Reinsurance market report

Results for half-year 2022

September 2022

Gallagher Re

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Key findings

Welcome to the Gallagher Re Reinsurance market report, in which we track the capital and profitability of the global reinsurance industry.

At half-year 2022 the global reinsurance sector continued to report strong premium growth and underwriting profitability. However, ROEs and capital levels were pulled lower due to a fall in the market value of bonds (due to rising interest rates and widening credit spreads) and equities. Nevertheless, the global reinsurance industry's financial strength remains healthy with an improving trend of underlying profitability.

Global reinsurance dedicated capital totalled USD 647 billion at half-year 2022, down 11% from the restated 2021 base, with the reduction primarily driven by investment losses.[1] Although capital has reduced on an accounting basis, rating agency and regulatory measures of capital adequacy have been less impacted. As an example, average European solvency ratios increased during 2022 HY despite significant decreases in reported shareholders' equity.[2] However, the decline in equity could become an issue for companies' ratings if there is any strain on liquidity that forces them to recognise significant losses.

Focusing on the **INDEX**[3] companies, which contribute over 80% of the industry's capital:

- INDEX capital reduced by 14%.
- The key driver of this reduction was significant unrealised investment losses, almost half of which was attributable to National Indemnity.
- Capital return through buybacks and dividends exceeded a modest contribution from net earnings.

Drilling further into profitability, for the **SUBSET** of companies within the INDEX that provide the relevant disclosure:

- Premiums grew strongly at 14%, supported by continued favourable pricing.
- The reported combined ratio improved to 93.0% (HY 21: 94.1%), the lowest we have seen since 2015.
- The ex-nat cat accident year loss ratio slipped slightly, from 59.8% in HY 21 to 60.2%, with rate increases not quite keeping up with inflation-driven rises in loss costs. The expense ratio was slightly improved at 29.4% (HY 21: 29.6%).
- Although still below 100%, the underlying combined ratio[4] deteriorated to 99.7% (HY 21: 98.4%), driven by an increase of 1.1 percentage points in the five-year average assumption we use for a normalised natural catastrophe load.
- Despite this continued strong underwriting performance, the reported ROE reduced to 0.4% (HY 21: 13.9%), driven by an investment gains yield of -3.5% (HY 21: +1.7%) – itself driven by the sell-off in bond and equity markets in the first half of the year.
- The underlying ROE nevertheless improved, from 6.3% in HY 21 to 7.5%. This still stands below the industry's cost of capital but is the best underlying ROE we have measured since 2014.

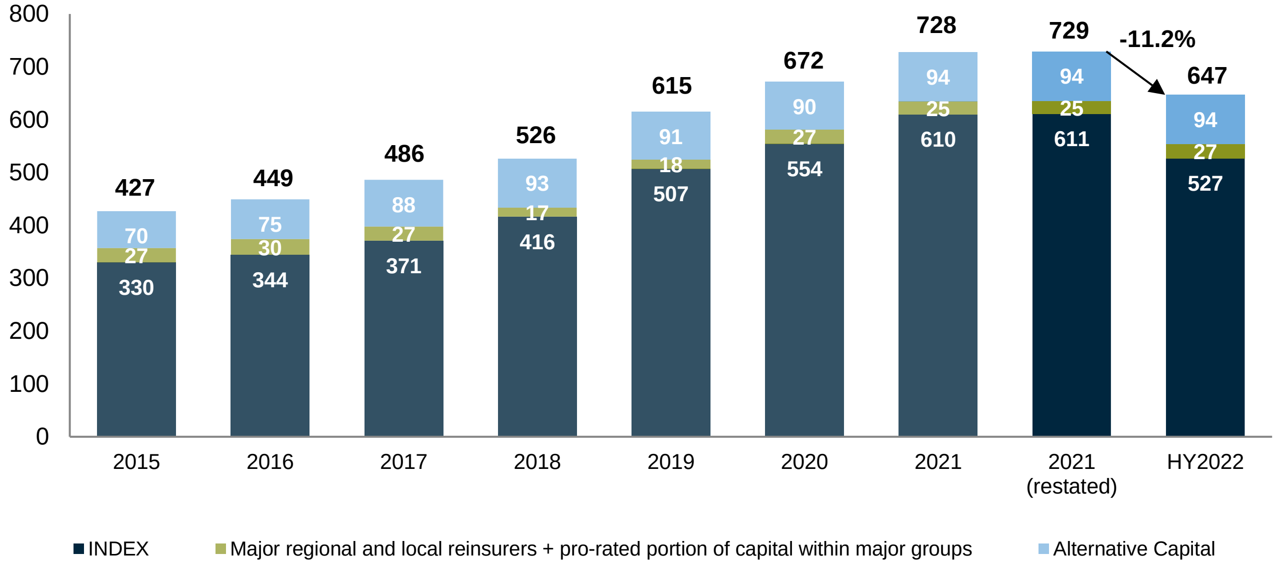
[1] Our originally reported year-end 2021 capital of USD 728 billion has been updated for companies who reported after the publication date of our full-year 2021 report. This takes the re-stated figure to USD 729 billion.
[2] Under Solvency 2 and the Swiss Solvency Test, liabilities are marked to market (ie discounted) as well as assets. Liability durations tend to be longer than on the asset side and so a rise in interest rates will lower the value of liabilities more than assets, thus increasing regulatory capital.
[3] INDEX relates to those companies listed within Appendix 2 of this report. SUBSET is defined as those companies that make the relevant disclosure in relation to natural catastrophe losses and prior year reserve releases. Appendix 2 also identifies the SUBSET companies.
[4] The underlying basis replaces actual natural catastrophe and COVID-19 losses with a normalised cat load and strips out prior year reserve movements and investment gains.

At a glance

Capital

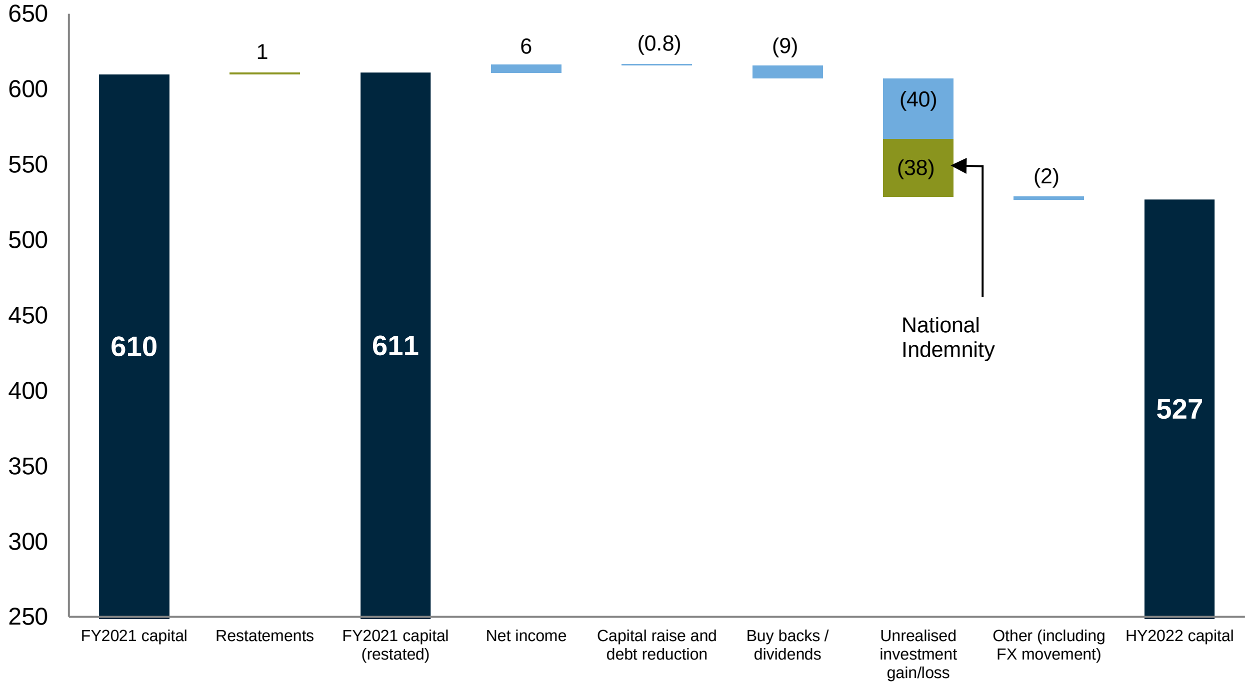
Total industry capital decreased by 11 percent

Total reinsurance dedicated capital (USD billions)[5]



Capital declined because of unrealised losses on investments

Capital analysis for the INDEX (USD billions)

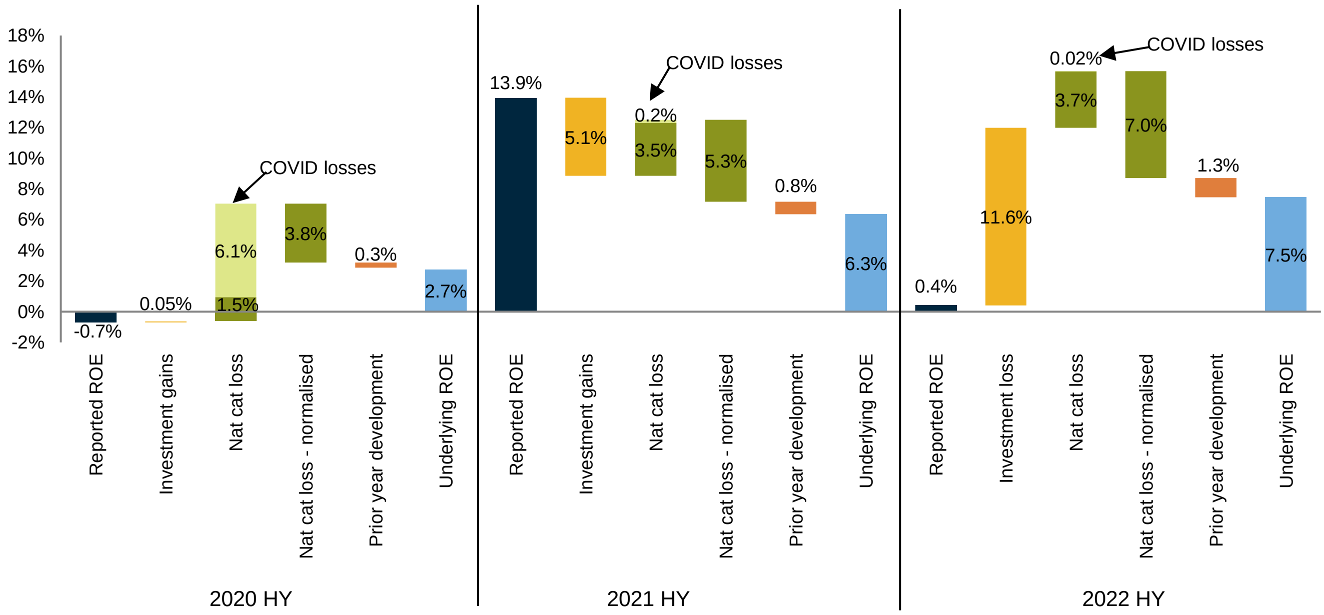


[5] Our originally reported year-end 2021 capital of USD 728 billion has been updated for companies who reported after the publication date of our full-year 2021 report. This takes the re-stated figure to USD 729 billion.

Underlying ROE for the SUBSET

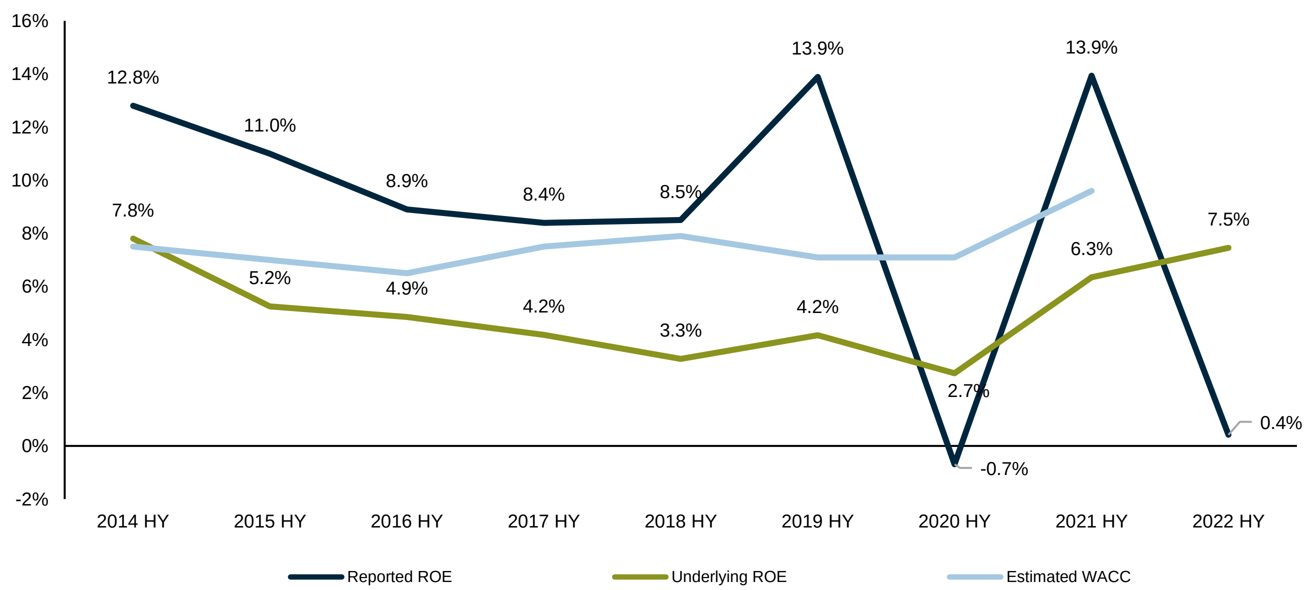
Losses from investments and natural catastrophes depressed reported ROE

ROE analysis for the SUBSET



Underlying ROE continues to improve but still remains below the industry's cost of capital

ROE for the SUBSET[6]

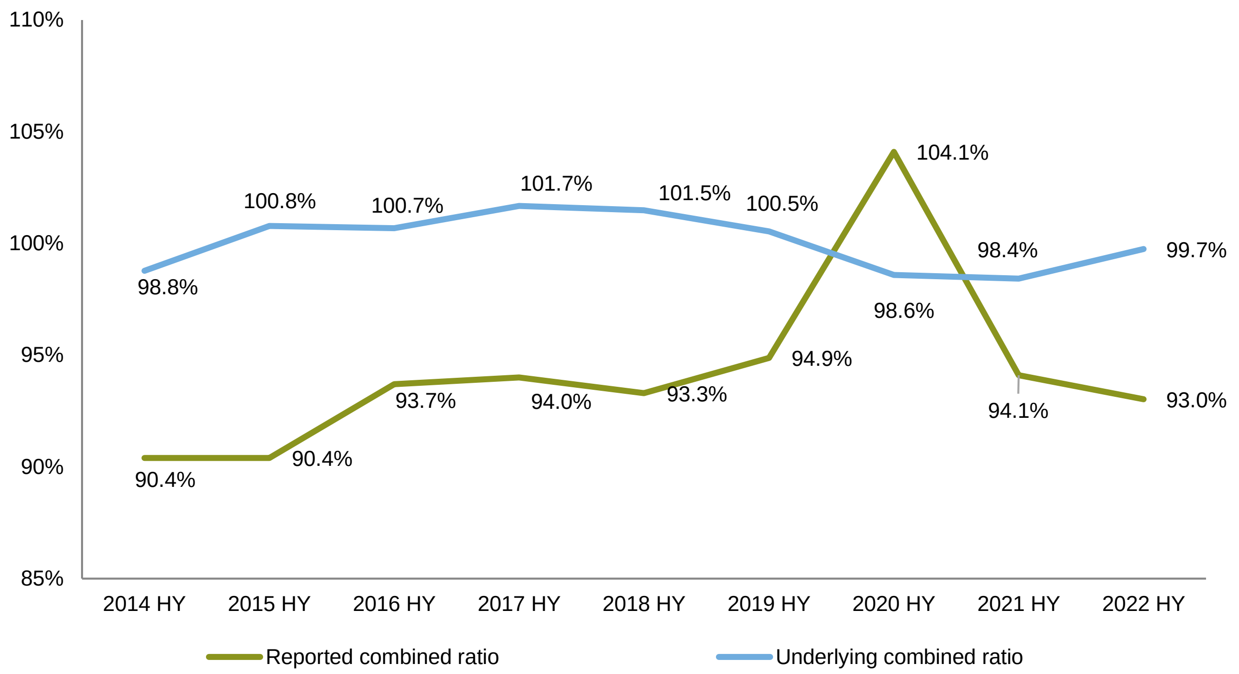


[6] S&P estimated WACC (weighted average cost of capital) figures. Underlying ROE excludes investment gains/losses for 2018 onward.

Combined ratio for the SUBSET

Reported combined ratio has improved, but underlying is less strong

Reported and underlying combined ratio for the SUBSET



Underlying combined ratio increased by growing natural catastrophe losses

Combined ratio detail for the SUBSET[7]

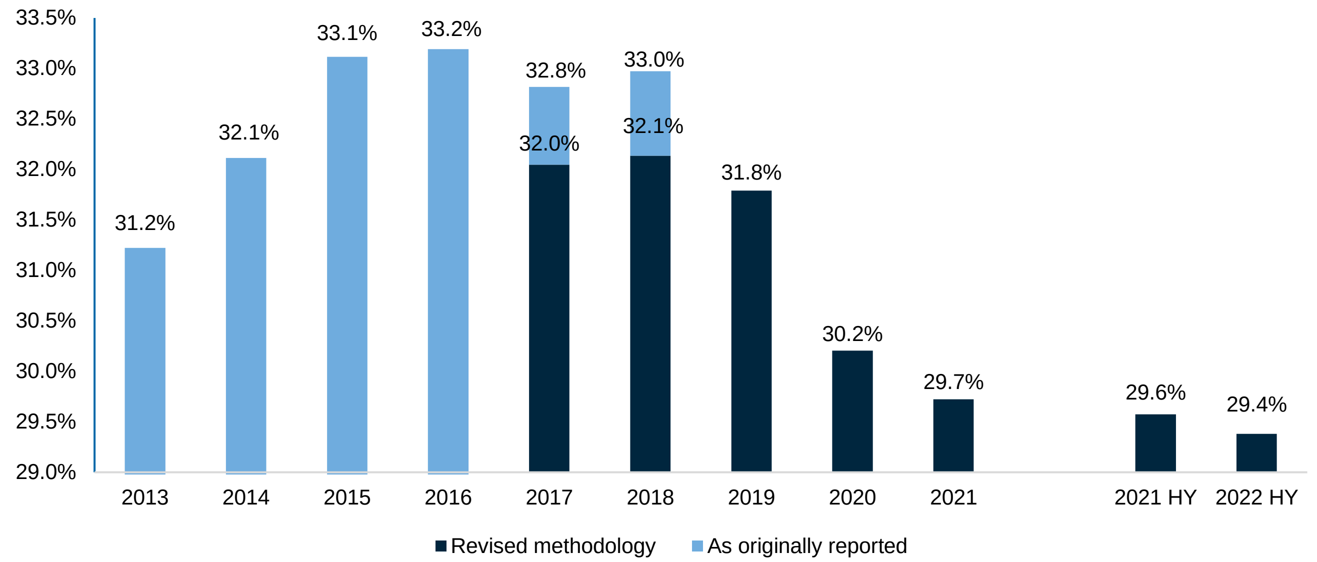
SUBSET	2014 HY	2015 HY	2016 HY	2017 HY	2018 HY	2019 HY	2020 HY	2021 HY	2022 HY
Reported combined ratio	90.4%	90.4%	93.7%	94.0%	93.3%	94.9%	104.1%	94.1%	93.0%
Remove prior year development	4.5%	5.2%	5.2%	3.6%	3.0%	1.2%	0.7%	1.3%	1.6%
Accident year combined ratio	94.9%	95.6%	98.9%	97.6%	96.3%	96.0%	104.8%	95.4%	94.7%
Strip out nat cat loss	-2.5%	-1.2%	-4.6%	-2.3%	-1.2%	-2.6%	-3.3%	-5.6%	-5.0%
Strip out COVID loss							-11.1%	-0.4%	-0.1%
Ex-nat cat accident year CR	92.4%	94.4%	94.3%	95.3%	95.1%	93.4%	90.4%	89.4%	89.6%
Add in normalised nat cat loss	6.4%	6.4%	6.4%	6.4%	6.4%	7.1%	8.2%	9.0%	10.1%
Underlying combined ratio	98.8%	100.8%	100.7%	101.7%	101.5%	100.5%	98.6%	98.4%	99.7%
Expense ratio					33.1%	32.2%	30.8%	29.6%	29.4%
Ex-nat cat accident year loss ratio					62.0%	61.2%	59.6%	59.8%	60.2%
Ex-nat cat accident year CR					**95.1%**	**93.4%**	**90.4%**	**89.4%**	**89.6%**

[7] The normalised natural catastrophe load is the five-year moving average of the SUBSET's natural catastrophe losses (including COVID-19 losses), calculated on the basis of annual results

Expenses for the SUBSET

Expense ratio continues to come down, driven by strong premium growth

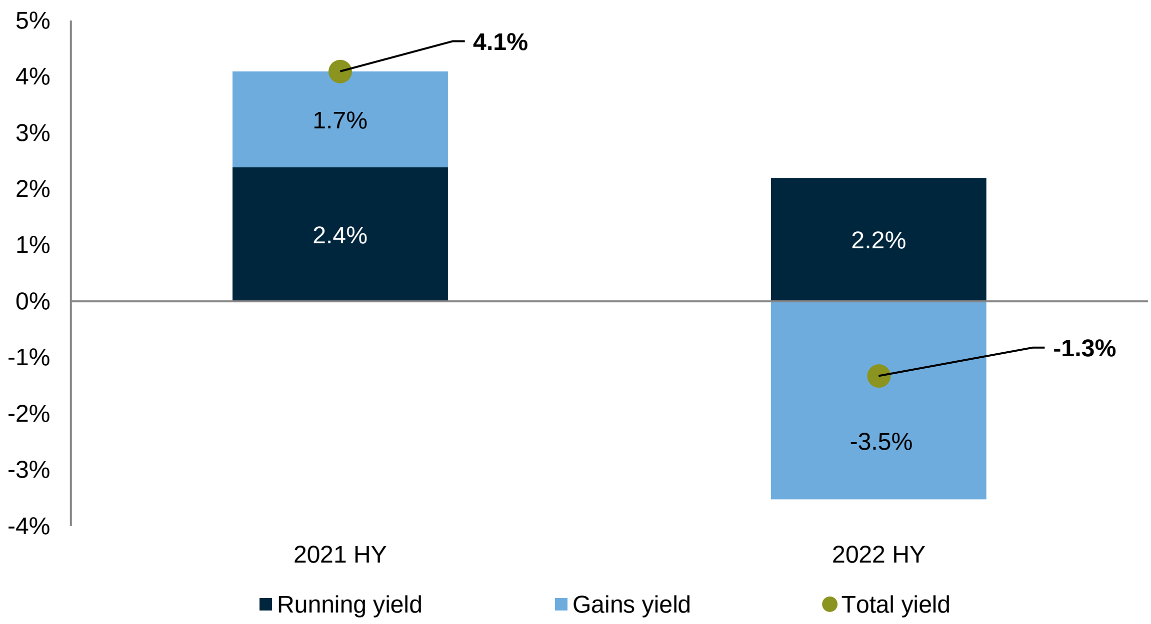
Weighted average expense ratio for the SUBSET[8]



Investment yield for the SUBSET

Lower investment result as gains yield turns negative

Investment yield for the SUBSET[9]



[8] The revised methodology we introduced with our half-year 2019 report produced a discontinuity in our time series of SUBSET expense ratios. Several of the companies removed from our constituent list, particularly Lloyd's companies, have high expense ratios. Therefore, our 'revised methodology' expense ratios for 2017 and 2018 are approximately one percentage point lower than the ratios we originally reported

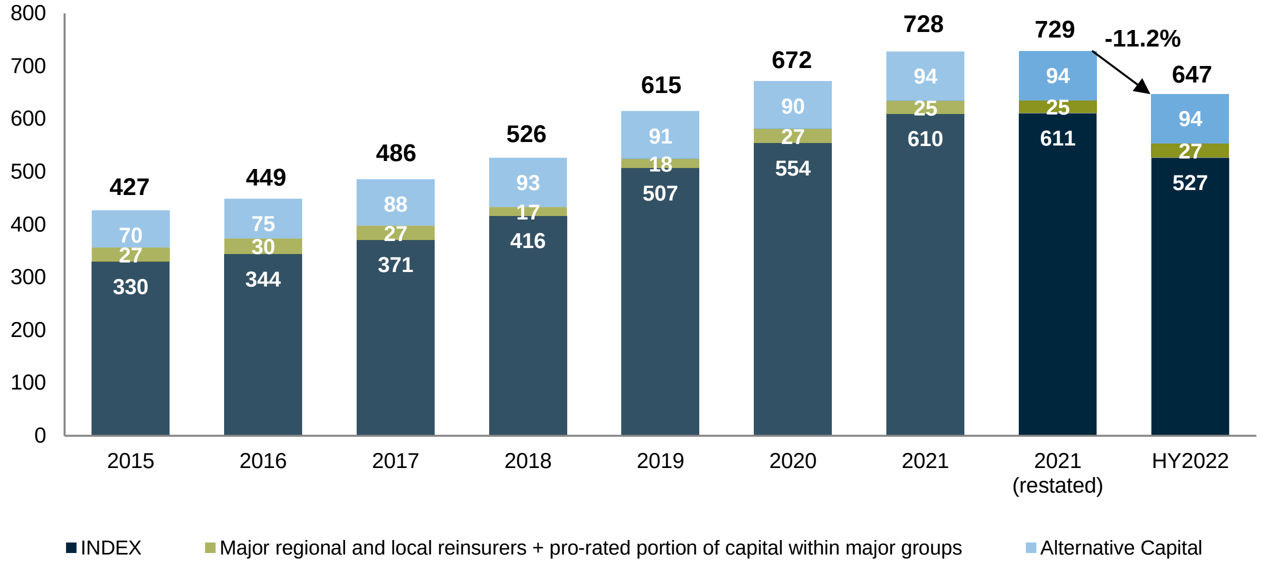
[9] Running yield captures items such as bond coupons, equity dividends and interest income

Capital

Total reinsurance dedicated capital

Total industry capital decreased by 11 percent

Chart 1: Total reinsurance dedicated capital (USD billions)[10]



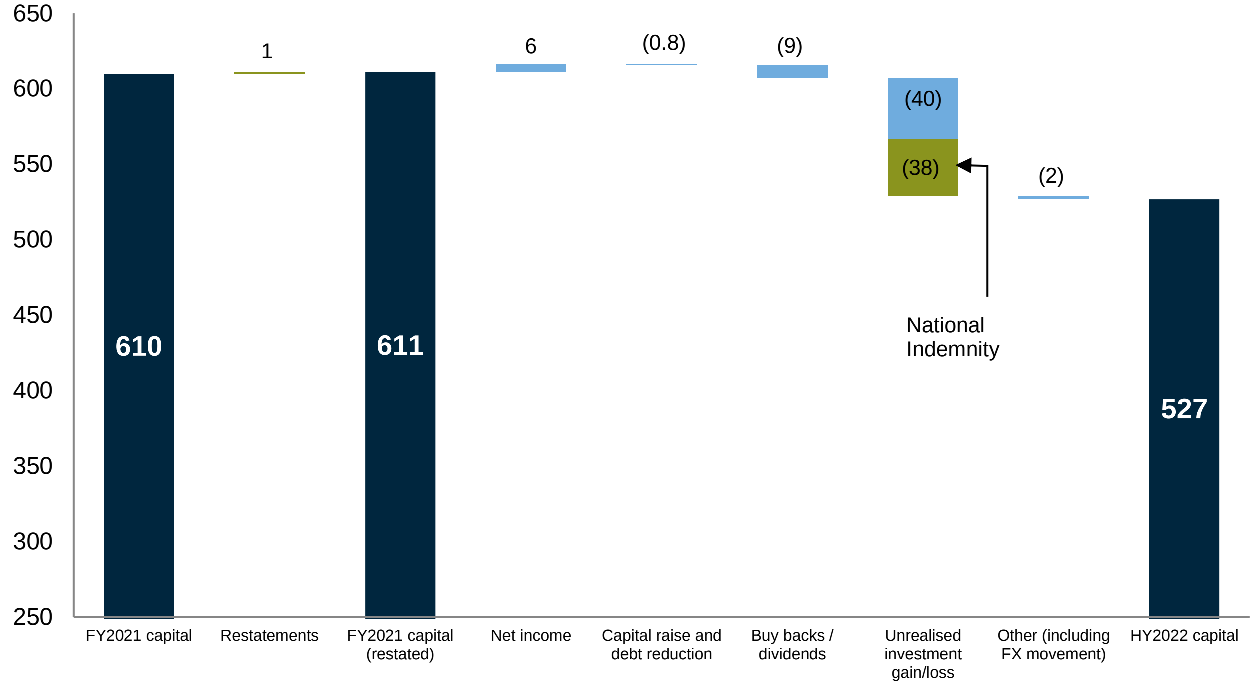
- Global reinsurance capital declined over the first six months of 2022 by 11% to USD 647 billion.
- The capital of INDEX companies represents a slightly smaller portion (81% vs 83% in 2021) of total reinsurance capital. After increases between 2019 and 2020, alternative capital and other forms of reinsurance capital have remained at virtually the same levels over the last two years. This means that capital positions of the INDEX companies are the key driver behind the global decrease in reinsurance capital. Their capital dropped to pre-2020 levels primarily because of unrealised losses on investments.
- We estimate little change from FY 2021 in non-life alternative capital, but we also acknowledge that this roughly flat trend is susceptible to foreign exchange volatility. This is because many investible assets are denominated in currencies hedged against the USD. As a result, any growth in the global investible assets may be offset by depreciation of their currencies against the USD (or vice versa), with an outcome of flat USD values reported. As investors hedge with a very short-term view, increased foreign exchange volatility increases their cost of hedging and reduces their risk appetite (and vice versa), which in turn impacts the aggregate reported numbers. The circular reference nature of volatility and investors' demand adds complexity to global value appraisals.

[10] Our originally reported year-end 2021 capital of USD 728 billion has been updated for companies who reported after the publication date of our full-year 2021 report. This takes the re-stated figure to USD 729 billion.

INDEX capital

Capital declined because of unrealised losses on investments

Chart 2: Capital analysis for the INDEX (USD billions)[11]

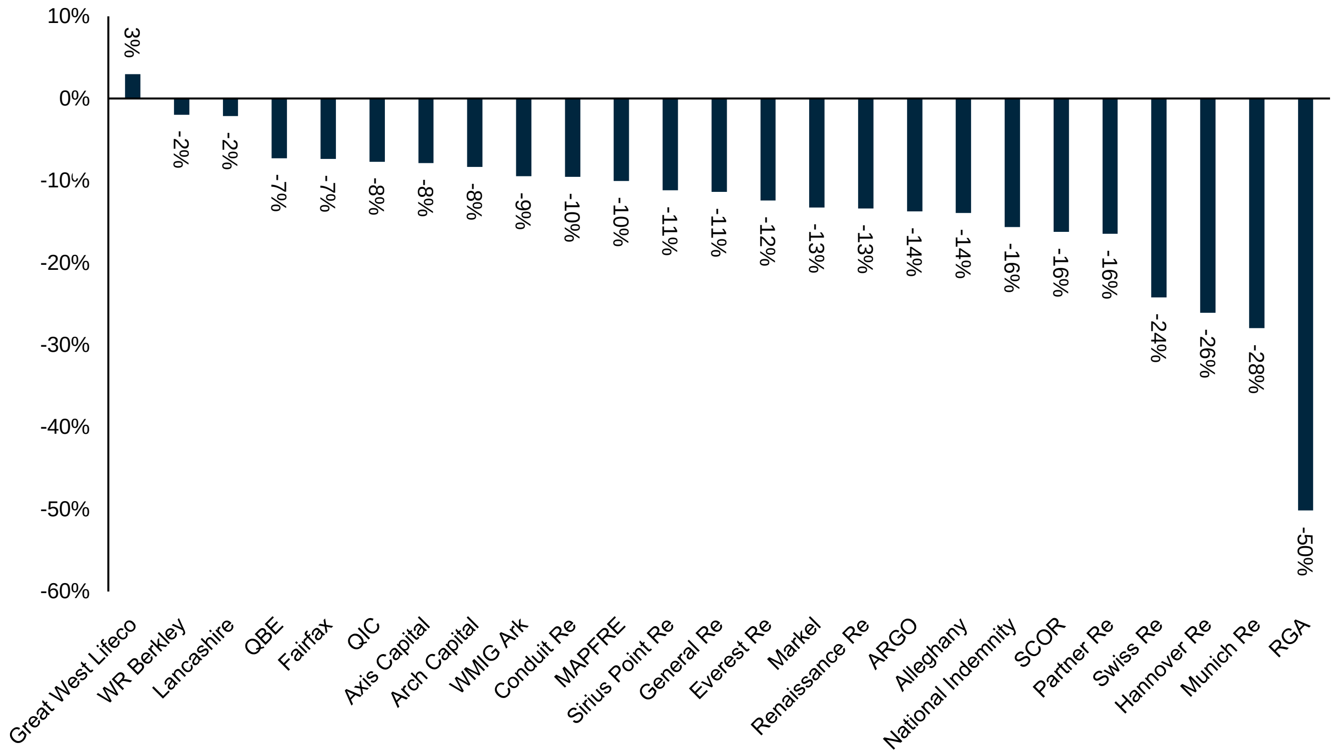


- In previous years HY capital positions were affected by more factors than in 2022: capital raises, changes to retained earnings, currency movements and capital distribution measures. However, in 2022 HY the primary driver behind the movement in capital was unrealised losses from investments.
- In 2022 HY interest rates rose, equity markets declined, and credit spreads widened – all of which brought down the value of reinsurers' investments. While realised gains/losses and some unrealised gains/losses flow through net income, most of this impact was recorded directly in shareholders' equity and is represented by the unrealised investment gain/loss bar in the chart above.
- Some companies have seen substantial volatility in the values of their investments. For example, National Indemnity alone had reported USD 46 billion appreciation of their investment portfolio at the 2021 year end, only to report a USD 38 billion unrealised loss six months later in 2022 HY. Unrealised losses dominated in the group.
- Compared to previous years, net income had a relatively minor impact on INDEX reinsurance capital.
- Return of capital was greater than net income itself and dividend payments dominated over share buy-backs.

[11] FY2021 restated capital includes FY2021 late filers.

Consistent decline in capital across the reinsurance industry

Chart 3: Movement in capital reported as at HY 2022 for the INDEX constituents[12]



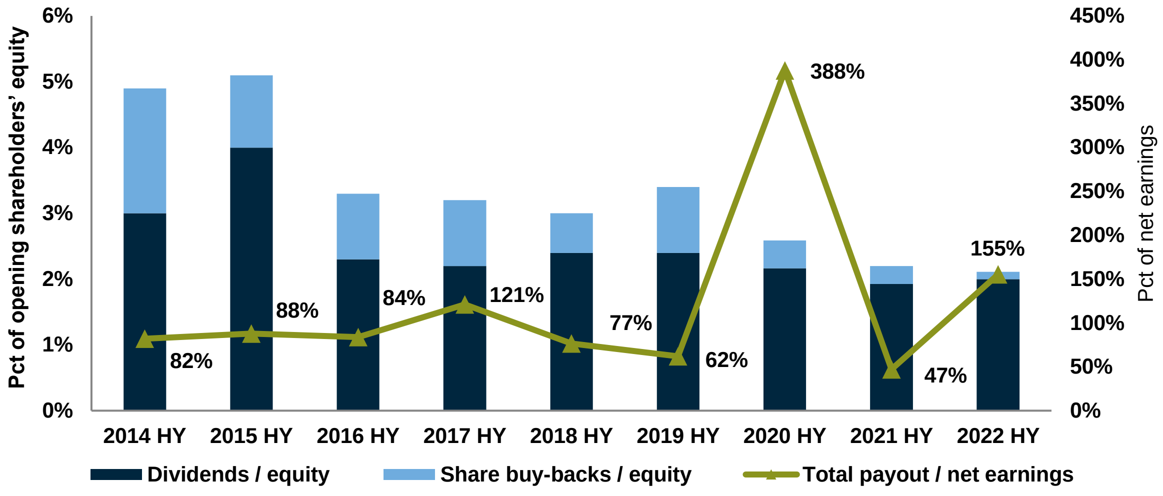
- Reinsurers with larger investment portfolios relative to their capital base are more sensitive to movements in investment markets. RGA, due to its life reinsurance orientation has the highest ratio of investments to capital in the INDEX and correspondingly saw the largest drop in capital in 2022 HY. The capital bases of Munich Re, Hannover Re and Swiss Re are also highly geared to investments among the INDEX companies.
- All of the +20% decreases in the values of reported equity can be attributed almost exclusively to unrealised losses on fixed income securities. Swiss Re's drop in equity can be additionally explained by a significant dividend payment.

[12] Excludes companies who have not yet reported 2022 HY

Return of capital

Return of capital was greater than net earnings in 2022 HY

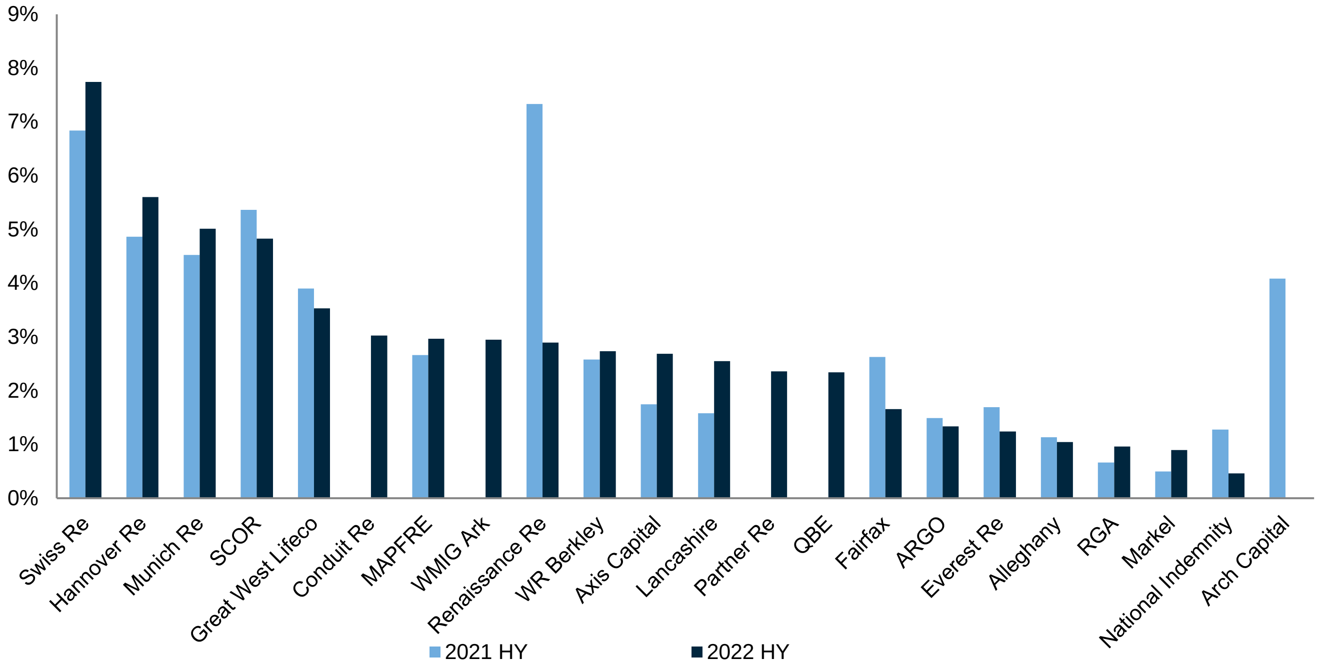
Chart 4: Return of capital (as percent of opening shareholders' equity) and payout ratio for the INDEX



- As a continuing trend since 2019 HY, total payouts (dividends plus buy-backs) measured as a percent of shareholders' equity declined slightly in 2022 HY, but remain relatively healthy, averaging 2.1% of equity (considering that HY payouts are always seasonally low).
- The picture is more volatile when measured as a percent of earnings, due to volatility of the denominator. On this basis, total payouts increased to an abnormally high 155%, meaning that reinsurers paid out more than they earned. Dividends dominated over share buy-backs, with 80% of dividends coming from the 'Big Four' reinsurers: Hannover, Munich Re, SCOR and Swiss Re.
- Share buy-backs as a proportion of capital have decreased steadily since 2019 and have now hit their lowest levels since 2014.
- The fact that reinsurers continued to return healthy amounts of capital to shareholders, despite declines in equity and net earnings, evidences managements' confidence in their business models.

More consistent pay outs across the industry

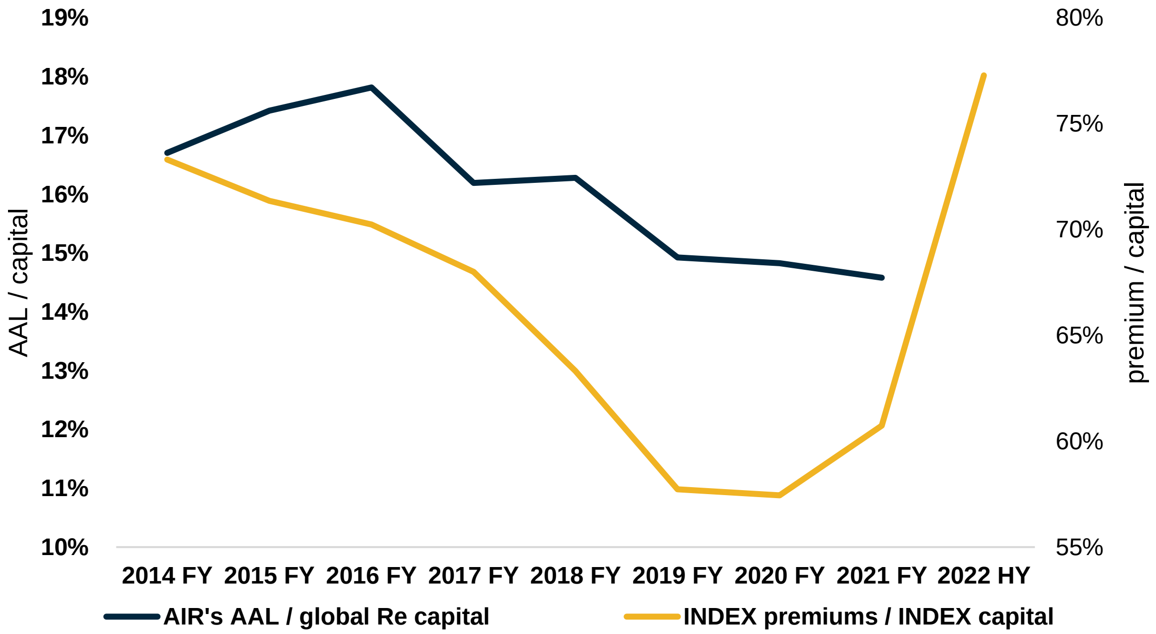
Chart 5: Return of capital (as percent of opening shareholders' equity) for the INDEX constituents



- As a group, in 2022 HY reinsurers were more consistent in distributing capital than in the equivalent period of the previous year. In 2021, Renaissance Re, Arch Capital and Swiss Re made exceptional pay outs, while others made none.
- The companies that started returning capital to shareholders after the pandemic include Conduit Re, White Mountains Insurance Group Ark, Partner Re and QBE.

A tightening of supply relative to demand, although not as dramatic as simple measures would indicate

Chart 6: AIR loss scenarios and premiums vs capital[13]



[13] Source: AIR Global Modeled Catastrophe Losses report. AAL is AIR's mean value of a loss exceedance probability (EP) distribution. It is the expected loss per year, averaged over many years. 2022 HY premiums are annualised.

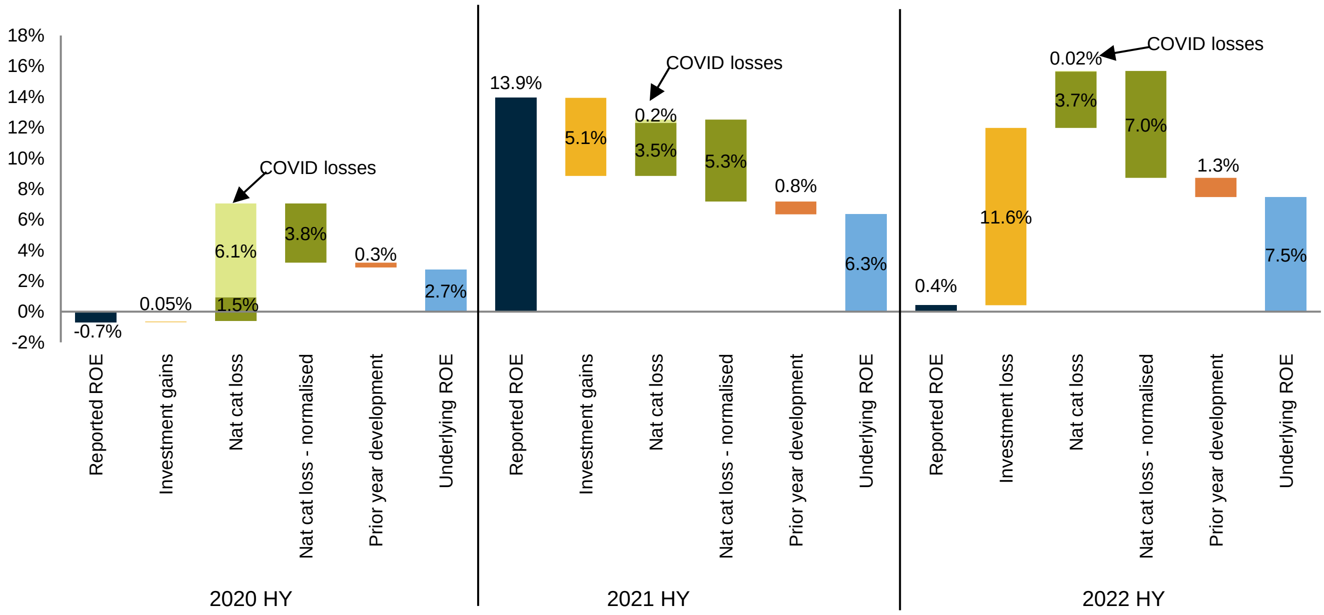
- If the reinsurance industry's capital base is 'supply', then a proxy for 'demand' is the premiums ceded to reinsurers. Another proxy, available only on an annual basis, is catastrophe modelling agency AIR's aggregate annual loss (AAL).[14]
- Both measures are imperfect. Premiums capture price changes as well as exposure growth and AIR's figures reflect only the natural catastrophe portion of reinsurance demand. Capital is measured on an accounting basis, movements of which are not always in sync with the regulatory and rating agency measures of capital which tend to be struck on a more economic basis.
- Nevertheless, the indicative picture that emerges for 2022 HY is quite striking. Strong premium growth, coupled with the reduction in capital, has significantly pushed up the ratio of premiums to capital. The 2022 HY ratio stands at 77%.
- Other things equal, this would suggest a significant tightening of capacity relative to demand. The tightening in the first half of this year more than erases the steady trend of 'supply' growing faster than 'demand' seen over 2014-2020.
- Other things are not equal, though. While declining equity markets and widening credit spreads on bonds undoubtedly had a negative impact on economic capital, higher interest rates have a much-reduced impact, and under Solvency 2 and the Swiss Solvency Test higher interest rates often improve regulatory capital. Three of the European 'Big Four' reinsurers saw increases in their regulatory capital ratios in 2022 HY. Moreover, much of the premium growth seen over the past several years has been due to price rather than exposure growth.
- In short, while there has been some tightening of capacity, it is not as exaggerated as the graphic above. The industry's ability (and willingness) to continue with significant returns of capital to shareholders is an indication of its continuing healthy capital position.

[14] AAL is AIR's mean value of a loss exceedance probability (EP) distribution. It is the expected loss per year, averaged over many years.

Return on equity

Losses from investments and natural catastrophes depressed reported ROE

Chart 7: ROE analysis for the SUBSET



- In 2021 HY reported ROE recovered after the pandemic shock of 2020, and the underlying ROE increased as well - normalised for investment gains and losses and natural catastrophe losses. In 2022 HY, in which COVID losses were nearly zero and natural catastrophe losses were also well-contained, reinsurers' ROE suffered from losses on investments.
- Our calculations of natural catastrophe losses show relatively stable levels between HY 2021 and HY 2022, at 3.5% and 3.7% respectively. However, with the global trend of natural catastrophe losses increasing every year, the normalised natural catastrophe loss depressed 2022 HY ROE by 7% compared to 3.8% in HY 2020 and 5.3% in 2021.
- The impact of prior year development, which we strip out from underlying ROE, rose slightly in 2022 HY to 1.3%.
- Our largest adjustment to the 2022 HY ROE is for investment gains and losses. In 2021 HY the markets bounced back after the pandemic turmoil and companies recorded both realised and unrealised gains from increases in the values of investments, in particular equities. These gains had an overall positive impact of 5.1 percentage points on ROE.
- In 2022 HY this reversed: investments suffered from higher discounts applied to both fixed income and equity instruments. In result we see an 11.6 percentage point cost on reinsurers' ROE.
- Overall, while the reported ROE fell from 13.9% in 2021 HY to 0.4%, we calculate that the underlying ROE improved further, from 6.3% to 7.5%.

Unrealised losses drive trends in underlying ROE

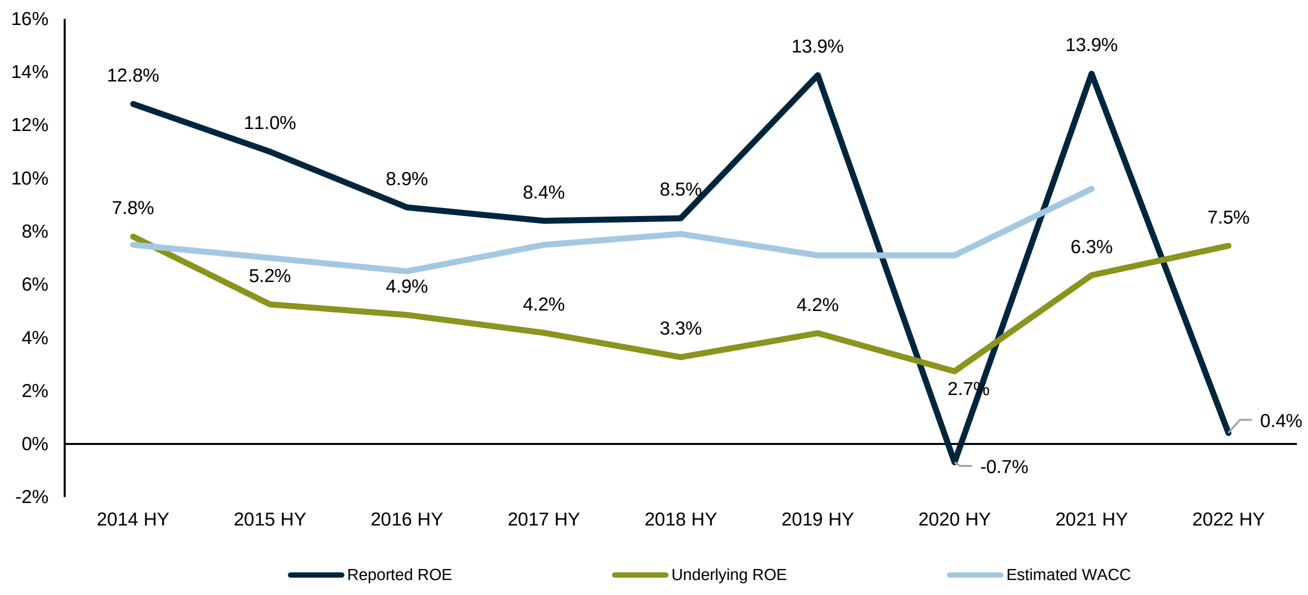
Chart 8: ROE components for the SUBSET

	2020 HY	2021 HY	2022 HY
Reported ROE	**-0.7%**	**13.9%**	**0.4%**
Remove nat cats (ex-COVID)	1.5%	3.5%	3.7%
Remove COVID losses	6.1%	0.2%	0.0%
Add in normalised nat cats	-3.8%	-5.3%	-7.0%
Remove prior year development	-0.3%	-0.8%	-1.3%
Strip out investment gains/losses	0.0%	-5.1%	11.6%
Underlying ROE	**2.7%**	**6.3%**	**7.5%**
Composition of underlying ROE			
Underlying underwriting margin	0.4%	0.5%	0.1%
Running investment income	5.6%	7.1%	8.7%
Other income / expenses	-3.3%	-1.3%	-1.4%
Underlying ROE	**2.7%**	**6.3%**	**7.5%**

- Looking at the components of the underlying ROE, the contribution from the underlying underwriting margin deteriorated, from 0.5% in 2021 HY to 0.1%. This is consistent with the deterioration in the underlying combined ratio.
- However, the contribution from running investment income improved to 8.7%. We strip out the strong negative impact from investment losses to focus on the more recurring component of investment income. The contribution to ROE improved even though the running investment yield declined slightly, due to different constituent weightings applied to these two metrics.

Underlying ROE continues to improve but still remains below the industry's cost of capital

Chart 9: ROE time series for the SUBSET[15]

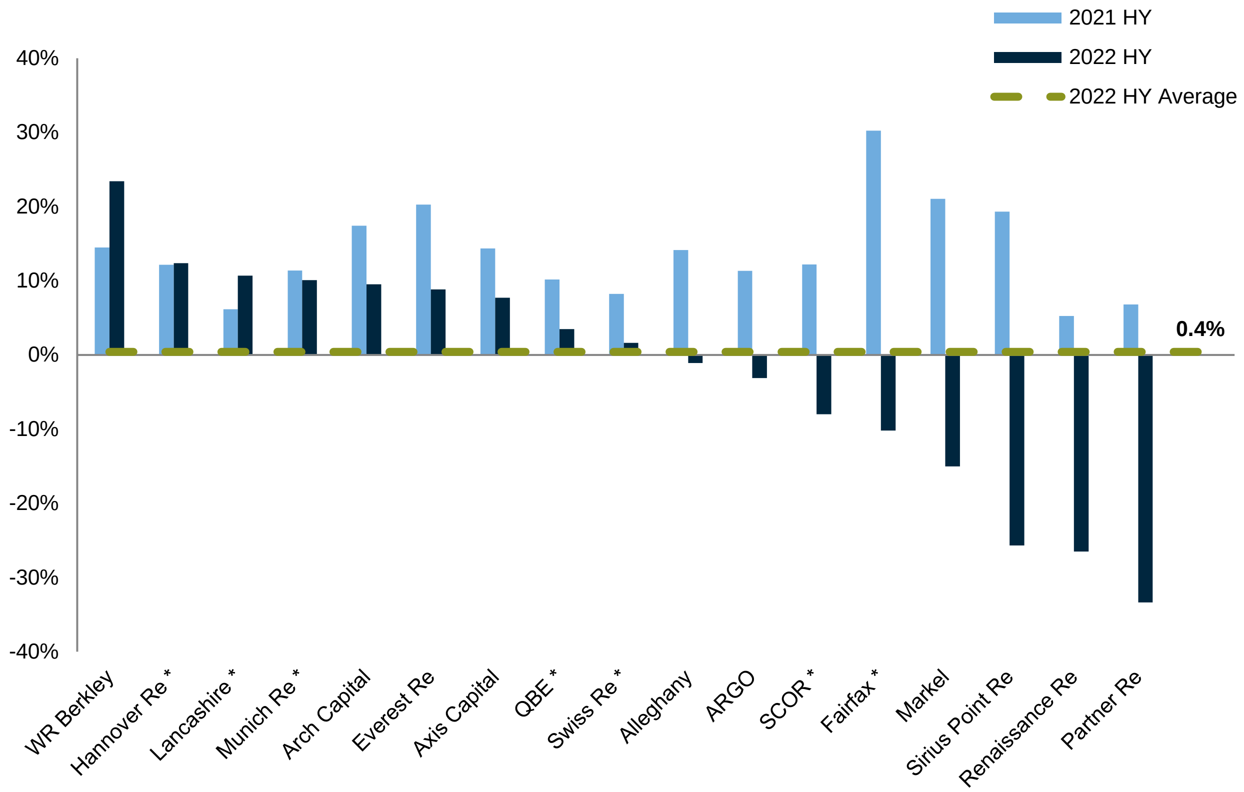


- Although severe natural catastrophe losses seem to be the new norm of the last few years and reported ROEs have seen significant volatility from investment markets, we calculate a steadily improving underlying ROE. It reached 7.5% in 2022 HY, its highest level since 2014, and it is now finally beginning to approach the sector's cost of capital (which we source from S&P, with the latest figure being as of 2021).

[15] S&P estimated WACC (weighted average cost of capital) figures. Underlying ROE excludes investment gains/losses for 2018 onward.

Significant variance in reported ROE in HY 2022

Chart 10: Reported ROE for the SUBSET constituents[16]



* Denotes companies reporting in IFRS. The remaining companies report in US GAAP.

- While all the SUBSET companies were in a positive ROE territory in 2021, albeit with different results, the 2022 HY data show a completely changed performance, with half of the SUBSET continuing to post positive ROEs and half falling into negative territory.
- The companies that reported negative ROE recorded both decreased average shareholder equity and net losses, where the increase in negative income drove the ratio down more than the equity decrease.

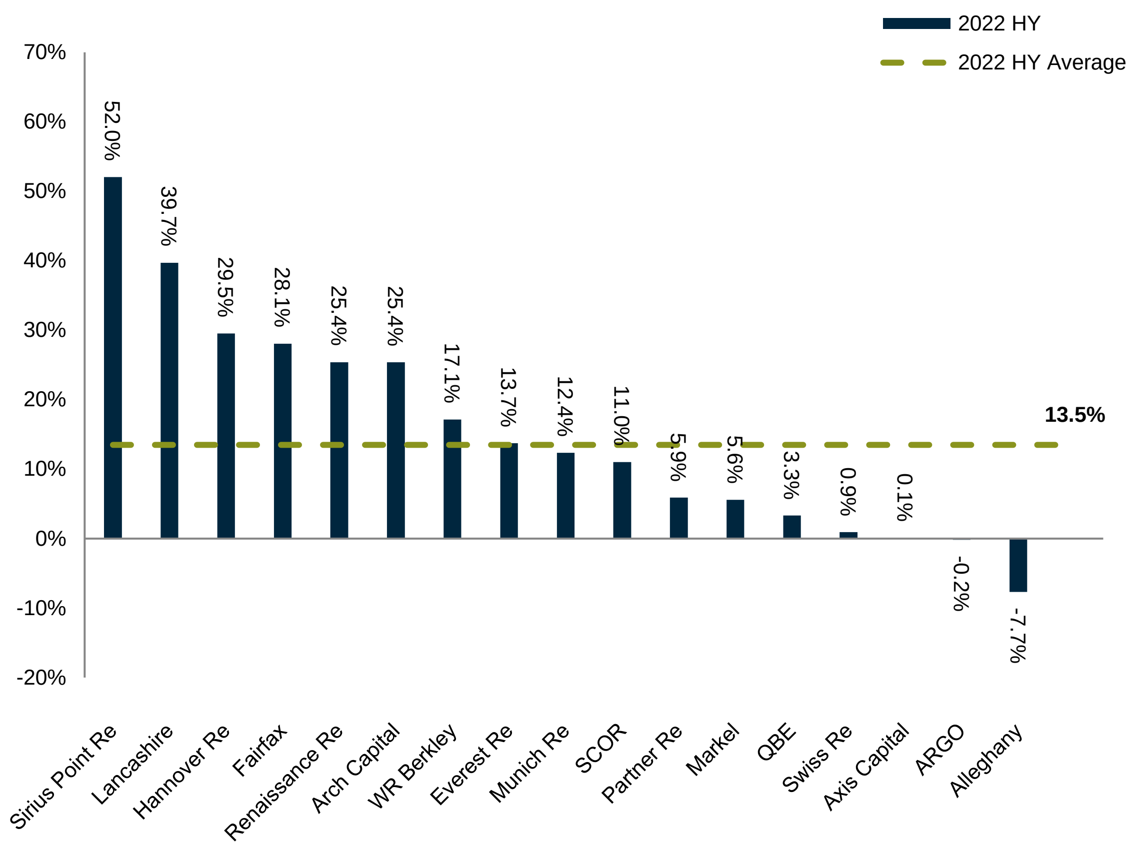
[16] ROEs are based on 'all-in' net income. They do not necessarily match the 'headline' ROEs reported by the companies as these are sometimes struck on an operating net income basis.

Underwriting performance

Premium volumes

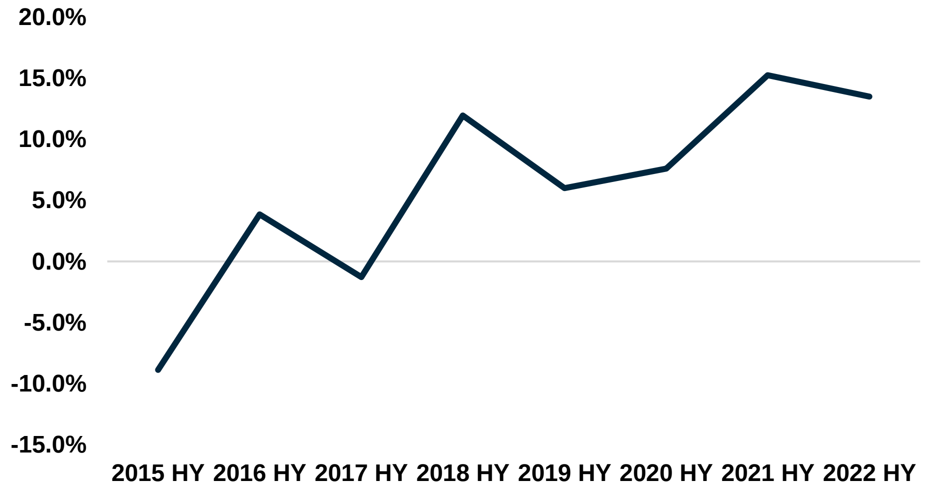
Double-digit premium growth for many of the reinsurers

Chart 11: 2022 change in relevant[17] net earned premium (USD basis) for the SUBSET constituents



Premium growth remains high

Chart 12: Premium growth over time of SUBSET constituents (USD basis)



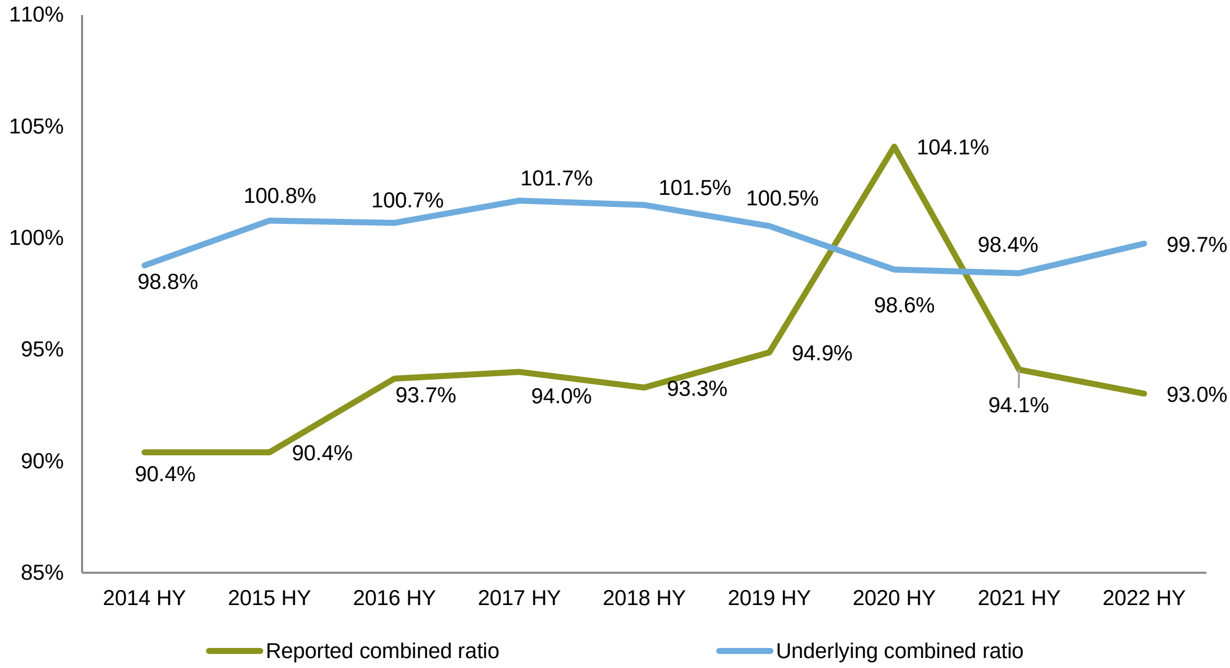
[17] Net earned premiums relate to the reinsurance segment if disclosure is available, or otherwise to the consolidated group. Appendix 1 explains in more detail.

- Premium growth remained robust throughout the year at an average of 13.5%, although a decrease from 2021 HY's 15%, which was the strongest growth rate we have seen since at least 2015. The growth trend continued to be aided by price increases at both primary and reinsurance levels.
- More than half of companies reported premium growth in double digits.
- Sirius Point Re's 181% growth was primarily a result of strong growth in A&H and an increased contribution from strategic partnerships.

Combined ratios

Reported combined ratio has improved, but underlying is less strong

Chart 13: Reported and underlying combined ratio time series for the SUBSET



Underlying combined ratio increased by growing natural catastrophe losses

Chart 14: Combined ratio detail for the SUBSET[18]

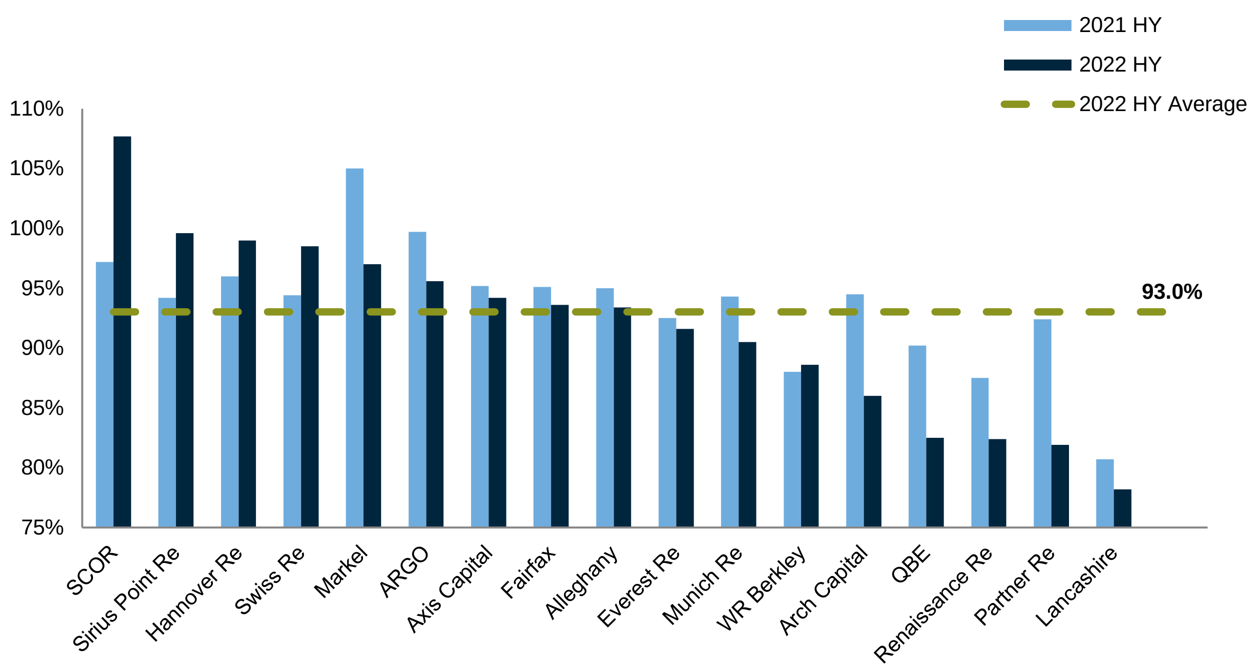
SUBSET	2014 HY	2015 HY	2016 HY	2017 HY	2018 HY	2019 HY	2020 HY	2021 HY	2022 HY
Reported combined ratio	90.4%	90.4%	93.7%	94.0%	93.3%	94.9%	104.1%	94.1%	93.0%
Remove prior year development	4.5%	5.2%	5.2%	3.6%	3.0%	1.2%	0.7%	1.3%	1.6%
Accident year combined ratio	94.9%	95.6%	98.9%	97.6%	96.3%	96.0%	104.8%	95.4%	94.7%
Strip out nat cat loss	-2.5%	-1.2%	-4.6%	-2.3%	-1.2%	-2.6%	-3.3%	-5.6%	-5.0%
Strip out COVID loss							-11.1%	-0.4%	-0.1%
Ex-nat cat accident year CR	92.4%	94.4%	94.3%	95.3%	95.1%	93.4%	90.4%	89.4%	89.6%
Add in normalised nat cat loss	6.4%	6.4%	6.4%	6.4%	6.4%	7.1%	8.2%	9.0%	10.1%
Underlying combined ratio	98.8%	100.8%	100.7%	101.7%	101.5%	100.5%	98.6%	98.4%	99.7%
Expense ratio					33.1%	32.2%	30.8%	29.6%	29.4%
Ex-nat cat accident year loss ratio					62.0%	61.2%	59.6%	59.8%	60.2%
Ex-nat cat accident year CR					**95.1%**	**93.4%**	**90.4%**	**89.4%**	**89.6%**

18 The normalised natural catastrophe load is the five-year moving average of the SUBSET's natural catastrophe losses (including COVID-19 losses), calculated on the basis of annual results

- The 2022 HY reported combined ratios improved slightly from the 2021 equivalent period. On average, companies reported a 93.0% combined ratio versus 94.1% in the equivalent period of last year. The improvement can be attributed to a number of factors: a stronger ex-natural catastrophe accident year loss ratio as price increases have so far outstripped claim trends, greater benefit from reserve releases, reduced natural catastrophe and COVID losses, and a slightly better expense ratio.
- However, these positives are offset by an increase in the normalised natural catastrophe load we apply (the five year moving average of actual natural catastrophe + COVID losses). This load has been steadily growing since 2018, from 6.4% to 10.1% in just over four years.
- Underlying combined ratios have been below 100% since the pandemic. The two years of the pandemic saw decreased levels, just over 98% in average combined ratio, but in HY 2022 the ratio is only 30 basis points short of 100%.

Most companies achieved an improvement in reported combined ratio and nearly all achieved sub-100%

Chart 15: Reported combined ratios for the SUBSET constituents

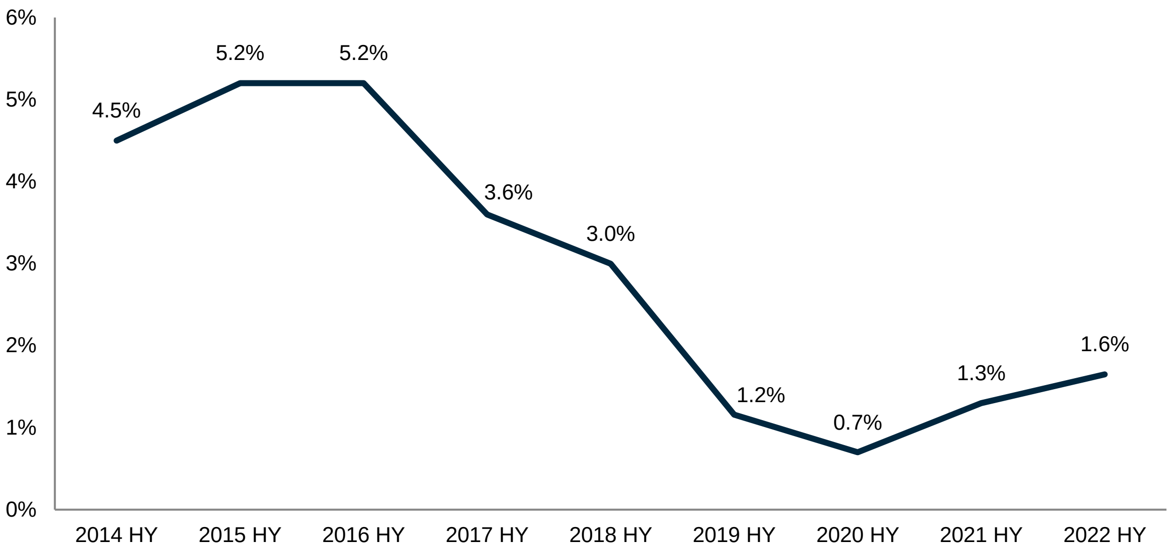


- Most companies reported an improved combined ratio in 2022 HY and all but SCOR achieved a combined ratio less than 100%. SCOR's combined ratio was impacted by natural catastrophe losses, losses from the Brazilian drought and reserve strengthening relating to claims in the 1970s-80s in its US casualty portfolio.

Prior year loss development (PYD)

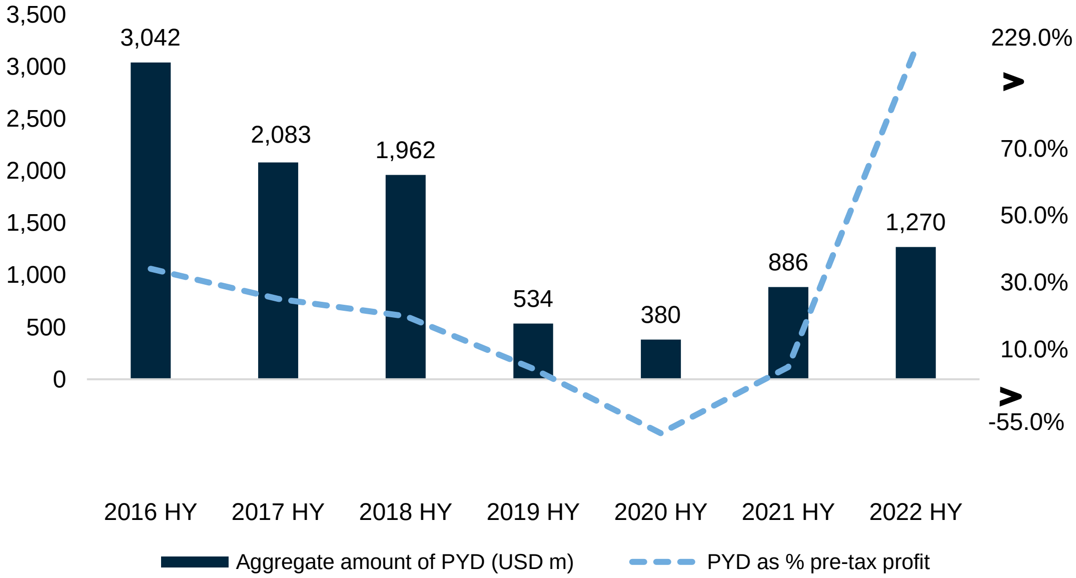
Support from reserve releases continued to increase through HY 2022

Chart 16: Prior year development impact on combined ratio for the SUBSET[19]



Prior year development in absolute terms increased versus 2021 HY

Chart 17: Prior year development for the SUBSET (positive number = benefit)



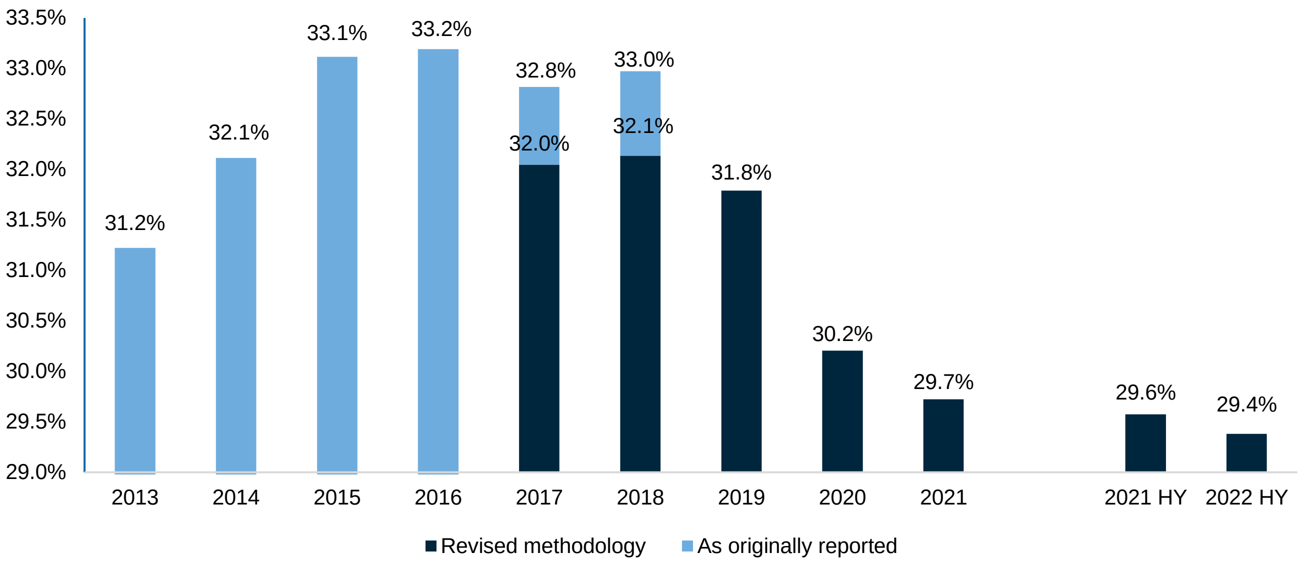
- In HY 2022, reserve releases benefitted companies' combined ratio by 1.6 percentage points, which is a slightly larger benefit than 1.3% in 2021 HY. We note an increasing trend for three consecutive HYs albeit still sitting much lower than 2016.
- As a percentage of group pre-tax profit, reserve releases averaged 229% for the SUBSET in 2021. Although the total amount of reserve releases had a modest increase, pre-tax profits have reduced significantly this year. This has resulted in the spike in prior year development as a percent of pre-tax profit shown above.
- Most of the SUBSET companies maintained the direction of reserve strengthening or reserve release as at FY21.

[19] Positive number indicates a favourable prior year impact.

Expense ratios

Expense ratio continues to decline, driven by strong premium growth

Chart 18: Weighted average expense ratio for the SUBSET[20]



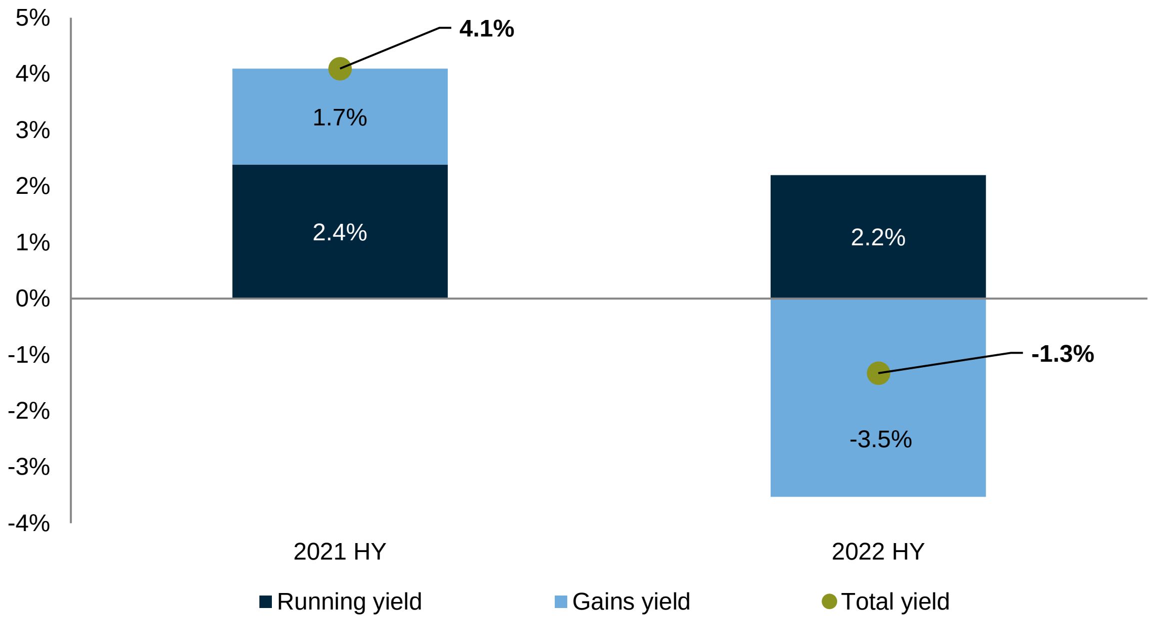
- Since 2018 average expense ratios for the SUBSET have been consistently improving. 2021 was the first year when the average ratio dropped below the 30% mark, and 2022 HY saw it fall to 29.4% level. The improvement, however, did slow in 2022 HY. While premium growth remained strong, growth in the absolute level of expenses also picked up, with both expenses and premiums growing by roughly 13%.
- One driver of the growth in expenses is surely inflation. Another, however, is the industry's continued technology investments and digitalisation of the underwriting process. This has been partly triggered by the pandemic and should result in long-term efficiencies.
- The continued modest improvement in expense ratios creates an offset to headwinds for loss ratios.

[20] The revised methodology we introduced with our half-year 2019 report produced a discontinuity in our time series of SUBSET expense ratios. Several of the companies removed from our constituent list, particularly Lloyd's companies, have high expense ratios. Therefore, our 'revised methodology' expense ratios for 2017 and 2018 are approximately one percentage point lower than the ratios we originally reported.

Investment performance

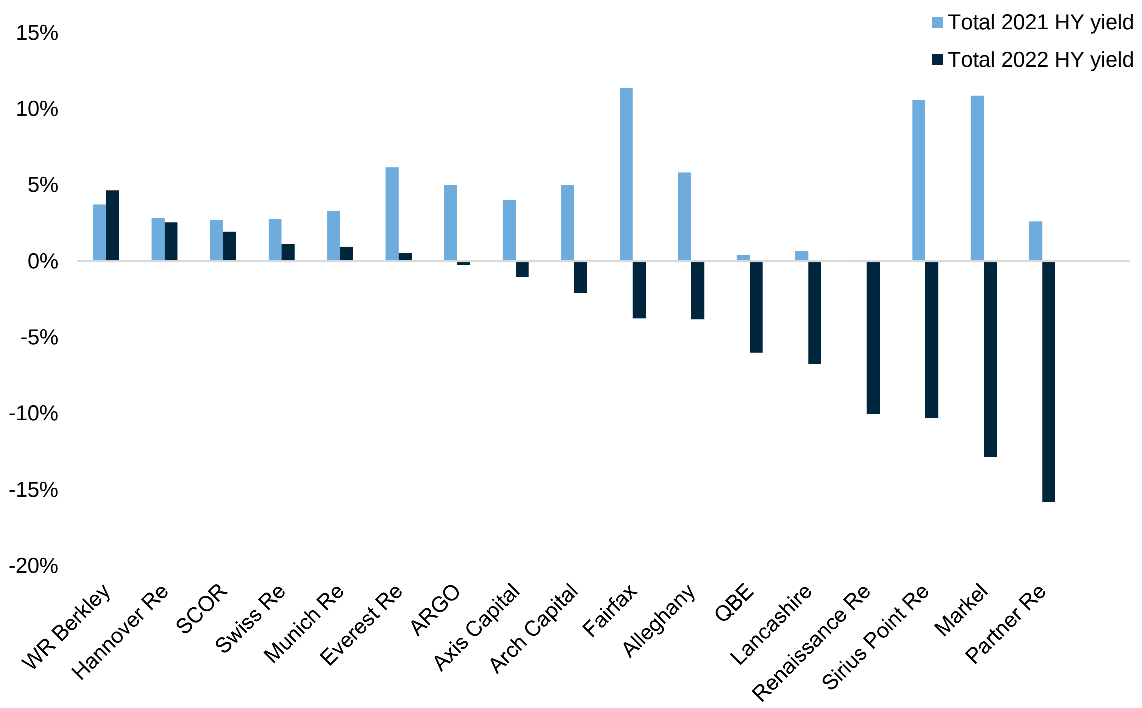
Lower investment result as gains yield turns negative

Chart 19: Investment yield for the SUBSET[21]



Almost two thirds of SUBSET companies reported a negative investment yield

Chart 20: Investment yield for the SUBSET constituents



[21] Running yield captures items such as bond coupons, equity dividends and interest income

- The overall investment yield dropped sharply to -1.3% (2021 HY: 4.1%) contributing to a decline in the reported ROE.
- The driver of this deterioration was the fall in the gains yield to -3.5% (2021 HY: 1.7%), which was driven mainly by significant unrealised investment losses reported by certain North American and Bermudan (re)insurers which, under U.S. GAAP, flowed through the P&L and stemmed from falling equity markets and lower bond values as interest rates rose. Although a less significant driver of the fall in the gains yield, realised gains also reduced.
- The running yield, which is the more recurring component of investment income, was down marginally to 2.2% (2021 HY: 2.4%).

Appendix 1

Methodology

In our HY 2019 report, we broadened our definition of capital to include subordinated debt and minority interests, and restated FY 2018 capital accordingly. We also introduced the rules below to choose the constituents of our capital calculation for the traditional reinsurance market. As per Chart 1 on page 6, these components are the INDEX, major regional and local reinsurers, and pro-rated portion of capital within major groups.

We review and adjust our constituents annually based on year-end data.

The constituents of these components within this report have been selected by applying the rules below to year-end 2021 disclosures. We also restate the 2021 HY capital position for late filers. The impact is the USD 1 billion 'Restatements' shown in Chart 2.

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Capital at least USD 1 billion or total group NWP at least USD 1 billion, and reinsurance NWP at least 10% of group NWP.

Major regional and local reinsurers

Capital at least USD 250 million, or total group NWP at least USD 250 million, and reinsurance NWP at least 10% of group NWP.

Pro rata of composites

In the case of large groups whose reinsurance NWP is less than 10% of group NWP, we take a pro-rated portion of capital which must be at least USD 250 million.

Segment versus group data for the SUBSET

In our combined ratio analysis, we use P&C reinsurance segment combined ratios for those SUBSET reinsurers which provide the disclosure. Otherwise, we use group combined ratios. In calculating the SUBSET averages, we weight these combined ratios by the appropriate segment or group net earned premium. In the section on premium volumes, we show the growth rate in this 'relevant NEP'. In Appendix 2, premium income is on a written basis and relates to the entire group.

Lloyd's market

The treatment of the Lloyd's market is complex given its nature. Lloyd's syndicates are not explicitly included in this study, in order to avoid double-counting. Many of the companies included in this study have capital backing Lloyd's syndicates, which is included in each company's individual contribution.

Appendix 2

HY 2022 results detail for INDEX

Group 2022 HY results table (USD millions)

Consolidated data unless otherwise stated	Notes	Total capital				Net written premium				Net income				Combined ratio			
		2020 FY	2021 FY	2022 HY	Δ 6mth	2020 HY	2021 HY	2022 HY	Δ HY/HY	2020 HY	2021 HY	2022 HY	Δ HY/HY	2020 HY	2021 HY	2022 HY	Δ HY/HY ppts
African Re	(2)	1,017	1,017	1,017													
Alleghany	(1)	8,756	9,187	7,907	-13.9%	3,012	3,633	3,623	-0.3%	-184	634	-46	NM	104.9%	95.0%	93.4%	-1.6
Arch Capital	(1)	13,929	13,546	12,418	-8.3%	3,513	4,553	5,319	16.8%	422	1,092	580	-46.9%	104.3%	94.5%	86.0%	-8.5
ARGO		1,971	1,993	1,719	-13.7%	837	915	910	-0.5%	-25	94	-23	NM	101.7%	99.7%	95.6%	-4.1
Aspen	(1)(2)	2,998	2,775	2,775													
AXA XL	(1)(2)	13,222	13,139	13,139													
Axis Capital	(1)	5,716	5,561	5,123	-7.9%	2,735	2,983	3,130	4.9%	-73	344	169	-50.9%	101.2%	95.2%	94.2%	-1.0
CCR, France	(2)	3,597	3,545	3,545													
China Re	(2)	15,762	16,149	16,149													
Conduit Re	(2)	1,053	981	888													
Convex	(2)	2,478	2,400	2,400													
Deutsche Re	(2)		491	491													
DEVK Re	(2)	2,794	2,598	2,598													
Everest Re	(1)	9,950	10,363	9,077	-12.4%	4,219	5,363	5,833	8.8%	207	1,022	420	-58.9%	96.0%	92.5%	91.6%	-0.9
Fairfax		17,712	21,316	19,749	-7.3%	7,402	8,675	11,048	27.3%	-824	2,007	-737	NM	98.6%	95.1%	93.6%	-1.5
Fidelis	(2)	2,034	2,078	2,078													
General Re	(5)	12,181	13,927	12,345	-11.4%	969	1,001	964	NM	-198	136	333	145.9%	125.9%	89.0%	75.2%	-13.8
GIC India	(3)	7,288	7,903	7,903													
Great West Lifeco		21,280	24,167	24,884	3.0%	15,601	19,968	23,865	19.5%	883	1,196	1,183	-1.0%				
Hamilton Re	(2)	1,512	1,744	1,744													
Hannover Re	(1)	17,212	17,893	13,230	-26.1%	13,145	15,761	17,215	9.2%	443	808	708	-12.4%	102.3%	96.0%	99.0%	3.0
IRB Brazil	(2)	820	652	652	0.0%												
Korean Re	(2)	2,270	2,149	2,149													
Lancashire		1,736	1,859	1,819	-2.1%	283	428	623	45.5%	-26	48	74	56.0%	106.9%	80.7%	78.2%	-2.5
MAPFRE		13,406	12,270	11,039	-10.0%	9,823	10,430	10,952	5.0%	299	439	369	-16.0%	96.7%	95.1%	98.3%	3.2
Markel	(1)	12,815	14,718	12,767	-13.3%	3,103	3,633	4,265	17.4%	-484	1,348	-987	NM	102.0%	105.0%	97.0%	-8.0
Milli Re	(2)		304	304													
Munich Re	(1)	42,864	40,942	29,496	-28.0%	28,451	33,687	34,114	1.3%	884	2,048	1,504	-26.6%	103.0%	94.3%	90.5%	-3.8
National Indemnity	(5)	187,762	239,470	202,030	-15.6%	14,557	16,089	17,401	8.2%	2,185	6,321	3,245	-48.7%	91.3%	95.6%	100.2%	4.6
Pacific LifeCorp	(2)	17,452	17,005	17,005													
Partner Re		7,884	8,101	6,767	-16.5%	3,269	3,843	4,254	10.7%	-204	248	-1,146	NM	112.6%	92.4%	81.9%	-10.5
Peak Re	(2)	1,487	1,470	1,470													
QBE		11,441	12,144	11,262	-7.3%	6,182	7,816	9,294	18.9%	-712	441	151	-65.8%	103.4%	90.2%	82.5%	-7.7
QIC		3,019	3,081	2,844	-7.7%	1,493	1,216	1,277	5.0%	-57	94	108	15.1%				
R&V Versicherung	(2)	2,630	2,445	2,445													
Renaissance Re		7,560	6,624	5,739	-13.4%	2,451	3,336	4,029	20.8%	510	180	-719	NM	85.4%	87.5%	82.4%	-5.1
RGA	(4)	15,471	14,133	7,048	-50.1%	5,609	6,012	6,385	6.2%	70	483	135	-72.0%				
SCOR		10,661	10,216	8,558	-16.2%	8,089	8,308	8,655	4.2%	29	458	-261	NM	102.3%	97.2%	107.7%	10.5
Sirius		2,000				936				-112				111.2%			
Sirius Point Re		1,565	2,503	2,224	-11.2%	331	769	1,337	73.8%	-60	195	-278	NM	97.6%	94.2%	99.6%	5.4
Swiss Re	(1)	35,332	31,389	23,796	-24.2%	21,861	23,329	24,582	5.4%	-1,135	1,046	157	-85.0%	115.8%	94.4%	98.5%	4.1
Toa Re	(3)	1,709	1,576	1,576													
Validus Re	(2)	3,439	3,548	3,548													
Vantage		1,000															
WR Berkley	(1)	7,428	7,675	7,522	-2.0%	3,586	4,262	4,999	17.3%	68	467	770	65.0%	102.9%	88.0%	88.6%	0.6
WMIG Ark			3,891	3,522													
Index aggregate	(6)(7)	554,211	610,937	526,759	-13.8%	161,455	186,010	204,071	9.7%	1,905	21,146	5,513	-73.9%	100.2%	93.2%	94.0%	0.8
Subset aggregate	(6)(7)	214,532	216,030	179,172	-17.1%	112,467	131,294	143,228	9.1%	-1,164	12,479	337	-97.3%	104.0%	94.1%	93.0%	-1.0

NB : Shaded rows in the above summary denote SUBSET groups. NM = not meaningful.

(1) Combined ratios are in respect of the P&C Reinsurance segment only.
(2) Due to lack of disclosure at the time of the report, total capital shown for HY 2022 is based on FY 2021 disclosure.
(3) Companies which have a March 31 financial year-end. Data for the year ended 31 March 2022 is included in the column headed FY 2021 (and similar for prior years), and HY 2022 data is also based on year-end 31 March 2022 disclosure.
(4) Figures for net premiums are net earned premiums, not net written premiums.
(5) Numbers are sourced from unconsolidated financial statements.
(6) Total of numbers reported, converted to USD at exchange rates prevailing at end of reporting period for total capital figures. For net income and NWP figures, we use average exchange rates over the reporting period.
(7) Pre-FY 2021 aggregates shown in this appendix will not necessarily match the aggregates shown in body of report. In the body, prior year figures have generally not been restated for changes in constituents. The figures here have been restated.

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