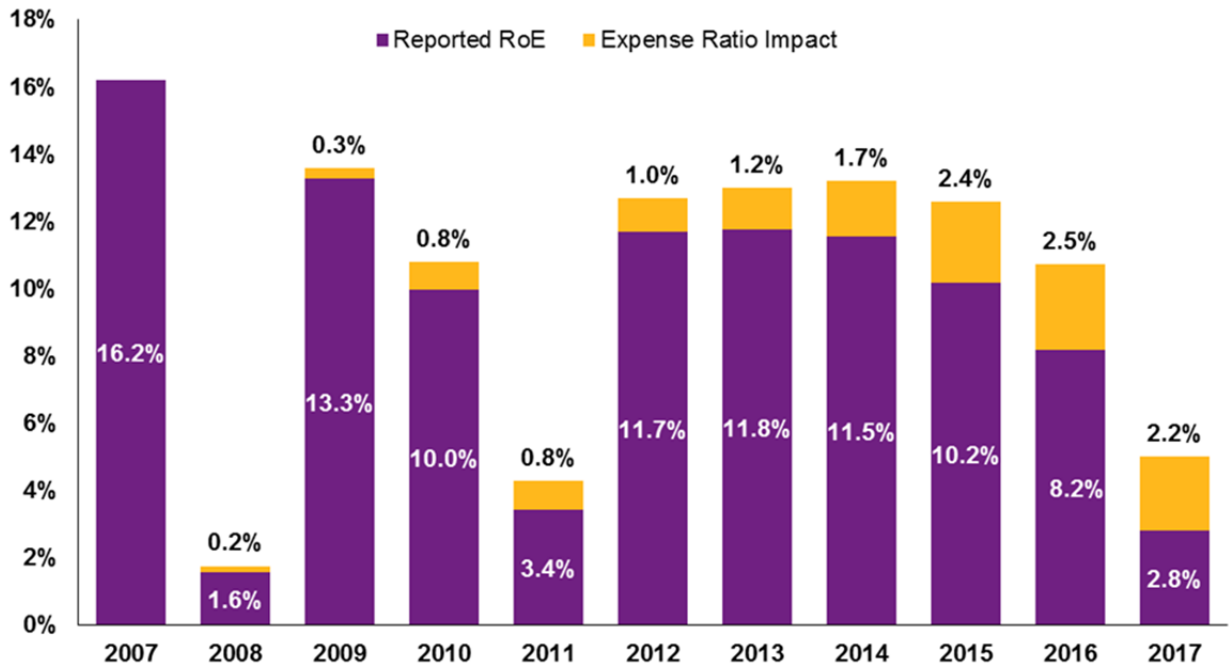


Source: Willis Towers Watson Market Security estimates based on public sources

As the chart shows, the majority of reinsurers reported reserve releases at HY 2018 due to a lowering in their estimates for 2017 Natural Catastrophe losses compared to their figures reported at year-end 2017.

Expense Ratios as at year-end 2017 report

Impact of Expense Ratio Movement on RoE for the SUBSET (Base Year – 2007)



Source: SNL Financial and Willis Towers Watson Market Security

As highlighted in our year-end 2017 report, if each of the constituents of the SUBSET had been able to maintain an expense ratio at their respective 2007 levels, the aggregate RoE of 2.8% reported at FY 2017 would have been approximately 2.2 percentage points higher.

Catastrophe Loss

- Global insured catastrophe losses reduced to USD 20B (HY 2017: USD 30B), largely due to a reduction in insured Natural Catastrophe losses to USD 18B (HY 2017: USD 25B). (Swiss Re Sigma figures).
- Natural Catastrophe losses for the SUBSET reduced to USD 786M (HY 2017: USD 1.3B).
- This equates to 1.2% of aggregate net earned premium (NEP) (HY 2017: 2.3%) or approximately a 0.9 percentage point impact after tax on the aggregate annualised RoE (HY 2017: 1.2 percentage points).

Note: For the purposes of this report the term catastrophe loss reflects generally large single event claims as reported by the companies themselves. A catastrophe related loss may therefore not appear in our numbers as 'Cat Loss' unless it reaches a value that exceeds the company's own threshold for disclosure.

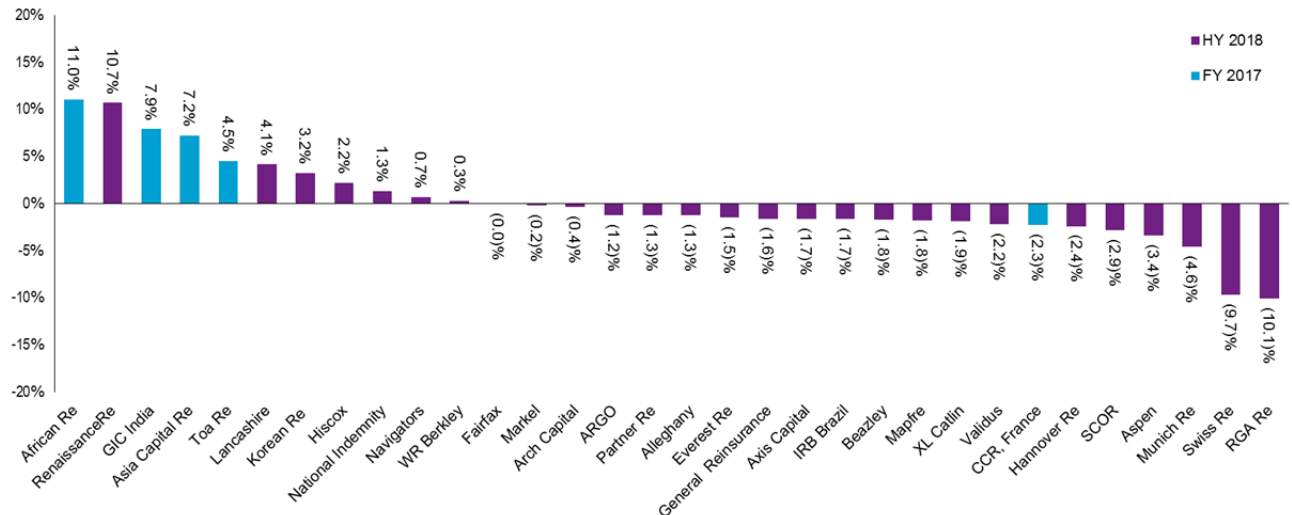
Capital

Highlights for the INDEX

- Despite increased net income of USD 14.5B, shareholders’ equity reduced by 1.6% to USD 364.9B (Year-end 2017: USD 371.0B).
- Active capital management has continued with reinsurers returning USD 11.1B to shareholders through share buy-backs and dividends.
- Shareholders’ funds were also reduced by unrealised investment depreciation of USD 8.3B which was due in part to rising interest rates.
- The reported RoE for the INDEX increased to 7.7% (HY 2017: 4.6%), largely due to a decrease in Natural Catastrophe losses.

As Chart 1 shows for the INDEX, there was considerable variation in shareholders’ equity movements on a company by company basis.

Chart 1: Movement in consolidated shareholders’ equity, reported as at HY 2018 for the INDEX



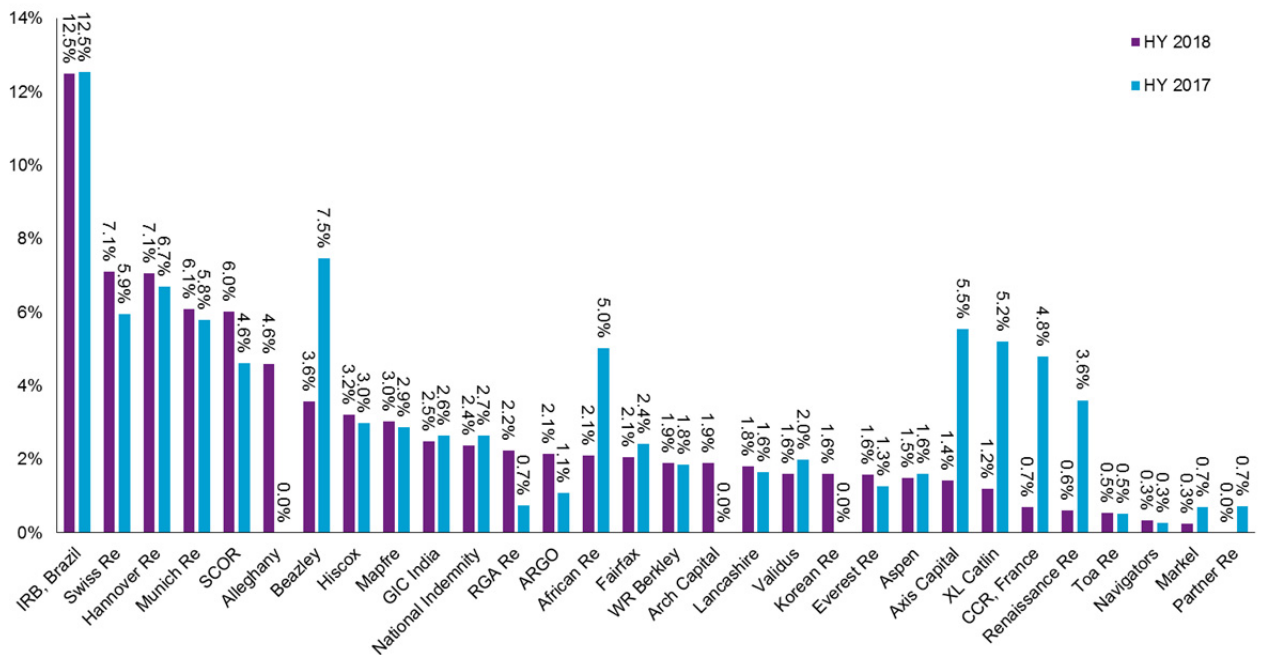
Shareholders’ equity reduced by 1.6% despite an increase in net income to USD 14.5B (HY 2017: USD 8.3B) which was largely due to a reduction in Natural Catastrophe losses. This level of profitability was also reliant on continued substantial reserve releases. Net income also continued to benefit from significant realised investment gains of USD 2.9B (HY 2017: USD 3.4B).

Offsetting these positive contributions, shareholders’ funds were reduced by buybacks and dividends of USD 11.1B (HY 2017: USD 10.8B) and unrealised investment depreciation of USD 8.3B which was not reported within net income. The unrealised investment depreciation at HY 2018 was largely due to a reduction in the market value of government and corporate bonds due to rising interest rates. This is in marked contrast to the unrealised investment appreciation of USD 8.3B at HY 2017 which was largely due to rising stock markets.

Active Capital Management

Reinsurers continued to actively manage their capital due to significant excess capacity which persisted despite the substantial Natural Catastrophe losses of 2017. Further substantial share buybacks were approved in the first six months of 2018 to add to the significant remaining capacity from buyback programs issued in prior periods. Several reinsurers increased their capital allocation to U.S. property catastrophe business due to the improvement in rates which followed the 2017 Natural Catastrophe losses. Capital allocation was also increased for other reinsurance classes which included structured P&C, cyber, mortgage and life and health business. Some constituents of the INDEX also continued to grow their primary business.

Chart 2: Capital returned through share buybacks and ordinary and special dividends for the INDEX



The INDEX reinsurers returned USD 11.1B of capital through share buybacks and dividends (HY 2017: 10.8B). Ordinary and special dividends accounted for USD 9.1B (HY 2017: USD 7.4B). Share buybacks reduced to USD 2.0B (HY 2017: USD 3.4B).

As shown in Table 1, new authorisations for large share buyback programs continued in HY 2018. Due to continued significant excess capacity we expect the INDEX reinsurers to continue to make use of share buybacks during the remainder of 2018.

Table 1: Recent announcements of share repurchase programs for the INDEX

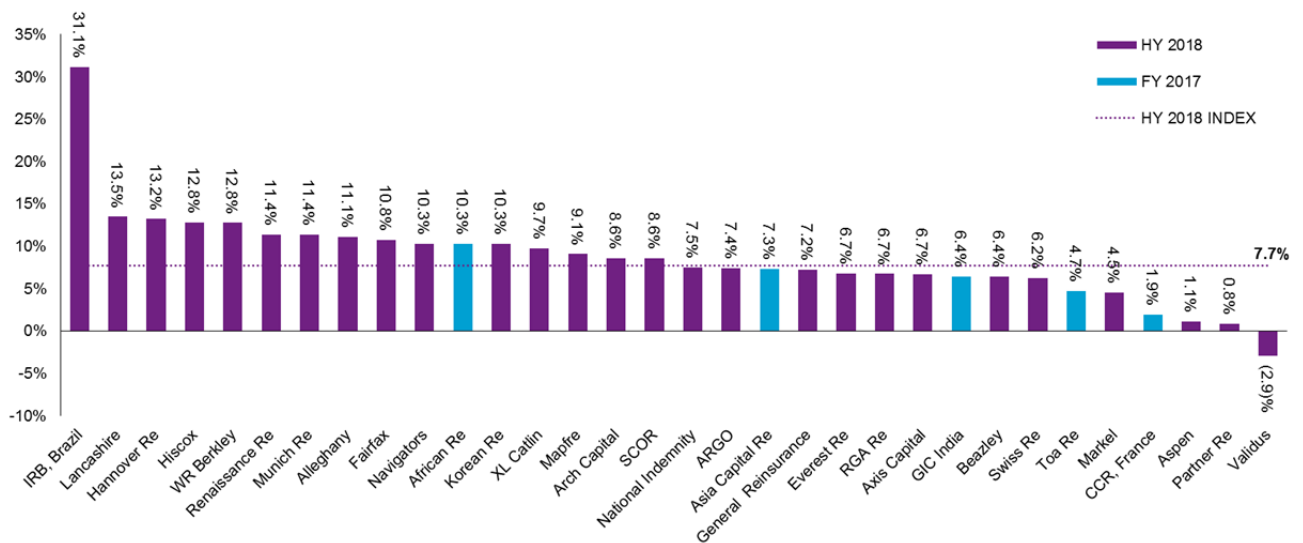
Company	Date	Action	Capacity outstanding as % of Shareholders' Equity, Dec 31, 2017
Everest Re	19-Nov-14	Approved an increase in its share repurchase authorisation by a further 30 million shares. The unutilised capacity amounted to 1.7 million shares as at June 30, 2018.	2.5%
Argo	03-May-16	Authorised a share repurchase programme of up to USD 150M of common shares which supersedes all previous authorisations. USD 64.6M remained outstanding as at June 30, 2018.	64.6%
RGA Re	26-Jan-17	Authorised a share repurchase programme of up to USD 400M of common shares which replaced the 2016 share repurchase authorisation. RGA Re repurchased USD 26.9M of common shares under this programme during 2017 and repurchased a further USD 150M of common shares in 2018.	2.6%
Aspen	08-Feb-17	Approved a new share repurchase programme of USD 250M. USD 220M remained unutilised as at December 31, 2017. No share repurchases were made under the programme as at June 30, 2018.	7.8%
XL Catlin	17-Feb-17	Approved a new programme to buyback up to USD 1B of XL Group shares. USD 470.9M of shares had been repurchased and cancelled as at year-end 2017. USD 529.1M remained available for purchase as at June 30, 2018.	5.5%
Lancashire	03-May-17	Approved renewal of a share repurchase programme of up to 20.1 million shares to expire on conclusion of the 2018 AGM. The programme was unutilised as at June 30, 2018.	10.0%
Scor	27-Jul-17	Authorised a share buyback programme for up to EUR 200M of common shares. This is to be conducted within the framework approved at the 2017 AGM which authorised a share buyback programme capped at 10% of share capital. EUR 5.9M of shares were repurchased in 2017 and EUR 61M were repurchased in 2018.	2.2%
WR Berkley	08-Aug-17	Share repurchase authorisation was increased to 10 million shares of which 9.17 million were available for purchase as at December 31, 2017.	7.5%
Fairfax	28-Sep-17	Authorised acquisition of up to 2.7 million subordinate voting shares until expiry on September 27, 2018. Capacity to buy back 2.2 million subordinate voting shares remains unutilised as at June 30, 2018.	8.0%
Renaissance Re	10-Nov-17	Announced an increase in its share repurchase programme which resulted in remaining capacity of USD 500M, all of which remained unutilised as at June 30, 2018.	10.3%
Validus	27-Feb-18	USD 2.7B of common shares repurchased from the inception of its share repurchase programme to February 27, 2018. USD 293.4M remained outstanding as at June 30, 2018.	7.7%
Munich Re	15-Mar-18	Authorised a share repurchase programme for up to EUR 1B which commenced on April 25, 2018 and will be valid until the 2019 AGM.	3.7%
Swiss Re	20-Apr-18	Shareholders approved a share buyback programme of up to CHF 1B which will remain open until the 2019 AGM. The programme commenced on 7 May, 2018. The total number of shares repurchased as at June 30, 2018 amounted to 3.2 million.	3.2%
Beazley	22-Mar-18	Shareholders approved authority to repurchase up to 52.3 million shares. The share repurchase programme will expire on June 22, 2019.	10.0%
Markel	14-May-18	Approved a new programme to repurchase up to USD 300 million of common shares. USD 294.5M remained unutilised as at June 30, 2018.	3.1%
Alleghany	June 2018	Authorised the repurchase of an additional USD 400M of common shares upon completion of the existing USD 400M share repurchase programme which was announced in November 2015. USD 527.1M remained unutilised under these share repurchase programmes as at June 30, 2018.	6.3%
Arch	31-Jul-18	USD 272.9 million remained unutilised as at 30 June, 2018. The share repurchase programme will expire on December 31, 2019.	3.1%

Earnings

For the INDEX:

- As shown in Chart 3, the RoE for the INDEX improved to 7.7% (HY 2017: 4.6%), supported by reduced Natural Catastrophe losses and continued significant reserve releases.
- Investment yields were broadly unchanged at 2.9% (HY 2017: 2.8%). As shown in Chart 12, investment yields achieved by a number of INDEX constituents were lower than this average.
- The aggregate reported combined ratio for the INDEX improved to 94.3% (HY 2017: 95.0%).

Chart 3: HY 2018 net income as % of average shareholders' equity (RoE) for the INDEX



For the SUBSET:

- The RoE reported by the SUBSET at HY 2018 was 8.5%, broadly unchanged from 8.4% at HY 2017. This stabilisation in the reported RoE follows a period of deterioration from 11.0% at HY 2015 to 8.9% at HY 2016.
- Reserve releases continued to provide substantial support to the reported RoE of 2.0 percentage points (HY 2017: 1.9 percentage points).
- The underlying RoE for the SUBSET deteriorated further to 3.4% at HY 2018, continuing the downward trend from 4.9% at HY 2015 to 4.5% at HY 2016 to 3.7% at HY 2017.

Underwriting Performance

For the INDEX:

- A number of reinsurers expanded their U.S. property catastrophe business as a result of the rate increases which followed the 2017 Natural Catastrophe losses.
- Diversification of reinsurance portfolios continued with growth areas including structured P&C, cyber, mortgage and life and health business. Some constituents of the INDEX also continued to grow their primary business.
- Premium growth for some constituents of the INDEX was supported by additional pro rata business and large structured reinsurance transactions.
- The combined ratio improved to 94.3% (HY 2017: 95.0%), largely due to lower Natural Catastrophe losses and continued support from substantial prior year reserve releases.
- Underwriting profitability continued to be pressured by rising expense ratios. Reinsurers faced continued upward pressure on expense bases from a range of sources which included regulatory compliance, strategic investment in underwriting platforms, IT and digitisation. Additionally, several reinsurers reported significant one-off costs due to U.S. tax and accounting changes.

For the SUBSET:

- Excluding Natural Catastrophe losses and prior year reserve releases, the Ex-Cat Accident Year combined ratio was marginally lower at 95.1% (HY 2017: 95.3%).

SUBSET	Weighted Average		
	HY 2016	HY 2017	HY 2018
Reported Combined Ratio	93.7%	94.0%	93.3%
Favourable Development of Prior Years	5.2%	3.6%	3.0%
Accident Year Combined Ratio	98.9%	97.6%	96.3%
Catastrophe Loss	4.6%	2.3%	1.2%
Ex-Cat Accident Year Combined Ratio	94.3%	95.3%	95.1%

Premium Volumes

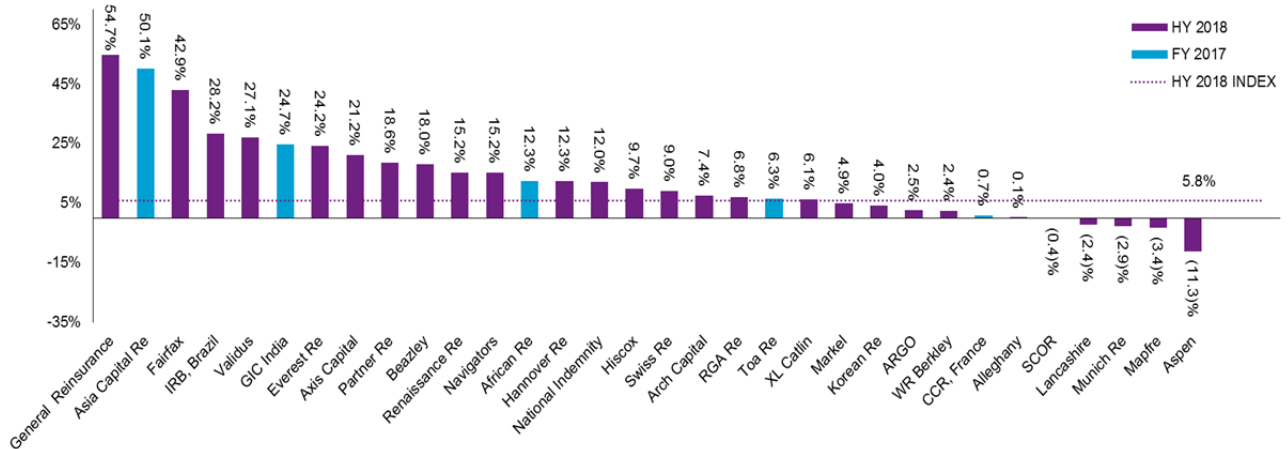
Chart 4 shows that HY 2018 NWP for the INDEX increased by approximately 5.8% from HY 2017.

Factors influencing this growth include:

- Premium growth for a number of the INDEX constituents has been supported through acquisitions, including Fairfax (acquired Allied World), AXIS Capital (acquired Novae), and Arch Capital (acquired United Guaranty).
- The 54.7% growth reported by General Reinsurance reflected a change in distribution arrangements. The 50.1% growth reported by Asia Capital Re was due to reduced pro-rata cessions.
- Premium growth in U.S. property catastrophe business was supported by the rate increases which followed the 2017 Natural Catastrophe losses.
- Reinsurers continued to diversify, increasing capital allocation to reinsurance lines of business which included structured P&C, cyber, mortgage and life and health business. Some constituents of the INDEX also continued to grow their primary business.
- Growth for some reinsurers was supported by additional pro rata business and large structured transactions.

- A number of reinsurers reduced premium volumes in certain lines of business due to continued pricing pressure.

Chart 4: HY 2018 movement in net written premium for the INDEX



Combined Ratios

For the INDEX:

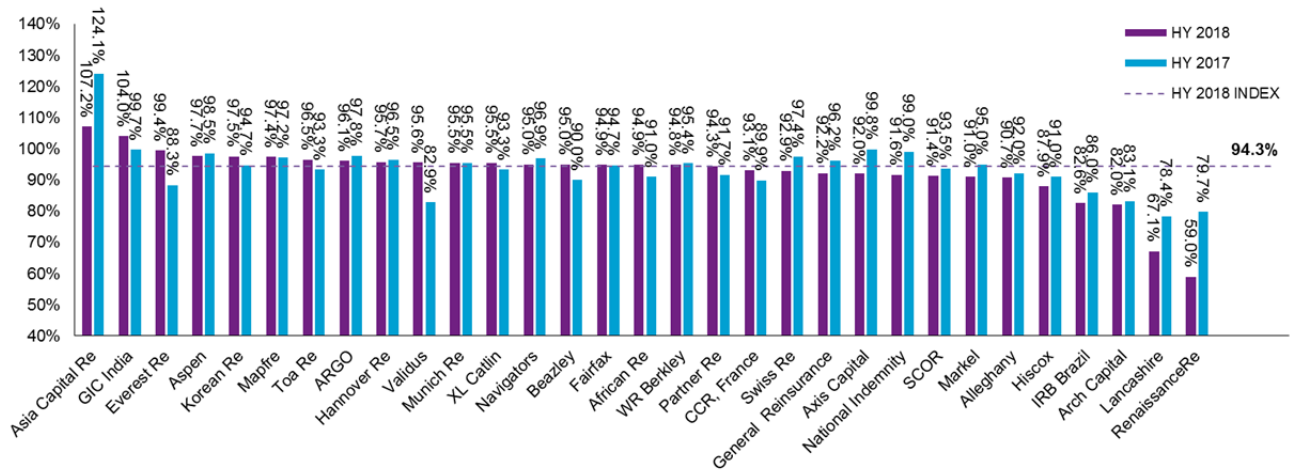
- The combined ratio improved to 94.3% (HY 2017: 95.0%), supported by lower Natural Catastrophe losses.
- This level of profitability also continued to rely on significant support from prior year reserve releases.

For the SUBSET:

- The reported combined ratio for the SUBSET improved to 93.3% (HY 2017: 94.0%) due to a 1.1 percentage point reduction in the impact from Natural Catastrophe losses.
- Releases from prior year reserves continued to provide significant support, reducing the reported combined ratio by 3.0 percentage points. The benefit to the reported combined ratio provided by reserve releases has reduced from 5.5 percentage points at HY 2015 to 5.2 percentage points at HY 2016 to 3.6 percentage points at HY 2017.
- Excluding Natural Catastrophe losses and prior year reserve releases, the Ex-Cat Accident Year combined ratio was marginally lower at 95.1% (HY 2017: 95.3%).
- Pockets of adverse reserve development were reported by a number of reinsurers, including for US casualty lines of business.

Chart 5 shows the reported combined ratio for the INDEX constituents at HY 2018 compared to HY 2017. The reported combined ratio improved to 94.3% (HY 2017: 95.0%), supported by lower Natural Catastrophe losses and further substantial reserve releases.

Chart 5: HY 2018 reported combined ratios for the INDEX



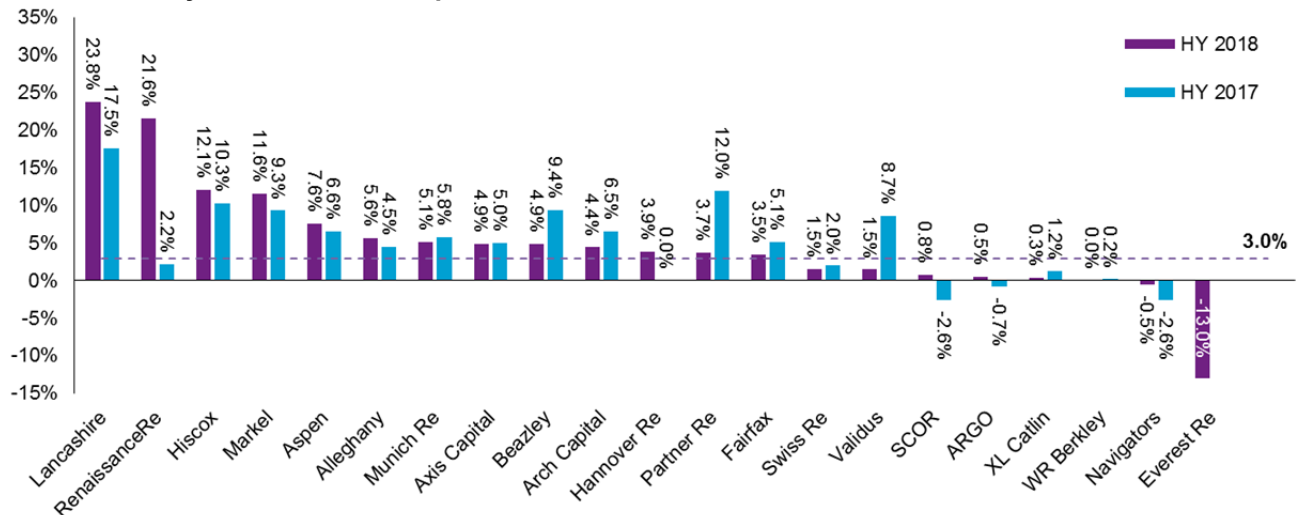
In the subsections below we discuss the key components of the combined ratio for the SUBSET:

- Impact of prior year loss reserve development
- Catastrophe loss component
- Underlying accident year combined ratio (i.e. excluding the above two components).

Prior Year Loss Development

At HY 2018 the reported combined ratio for the SUBSET benefited from continued significant support from reserve releases of 3.0 percentage points. The benefit to the reported combined ratio provided by reserve releases has reduced from 5.5 percentage points at HY 2015 to 5.2 percentage points at HY 2016 to 3.6 percentage points at HY 2017.

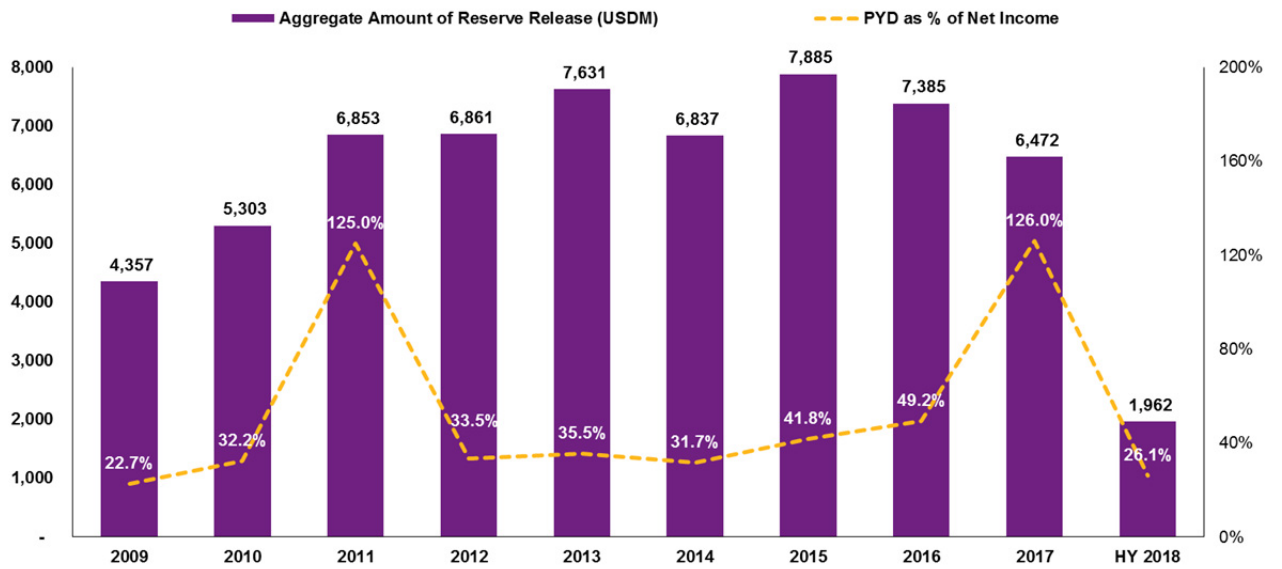
Chart 6: Prior year reserve development as % NEP for the SUBSET



Reserve releases continued to provide significant support to profitability. However, pockets of adverse reserve development continued to be reported at HY 2018, including for US casualty lines of business.

As shown in Chart 7, reserve releases accounted for 26.1% of net income for the SUBSET, broadly unchanged from 26.2% at HY 2017.

Chart 7: Reserve Release Development across the SUBSET



Note: Aggregate reserve release calculated before tax.

Catastrophe Losses

Global insured catastrophe losses reduced to USD 20B (HY 2017: USD 30B), largely due to a drop in Natural Catastrophe losses to USD 18B (HY 2017: USD 25B). (Swiss Re Sigma figures). Man-Made Catastrophe losses reduced to USD 2B compared to USD 5B at HY 2017.

As shown in Table 2, the costliest insured events included winter storms in the U.S. and Europe in addition to a series of thunderstorm and hail events in the U.S.

Table 2: Major Losses HY 2018

(Insured loss estimate USD millions)

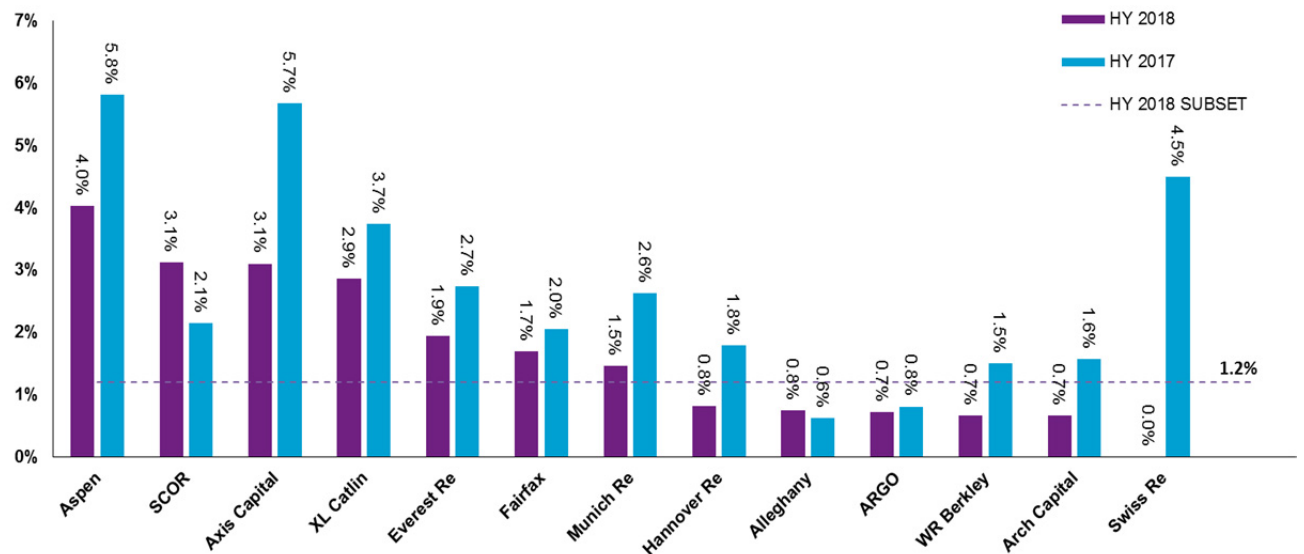
Natural Catastrophe Losses		
Date	Description	Estimate
January	Winter storm Friederike (Europe)	2,100
March	Winter storm (Nor'easter), (U.S.)	1,600
March	Thunderstorms, tornadoes, hail (U.S.)	1,100
April	Thunderstorms, freezing rains (U.S. & Canada)	1,100
May	Thunderstorms, tornadoes, hail (U.S.)	1,000
June	Thunderstorms, hail (U.S.)	1,000

Large Man-Made Losses		
Date	Description	Estimate
May	Ituango dam collapse	1,000
June	Glasgow School of Art	125

Loss estimates shown are taken from Swiss Re Sigma figures and other public sources and should not be taken as confirmation by Willis Towers Watson of reported losses

As shown in Chart 8, the weighted average combined ratio of the SUBSET included 1.2 percentage points due to catastrophe losses, reduced from 2.3 percentage points at HY 2017.

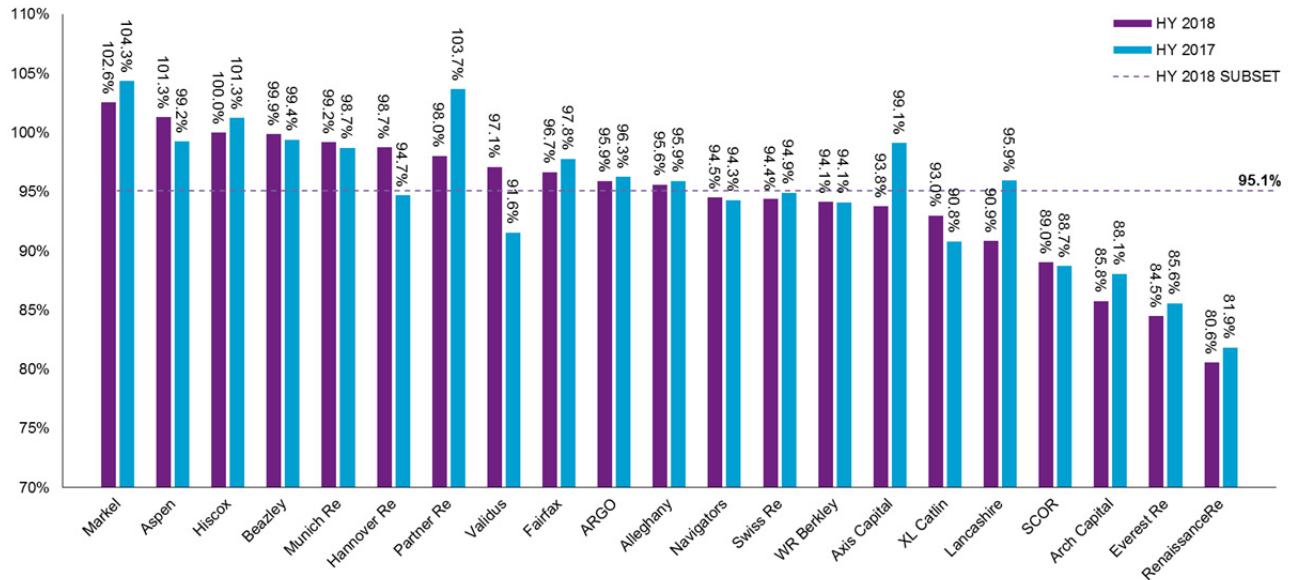
Chart 8: Catastrophe loss component of combined ratio as % NEP for the SUBSET



Accident Year Performance, ex Catastrophe

Excluding Natural Catastrophe losses and prior year reserve releases, the Ex-Cat Accident Year combined ratio for the SUBSET was marginally lower at 95.1% (HY 2017: 95.3%).

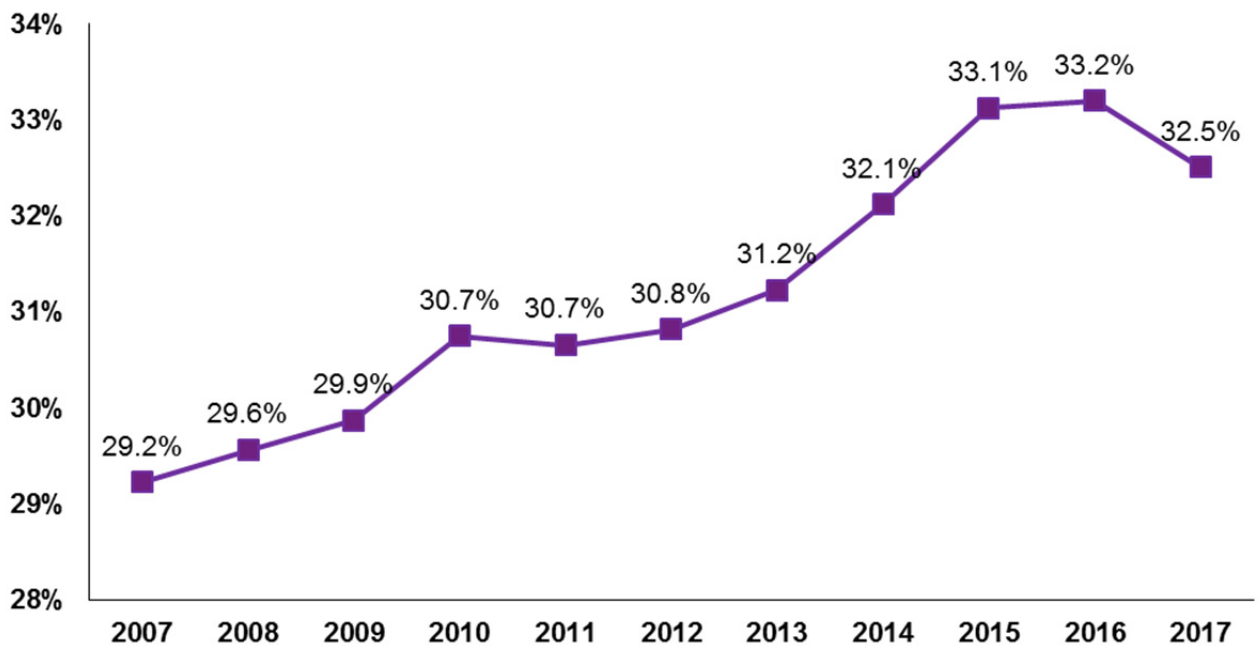
Chart 9: Ex Catastrophe accident year combined ratios for the SUBSET



Expense Ratios for the SUBSET as at year-end 2017 report

As noted in our year-end 2017 report, the expense ratio decreased to 32.5% at FY 2017 from 33.2% at FY 2016. The decrease in the expense ratio was due to higher net earned premium as a result of reinstatement premiums and additional cover purchases. The aggregate expense ratio for the SUBSET has risen by 3.3 percentage points over the last 10 years.

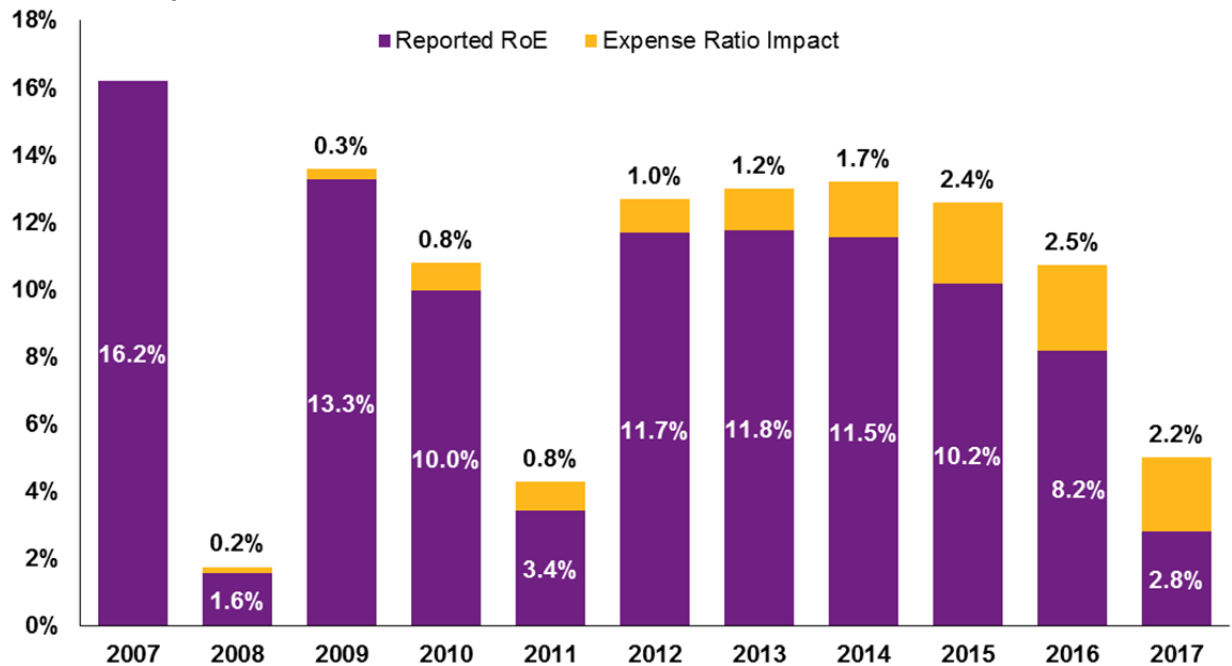
Chart 10: Weighted Average Expense Ratio for the SUBSET



Source: SNL Financial and Willis Towers Watson Market Security

- The factors outlined in our year-end 2017 report remain relevant with reinsurers continuing to face the challenge of upward pressure on expenses. The expense ratio was flattered in 2017 due to rising reinstatement premiums.
- If each of the constituents of the SUBSET had been able to maintain an expense ratio at their respective 2007 levels, the aggregate RoE of 2.8% reported at FY 2017 would have been approximately 2.2 percentage points higher.

Chart 11: Impact of Expense Ratio Movement on RoE (Base Year – 2007) for the SUBSET as at year-end 2017 report



Source: SNL Financial and Willis Towers Watson Market Security

We continue to monitor this trend. A further review of the expense ratio will be undertaken in our year-end 2018 report.

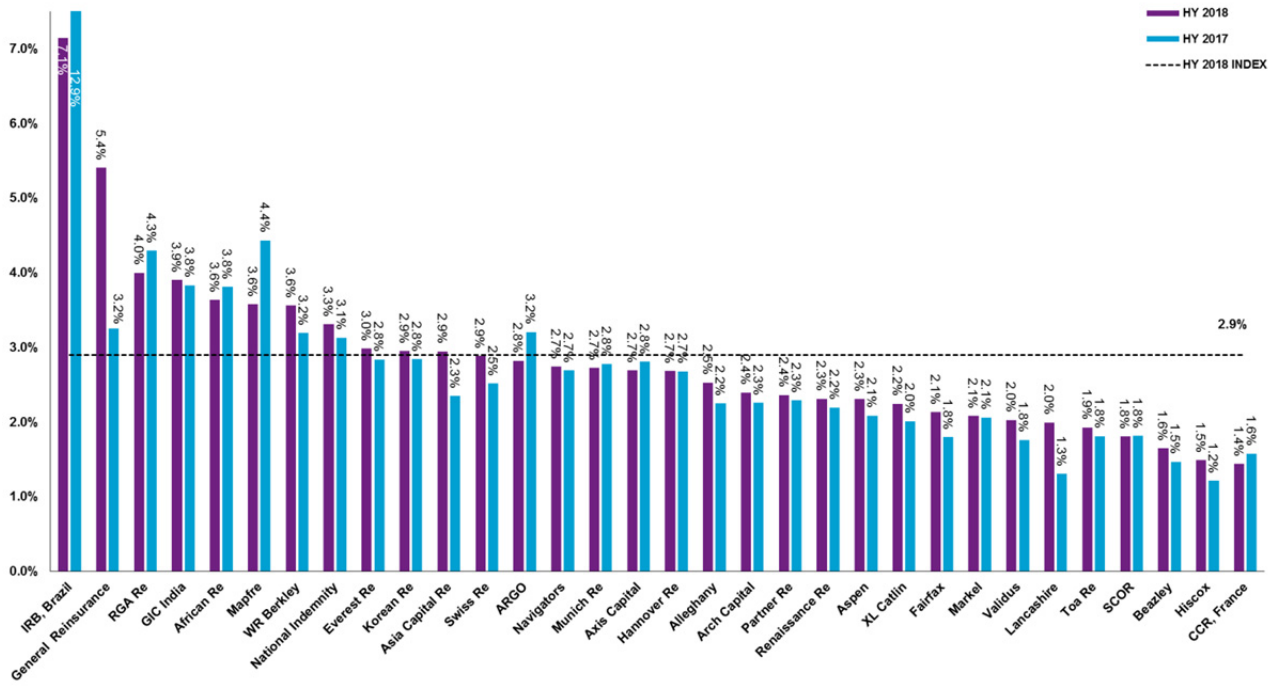
Modest Investment Returns

As shown in Chart 12, the weighted average investment return for the INDEX, excluding realised and unrealised investment gains, was broadly unchanged at 2.9% (HY 2017: 2.8%).

This result was supported by higher than average returns for those reinsurers within the INDEX with longer duration investment portfolios due to their significant Life business. Returns for non-life focused reinsurers with shorter tail portfolios were typically lower than this average. The INDEX reinsurers reported unrealised investment depreciation of USD 8.3B at HY 2018 due in part to increasing interest rates.

In the remainder of 2018 investment returns will continue to be depressed by low interest rates although some support will be provided by the increase in the UK interest rate in August 2018 as well as the increase in U.S. interest rates in June 2018. INDEX constituents continue to take a conservative approach to investment allocation, partly due to macroeconomic concerns.

Chart 12: Investment yield (net investment income as % of cash and invested assets) for the INDEX



Appendix

1. Half Year 2018 results summary for the Willis Reinsurance Index

WILLIS TOWERS WATSON - MARKET SECURITY GROUP

Group consolidated Half Year 2018 Results Table

Consolidated Data (Millions)	Notes	Ccy	Shareholders' Equity				Net Written Premium				Net Income				Combined Ratio													
			HY 2018	HY 2017	FY 2017	FY 2016	Δ 6 mth	HY 2018	HY 2017	FY 2017	FY 2016	Δ HY/HY	HY 2018	HY 2017	FY 2017	FY 2016	Δ HY/HY	HY 2018	HY 2017	FY 2017	FY 2016	Δ HY/HY	HY 2018	HY 2017	FY 2017	FY 2016	Δ HY/HY	Ppts better HY/HY
African Re		USD	8,404	8,435	902	812	-1.3%	2,529	2,526	626	557	0.1%	467	251	88	100	85.9%	90.7%	92.0%	94.9%	91.0%	94.9%	90.7%	92.0%	94.9%	91.0%	1.3 ppts	
Allegheny		USD	9,164	8,899	9,197	8,254	-0.4%	2,711	2,525	4,961	4,031	7.4%	394	416	619	693	-5.2%	82.0%	83.1%	91.4%	89.3%	91.4%	82.0%	83.1%	91.4%	89.3%	1.1 ppts	
Arch Capital		USD	1,797	1,891	1,820	1,793	-1.2%	810	791	1,654	1,440	2.5%	67	83	50	147	-19.5%	96.1%	97.8%	107.2%	96.2%	107.2%	96.1%	97.8%	107.2%	96.2%	1.7 ppts	
ARGO		USD	2,825	3,619	2,926	3,647	-3.4%	1,122	1,265	2,213	2,594	-11.3%	16	172	-266	203	-90.7%	97.7%	98.5%	124.3%	98.1%	124.3%	97.7%	98.5%	124.3%	98.1%	0.8 ppts	
Asia Capital Re		USD	5,253	5,893	5,341	6,272	-1.7%	2,986	2,465	4,027	3,753	21.2%	177	116	-369	513	52.9%	92.0%	99.8%	113.1%	95.9%	113.1%	92.0%	99.8%	113.1%	95.9%	7.8 ppts	
Aspen		USD	1,473	1,506	1,499	1,484	-1.8%	1,105	936	1,979	1,854	18.0%	48	132	130	251	-63.9%	95.0%	90.0%	99.0%	89.0%	99.0%	95.0%	90.0%	99.0%	89.0%	-5.0 ppts	
Beazley	(1)	EUR			2,345	2,400				1,171	1,163				45	141												
CCR France	(1)(4)	CNY	8,241	8,585	8,369	8,075	-1.5%	3,419	2,753	6,245	5,271	24.2%	280	537	469	996	-47.8%	99.4%	88.3%	103.5%	87.0%	103.5%	99.4%	88.3%	103.5%	87.0%	-11.1 ppts	
China Re		USD	13,805	10,048	13,811	9,820	-0.0%	6,416	4,489	9,984	8,088	42.9%	747	394	1,741	-513	89.6%	94.9%	94.7%	106.6%	92.5%	106.6%	94.9%	94.7%	106.6%	92.5%	-0.2 ppts	
Everest Re		USD	11,207	11,311	11,393	10,661	-1.6%	677	438	866	550	54.7%	407	183	301	742	123.0%	92.2%	96.2%	122.9%	92.5%	122.9%	92.2%	96.2%	122.9%	92.5%	4.0 ppts	
Fairfax		USD			523,088	484,821				376,345	301,746				32,336	31,278												
General Reinsurance**	(1)(2)	INR	8,322	8,562	8,528	8,997	-2.4%	9,121	8,123	16,094	14,601	12.3%	555	535	959	1,171	3.8%	95.7%	96.5%	99.8%	93.7%	99.8%	95.7%	96.5%	99.8%	93.7%	0.8 ppts	
GIC India		EUR	2,419	2,414	2,367	2,233	2.2%	1,359	1,275	2,239	2,197	9.7%	153	127	32	414	20.3%	87.9%	91.0%	99.9%	84.2%	99.9%	87.9%	91.0%	99.9%	84.2%	3.1 ppts	
Hannover Re	(1)(5)	GBP	3,521	3,272	3,581	3,328	-1.7%	2,469	1,926	4,051	3,543	28.2%	541	454	925	850	19.1%	82.6%	86.0%	80.0%	81.9%	80.0%	82.6%	86.0%	80.0%	81.9%	3.4 ppts	
Hiscox	(4)	BRL	2,233	2,202	2,163	2,112	3.2%	2,598	2,498	5,022	4,698	4.0%	112	135	133	160	-16.8%	97.5%	94.7%	98.3%	98.8%	98.3%	97.5%	94.7%	98.3%	98.8%	-2.8 ppts	
IRB Brazil	(1)	KRW/USD	1,153	1,261	1,107	1,207	4.1%	234	240	398	459	-2.4%	76	69	-71	154	10.7%	67.1%	78.4%	124.9%	76.5%	124.9%	67.1%	78.4%	124.9%	76.5%	11.3 ppts	
Korean Re		EUR	8,457	8,860	8,611	9,127	-1.8%	10,142	10,504	19,416	19,219	-3.4%	386	415	701	775	-7.1%	97.4%	97.2%	98.1%	97.4%	98.1%	97.4%	97.2%	98.1%	97.4%	-0.2 ppts	
Lancashire		USD	9,481	8,954	9,504	8,461	-0.2%	2,515	2,398	4,418	4,001	4.9%	214	220	395	456	-2.6%	91.0%	95.0%	105.0%	92.0%	105.0%	91.0%	95.0%	105.0%	92.0%	4.0 ppts	
Mapfre	(1)(5)	EUR	26,711	29,947	28,012	31,516	-4.6%	23,221	23,923	47,550	47,325	-2.9%	1,549	1,283	375	2,560	20.7%	95.5%	95.5%	114.1%	95.7%	114.1%	95.5%	95.5%	114.1%	95.7%	0.0 ppts	
Maribel		USD	130,239	103,904	128,563	101,286	1.3%	12,593	11,246	24,031	20,030	12.0%	4,800	-1,347	2,080	7,577	456.2%	91.6%	99.0%	103.8%	95.2%	103.8%	91.6%	99.0%	103.8%	95.2%	7.4 ppts	
Munich Re		USD	1,234	1,244	1,226	1,178	0.7%	773	670	1,271	1,186	15.2%	63	42	40	83	51.4%	95.0%	96.9%	103.2%	96.7%	103.2%	95.0%	96.9%	103.2%	96.7%	1.9 ppts	
National Indemnity**	(3)	USD	6,660	6,865	6,745	6,688	-1.3%	3,143	2,650	5,120	4,954	18.6%	28	262	264	447	-88.8%	94.3%	91.7%	99.3%	93.6%	99.3%	94.3%	91.7%	99.3%	93.6%	-2.6 ppts	
Navigator		USD	4,860	4,955	4,391	4,867	10.7%	1,268	1,100	1,871	1,535	15.2%	260	275	-222	503	-5.5%	59.0%	79.7%	137.9%	72.5%	137.9%	59.0%	79.7%	137.9%	72.5%	20.7 ppts	
Partner Re		USD	8,602	7,971	9,570	7,093	-10.1%	5,177	4,846	9,841	9,249	6.8%	305	378	1,822	701	-19.4%	91.4%	93.5%	103.7%	93.1%	103.7%	91.4%	93.5%	103.7%	93.1%	2.1 ppts	
RCA Re		EUR	6,017	6,374	6,195	6,661	-2.9%	6,868	6,893	13,464	12,577	-0.4%	262	292	286	603	-10.3%	92.9%	97.4%	111.5%	93.5%	111.5%	92.9%	97.4%	111.5%	93.5%	4.5 ppts	
SCOR		USD	30,801	35,475	34,124	35,634	-9.7%	18,334	16,817	32,316	33,570	9.0%	1,006	1,211	331	3,558	-16.9%	92.9%	97.4%	111.5%	93.5%	111.5%	92.9%	97.4%	111.5%	93.5%	4.5 ppts	
Sirius	(5)	USD			1,827	2,208				1,069	938				-160	88												
Swiss Re	(2)(4)	JPY/USD	3,809	4,211	3,895	3,838	-2.2%	2,196	1,727	2,481	2,359	27.1%	-57	196	-48	359	-129.1%	95.6%	82.9%	122.6%	84.2%	122.6%	95.6%	82.9%	122.6%	84.2%	-12.7 ppts	
Toa Re		USD	5,426	5,287	5,411	5,047	0.3%	3,289	3,211	6,261	6,424	2.4%	346	232	549	602	49.1%	94.8%	95.4%	96.7%	94.3%	96.7%	94.8%	95.4%	96.7%	94.3%	0.6 ppts	
Validus		USD	9,660	11,081	9,848	10,939	-1.9%	5,977	5,632	10,681	10,243	6.1%	472	454	-560	441	3.8%	95.5%	93.3%	108.3%	94.2%	108.3%	95.5%	93.3%	108.3%	94.2%	-2.2 ppts	
WR Berkley		USD	337,482	318,054	372,111	334,973	-9.3%	139,577	129,189	286,772	254,642	8.0%	13,733	7,527	11,997	26,242	82.4%	93.5%	94.9%	105.1%	94.3%	105.1%	93.5%	94.9%	105.1%	94.3%	1.4 ppts	
XL Catlin		USD																										
Aggregate***		USD																										

NB : Shaded rows in the above summary denote SUBSET groups.

* *Annualised Net Income as % of Average Shareholders' Equity.*

** *General Reinsurance and National Indemnity: Numbers are sourced from unconsolidated financial statements.*

*** *Aggregate = Total of numbers reported, converted to USD at exchange rates prevailing at end of reporting period.*

(1) NWP includes both Life and Non-Life business.

(2) GIC India, Toa Re: Each has a March 31 financial year-end. Data for the year ended March 31, 2018 is included in the column headed FY 2017 (and similar for prior years).

(3) Figures for net premiums are *Net Earned Premium*, not *Net Written Premiums (all Life)*.

(4) Combined ratios are Willis Towers Watson Market Security Calculations.

(5) Hannover Re, Munich Re, Swiss Re: Combined Ratios are in respect of the P&C Reinsurance division only.

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