

Capitalization Remains A Pillar Of Strength For Global Reinsurers

August 15, 2018

Key Takeaways

- In 2017, the top-20 global reinsurers lost their capital redundancy at the 'AAA' confidence level for the first time since the 2008 financial crisis.
- Although lower than in previous years, capital adequacy remained a strength in 2017, and was redundant by 7% at the 'AA' confidence level.
- In the past five years, the top-20 global reinsurers sought better premium rates and less volatility as they gradually shifted their underwriting appetite to primary and proportional reinsurance business.
- Liability risks continue to dominate the top-20 global reinsurers' capital consumption, according to S&P Global Ratings' risk-adjusted capital model.
- Catastrophe losses in 2017 weighed on reserve risk, while investment risk has been fairly stable.
- If 2018 ends up being an average catastrophe year, it is not implausible to assume that the top-20 global reinsurers could regain their 'AAA' capitalization.

The global reinsurers' robust capitalization has provided a rock of stability in an otherwise tumultuous environment. Indeed, S&P Global Ratings continues to view the reinsurance sector's capital adequacy favorably and as a strength. Combined with the industry's sophisticated enterprise risk management practices, it underscores S&P Global Ratings' stable outlook on the global reinsurance sector and on the majority of the reinsurers it rates.

Capitalization Underpins The Strength Of The Top-20 Global Reinsurers, Despite A Decline In Cushion

The top-20 global reinsurers' (table 1) capital adequacy remains very strong and redundant by 7% at the 'AA' confidence level in 2017, relative to 15% in 2016, and 23% in 2015. In 2017, this group of global reinsurers lost its capital redundancy at the 'AAA' confidence level for the first time since the 2008 financial crisis. As a result, the group was deficient 5% at the 'AAA' confidence level in 2017, compared with redundancies of 2% and 12% in 2016 and 2015, respectively. The

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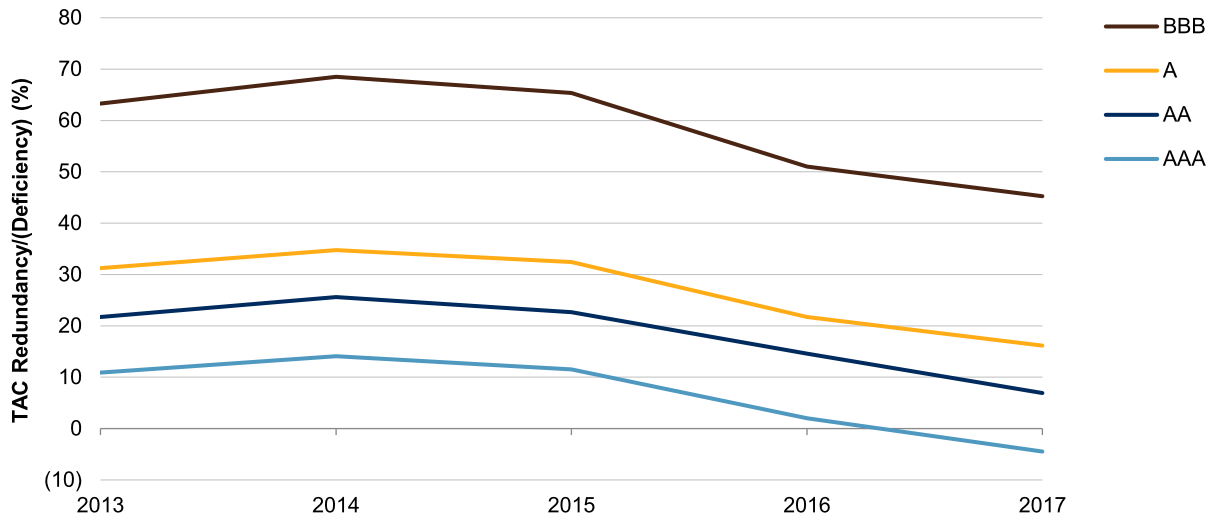
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property-catastrophe/short-tail specialists subgroup was the only one that continued to enjoy a 14% redundancy at the 'AAA' confidence level in 2017, despite the fact that the 2017 catastrophe losses were a capital event for most in this cohort.

Chart 1

Top 20 Global Reinsurers Capital Adequacy By Confidence Level (2013-2017)

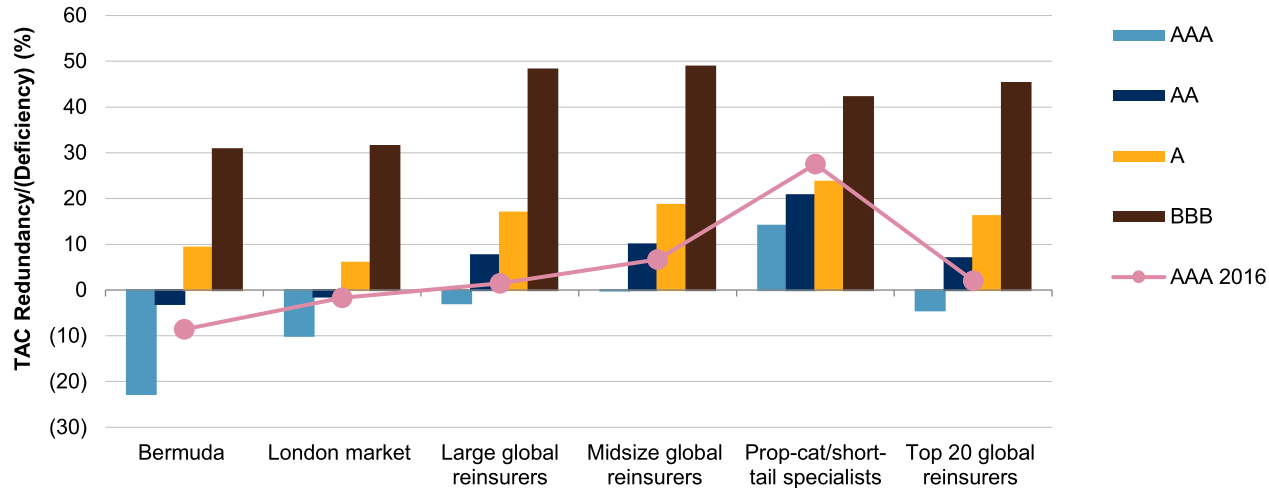


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The drop in capital adequacy from 2015 to 2016 was mostly due to adjustments to the large global reinsurers' asset-liability management (ALM), longevity risk capital charges, share buybacks and special dividends, and to a lesser extent, to the mergers and acquisitions (M&A) activity in 2016. In addition, the 2017 catastrophe losses have exacerbated the decline, in combination with M&A transactions among the Bermudians (e.g., Arch Capital Group Ltd., AXIS Capital Holdings Ltd.). However, many reinsurers slowed or halted share repurchases in the second half of last year because of the catastrophe events. Furthermore, the buybacks have not significantly picked up through the first half of 2018--some players are still building their capital strength back up after last year's events.

Chart 2

Top 20 Global Reinsurers 2017 Capital Adequacy By Confidence Level And Peer Group



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We believe if the industry experiences an average catastrophe year in 2018, it is reasonable to assume that the top-20 global reinsurers could recover their 'AAA' capitalization. Assuming a normal catastrophe year, we estimate for the top-20 global reinsurers a natural catastrophe budget of about \$11 billion, implying an 8% impact to the combined ratio. If not exceeded, this should enable them to post profits before tax of about \$21 billion in 2018, giving them a buffer of about \$32 billion (\$21 billion plus \$11 billion) before capital would be depleted in a severe stress scenario, assuming no dividends or other shareholder returns. For reference, in 2017 the top-20 global reinsurers paid out about \$9 billion in dividends and share buybacks. That means that a 1-in-10-year aggregate loss experience, which we estimate to be about \$21 billion, would exceed the annual natural catastrophe budget and hit the top-20 global reinsurers' earnings, but would not become a capital event for them as a cohort. On the other hand, were 1-in-50-year aggregate catastrophe loss events to occur, the top-20 global reinsurers would suffer losses of about \$36 billion, which would exceed their annual catastrophe budget and the forecasted earnings for 2018 and would become a capital event. The difference between the potential natural catastrophe losses for 2018 becoming an earnings versus a capital event for a given reinsurer would depend on its own exposure. (See "Are Global Reinsurers Ready For Another Year Of Active Natural Catastrophes?" July 25, 2018.)

Total Adjusted Capital Increasingly Relies On Senior Debt And Hybrid Securities

Since 2013, the top-20 global reinsurers' aggregate total adjusted capital (TAC) has been fairly stable, with only 2.1% growth to \$227 billion in 2017 from \$222 billion in 2013. Given the soft pricing environment, reinsurers have returned the majority of their operating earnings to shareholders through ordinary and special dividends, and share buybacks. In addition, the natural

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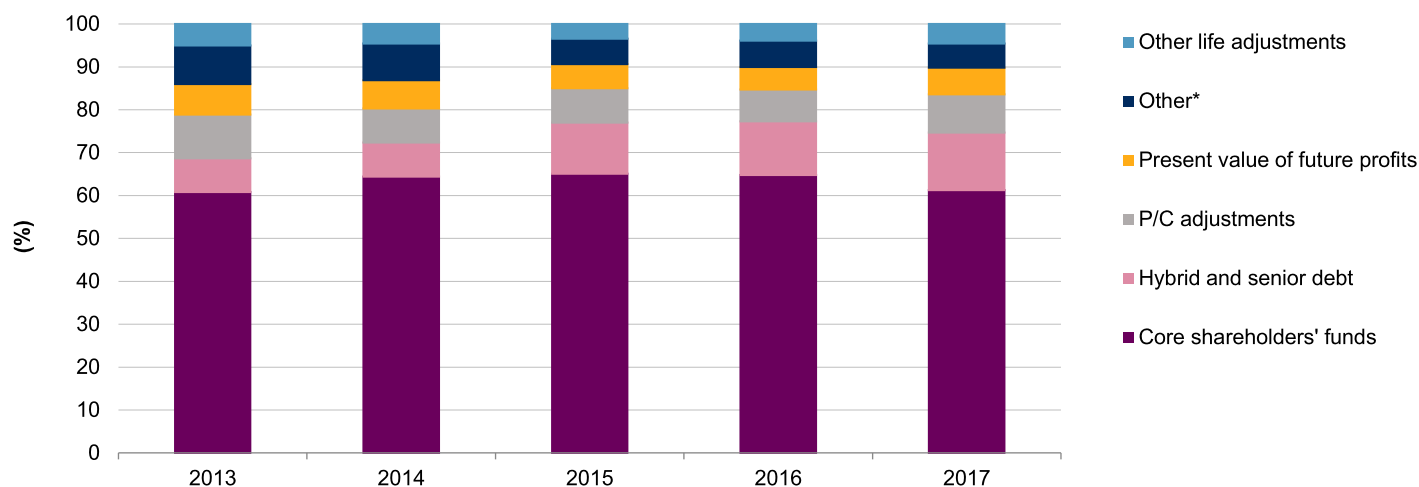
catastrophe losses of 2017 wiped out most of the top-20 global reinsurers' earnings and became a capital event for some, which further limited TAC's growth. However, we note a change in the composition of TAC--the contribution from hybrid securities and senior debt grew to represent about 13% of TAC in 2017, from 8% in 2013.

S&P Global Ratings' Total Adjusted Capital

TAC is the measure S&P Global Ratings uses to define the capital available to meet a re/insurer's capital requirements in S&P Global Ratings' risk-adjusted capital adequacy model. For example, TAC includes the ability to partially realize the off-balance-sheet value of the in-force life re/insurance business and includes nonowner capital that can absorb losses, such as senior debt (in North America) and hybrid capital.

Chart 3

Top 20 Global Reinsurers' TAC Composition 2013-2017



*Other includes: equity minority interests, other equity-like reserves, and analyst adjustments

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For North American (that is, the U.S. and Bermuda) players, we tend to see higher credit for hybrids and senior debt, about 25% of TAC in 2017, as we would generally allow for debt-funded double leverage (senior debt raised at a reinsurance holding company that is injected as equity into its subsidiaries) in our assessment of TAC. On the other hand, the European reinsurers don't benefit from senior debt inclusion in their capital structure as it is not viewed as capital under Solvency II.

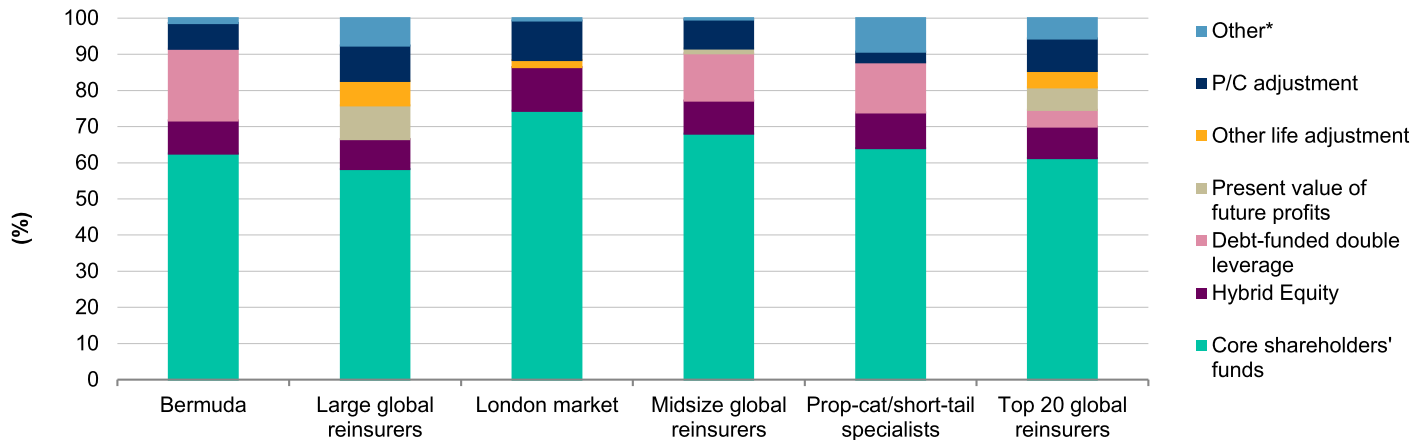
Because of the short-term nature of their liabilities, the property-catastrophe/short-tail specialists benefited much less from discounting on their reserves. This only represented about 2.7% of their TAC in 2017, compared with an average of 6.6% for the non-property-catastrophe/short-tail specialists. With interest rates rising in the U.S., we would

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expect the benefits to grow, especially for those with significant reserves denominated in U.S. dollars, but this adjustment will remain contained due to potential unrealized losses on the fixed-income securities. Because of their life reinsurance business, the large global reinsurers' consolidated TAC in 2017 benefited from about 9.3% credit due to the present value of future profits embedded in their in-force life policies.

Chart 4

2017 TAC Breakdown By Peer Group



*Other includes equity minority interests, other equity-like reserves, and analyst adjustments.

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Capital Consumption Is Dominated By Liability Risks

For the top-20 global reinsurers, in aggregate, P/C (property/casualty) risks (reserves, premiums, and natural catastrophes affecting property) continue to consume the majority of capital, based on S&P Global Ratings' risk-adjusted capital model. Over the past five years, P/C risks have represented about 60% of total required capital. When adding life reinsurance risks, which have been growing for a handful of players, liability risks totaled more than 70%, indicating the continued strong appetite for reinsurers to take on liability risks. On the other hand, asset risks represented about one-third of total capital required. This differentiates reinsurers from primary insurers, which usually take on more asset risk. For example, global multiline insurers' asset risks usually account for about 50% of total required capital.

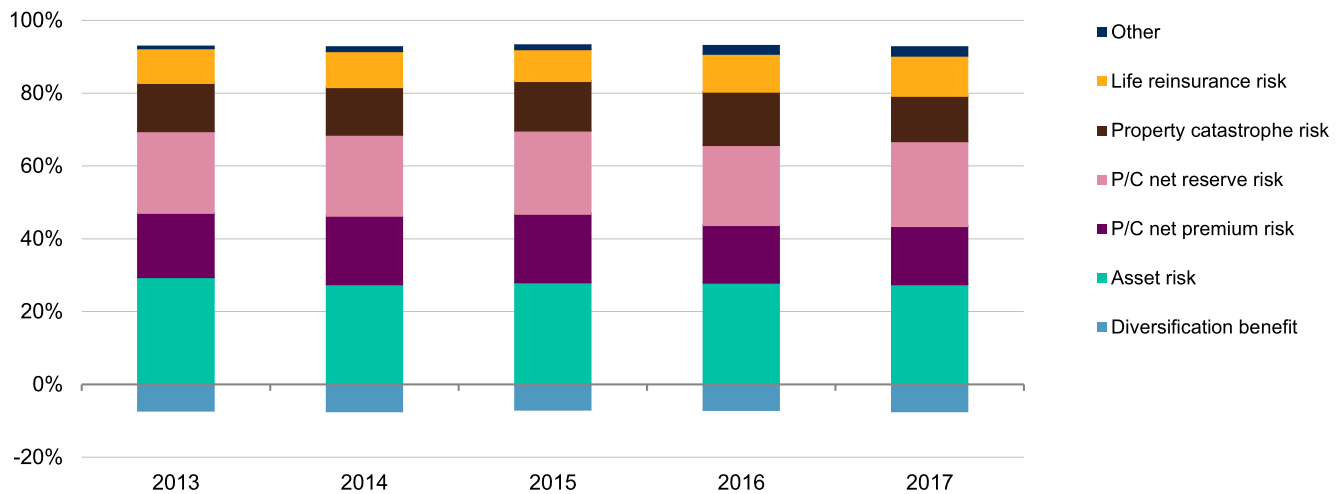
Some of the key changes we saw were the increase by 170 basis points of the P/C net reserve risk in 2017 relative to 2016 because of 2017's additional catastrophe loss reserves. More important, we saw a decline by 230 basis points in the net property catastrophe risk capital charge in 2017 (based on the Jan. 1, 2018, in-force property catastrophe business) relative to 2016 (based on the Jan. 1, 2017, in-force property catastrophe business) for the top-20 global reinsurers, in total, despite a marginal increase in their exposures net of reinsurance/retrocession. We measure the net exposure by the 1-in-250-year annual aggregate net probable maximum loss (PML). As a result, we estimated that capital at risk rose slightly, to 31% of total shareholders' equity exposed

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in January 2018 renewals, compared with 30% in the same period in 2017. However, we reduce the net PML by net property catastrophe premiums written, which benefited from rate increases during the January 2018 renewals in a reaction to the losses suffered in 2017. This caused our capital model charge to decline. Furthermore, diversification benefits have accounted for about 8% in the past five years, mostly driven by the large global reinsurers because they have increased the size of their life reinsurance businesses, and we expect them to expand further, given the presumably strong returns with low double-digit return on equity.

Chart 5

Top 20 Global Reinsurers Capital Charges Allocation Per S&P Global Ratings' Capital Model At The 'A' Confidence Level



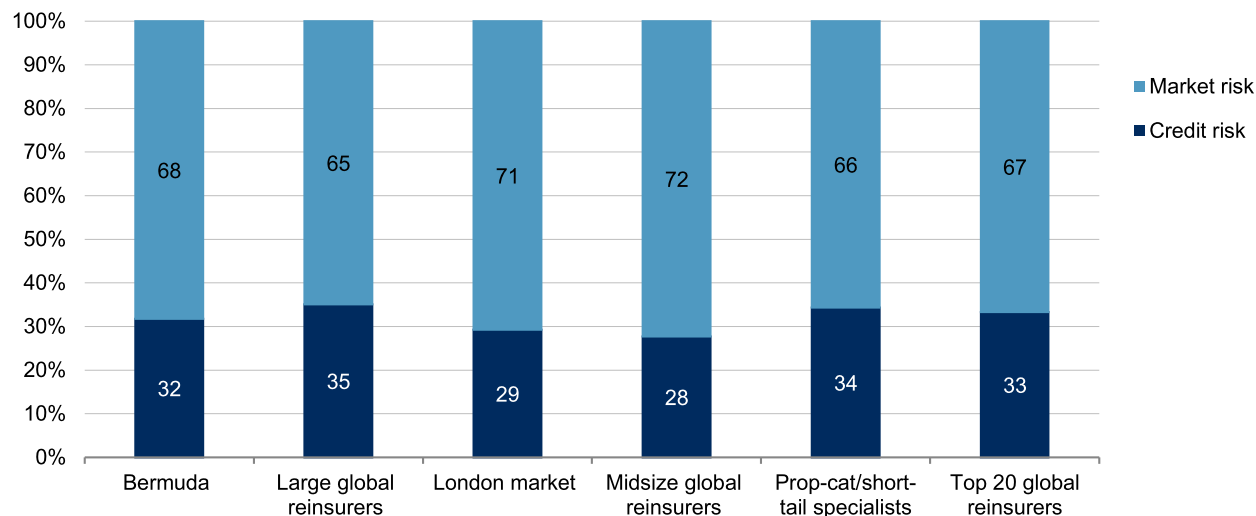
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Asset Risk: Steady As You Go, But Hungry For Yield

Overall, asset risk has represented about one-third of the top-20 global reinsurers' capital requirements in the past five years and has been quite stable. Total asset risk is composed of approximately two-thirds market risk and one-third credit risk. Market risk encompasses equities, but also interest risk volatility, whereas credit risk represents the capital requirements for potential bond defaults. As reinsurers are holding slightly more cash at year-end 2017, likely to facilitate timely payments on last year's catastrophe losses and ahead of rising interest rates in several markets, market risk charges have reduced from 70% in 2016 to two-thirds of total asset risk in 2017.

Chart 6

2017 Capital Charges For Asset Risk Per S&P Global Ratings' Capital Model At The 'A' Confidence Level

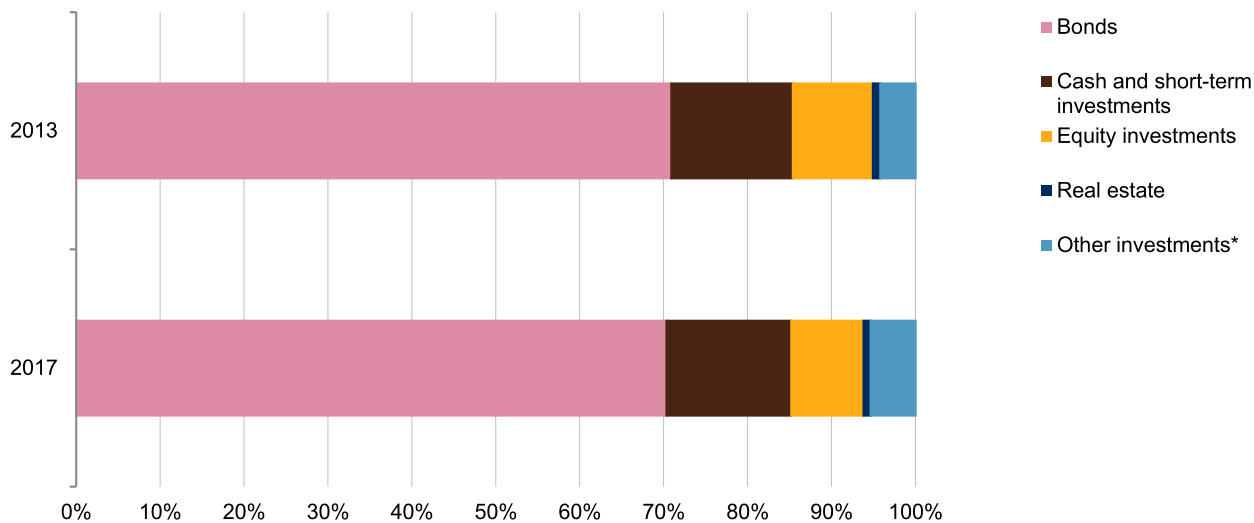


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Supporting their liquidity, the top-20 global reinsurers held about 15% of their investments in cash and short-term investments. Appetite for market volatility risk remains low. Investment in equities continues to represent about 9% of invested assets and real estate holdings remain modest. Having said that, we observed a slight increase in other investment allocation, to 5.4% in 2017 from 4.2% in 2013, which include loans, underwritten mortgages, joint ventures, and alternative investments.

Chart 7

Top 20 Global Reinsurers Investment Portfolio Allocation



*Other investments include: loans, underwritten mortgages, investments in affiliates, joint ventures, and alternatives investments.

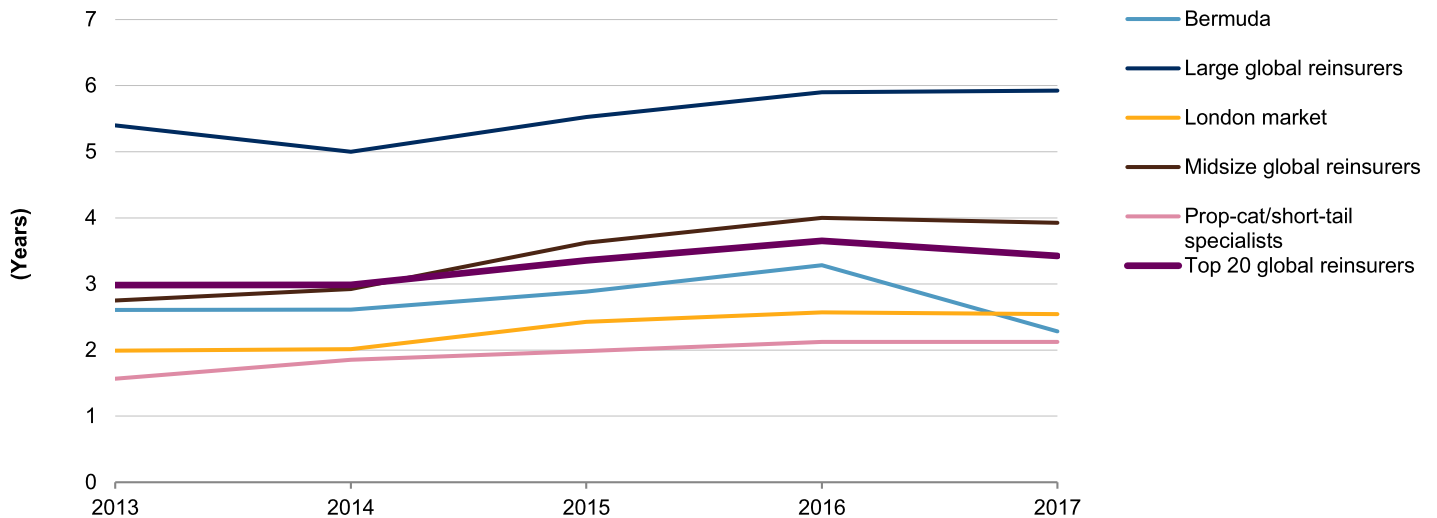
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In their search for higher yield, the top-20 global reinsurers have invested in longer maturity assets with asset duration increasing by almost half a year in the past five years. We observe that, compared with last year, reinsurers have anticipated the upward movement of interest rates by slightly reducing their duration to 3.4 in 2017, from 3.7 years in 2016. This reduction in asset duration reflects not just the expected claims settlements for the 2017 catastrophe losses and the prospect of rising interest rates, but also specific investment duration changes at a small number of reinsurers within our peer group.

The top-20 reinsurers' asset duration have reached an average of two-to-four years for the pure P/C reinsurers, while the large global reinsurers show higher asset duration of six years, reflecting both their sizable life reinsurance books of business as well as their typically higher exposure to casualty/liability lines than the other subgroups. Property-catastrophe/short-tail specialists have the lowest asset duration, while midsize global reinsurers have longer asset duration and more focus on casualty lines. Overall, asset duration is consistent with what we would expect, considering the business mix of specific subgroups.

Chart 8

Asset Duration

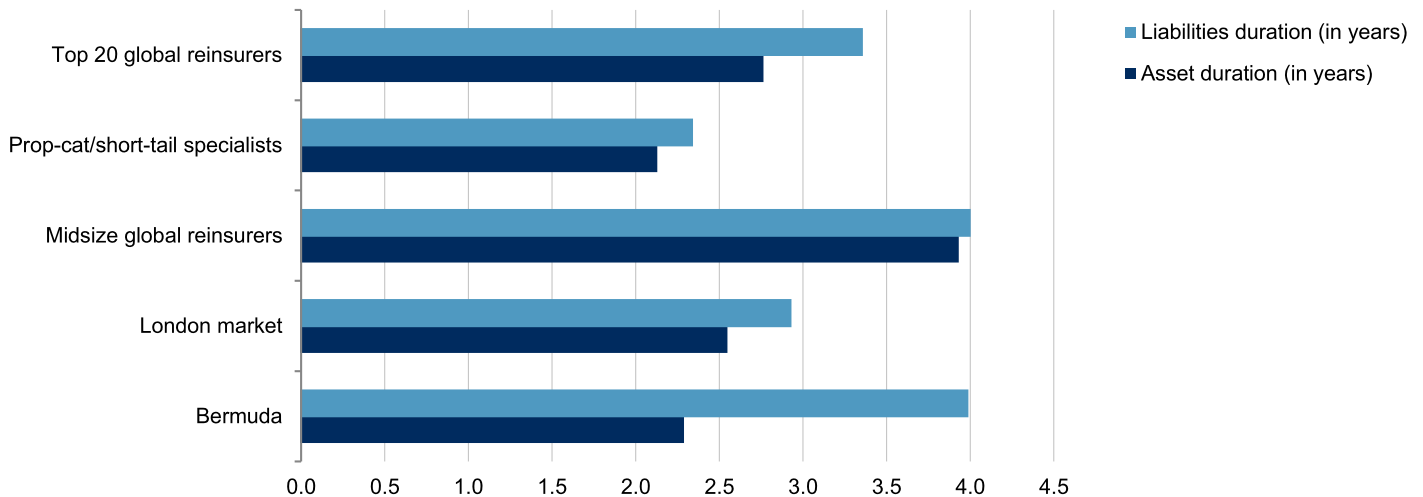


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The peer group has retained a negative ALM mismatch position, where the asset duration is lower than the liability duration, of below one year--it stands at 0.6 years for our reinsurers' cohort (excluding large global reinsurers that hold material life reinsurance exposures). We believe the negative ALM mismatch is benefiting reinsurers on an economic basis because interest rates are picking up and we expect them to rise further. Therefore, duration will likely extend out over the next couple of years as reinsurers shift portfolio allocations to longer-dated bonds to take advantage of increasing interest rates.

Chart 9

2017 ALM Mismatch



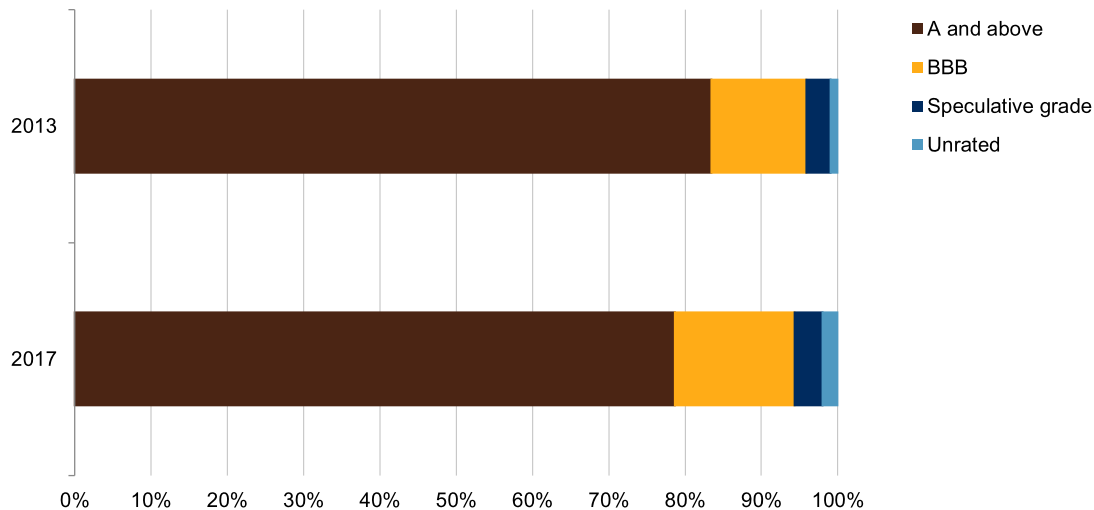
Note: The top 20 global reinsurers exclude the large global reinsurers; we exclude large global reinsurers as they carry significant life reinsurance risk

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Asset quality remains relatively high--the proportion of fixed-income securities invested in speculative-grade and unrated bonds remained below 6%. The top-20 global reinsurers held about 78.7% of their bonds in securities rated 'A' or above. Nevertheless, we have observed a small deterioration in the average credit quality of the bond portfolios over the past five years, because reinsurers are looking for higher yield. Credit risk shifted by one category, remaining mostly in the 'AA/A' range, with a noticeable increase in 'BBB' rated bonds, which represented 15.6% of bond portfolios in 2017 compared with 12.5% in 2013. In addition, although the unrated bond category remains somewhat marginal, it accounted for about 2% of the bond allocation in 2017, compared with less than 1% in 2013. This reflects growing investments in alternative assets.

Chart 10

Top 20 Global Reinsurers' Fixed Income Credit Quality



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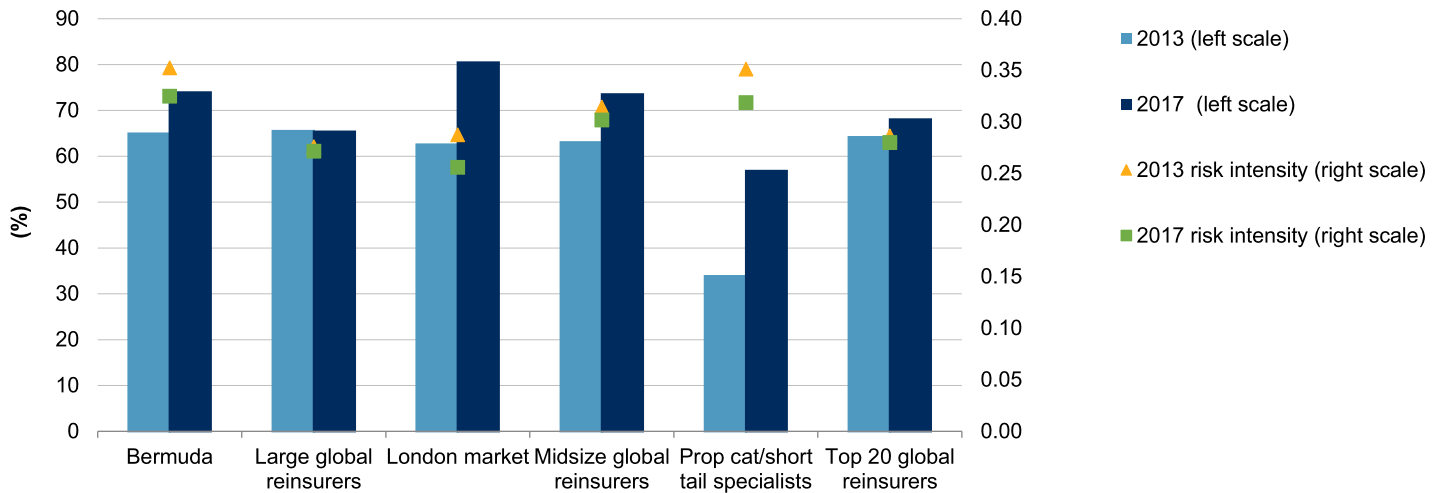
Seeking Better Pricing And Less Volatility, Reinsurers' Appetite Shifted To Quota Share

The shift toward primary and proportional reinsurance business ticked up in 2017 to 68% of the top-20 global reinsurers' net premiums written, compared with 64% in 2013. Because reinsurance pricing has been soft in the past five years (2013-2017), reinsurers--especially property-catastrophe/short-tail specialists and London market players--shifted their underwriting appetite to the primary and quota-share business that still had better pricing than excess-of-loss reinsurance. Given the less volatile nature of the proportional business, it carries lower risk capital charges in S&P Global Ratings' capital model. The risk intensity (that is, the risk capital charge relative to a unit of premium), as measured by S&P Global Ratings' capital model, declined by almost four percentage points for the top 20-global reinsurers, thus demonstrating the capital benefit during this period.

The shift to primary and quota share business has been similar, but less dramatic, for the midsize global reinsurers and the Bermuda companies over the past five years, but the global large reinsurers have not changed their underwriting preferences during this time. We expect these trends to carry forward as reinsurers seek better pricing and less volatile proportional business while further diversifying through their primary insurance units.

Chart 11

P/C Primary And Proportional Versus Non Proportional Reinsurance Premiums



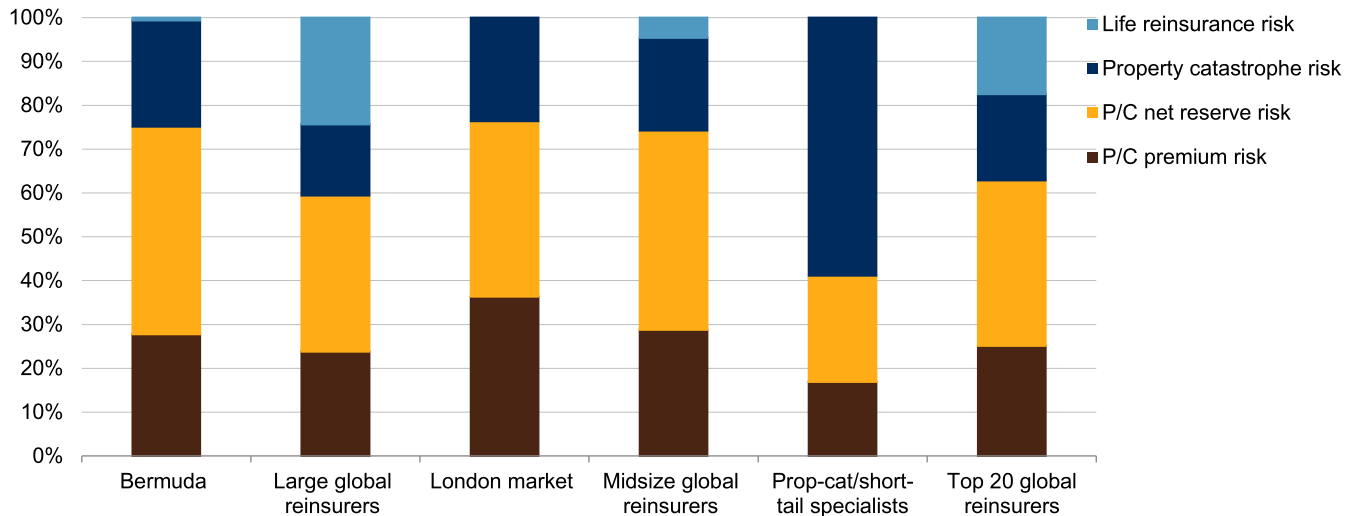
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Catastrophe Losses Weighed On Reserve Risk In 2017

Reserve risk has the largest capital requirement on the liability side of the balance sheet, as per our capital model, as it represented 38% of total liability risk for the top-20 global reinsurers in 2017. Reserve risk has increased by 16% in 2017 compared with 2016 because of the severe catastrophe losses incurred in 2017, which have increased the overall reinsurers' P/C reserves. The risk should reduce rapidly because natural catastrophe losses generally tend to be settled in just a couple of years, a relatively short period of time compared to casualty/liability style risks.

Chart 12

Top 20 Global Reinsurers' Insurance Risk Profile At Year-End 2017 At The 'A' Confidence Level



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Prior-year reserve releases have significantly reduced in 2017, with the benefit on the combined ratio declining to 4.4 percentage points compared with 7.1 percentage points in 2016. In the past, we have seen reinsurers releasing reserves a bit quicker in an active natural catastrophe year to offset some of the losses, as observed in 2011. We did not see the same phenomenon in 2017, as we have been in a soft underwriting cycle. Nevertheless, considering the pricing cycle trend, we think it is unlikely that the level of release will revert back to 2015/2016 levels during 2018. Most of the releases in future years would likely come from the longest-tail casualty lines, which have seen declining prices in recent years. Therefore, we expect contributions from these lines to slow down, especially if the frequency/severity trends were to pick up.

In the future, we might see releases from the 2017 large catastrophe reserves, depending on how claims develop and the level of prudence in the initial loss estimates. For instance, Everest Re Group Ltd. experienced unfavorable reserve developments in the first and second quarters of 2018 for 2017 catastrophe events, which could call into question the conservatism built into its original loss estimate. So far, these developments have been unique to Everest, but we will continue to monitor how losses play out for the rest of the industry.

Will Capitalization Remain An Anchor For Global Reinsurers?

If 2018 is a normal catastrophe year with an average annual net property catastrophe loss of \$11 billion (that is, annual catastrophe budget) or less for the top-20 global reinsurers, it is fair to assume that this group of reinsurers could reclaim their 'AAA' capital adequacy. We believe the sector needs to preserve and solidify its capital strength so that it can weather any potential threats from any unexpected rise in inflation, inadequate reinsurance pricing, unfavorable reserve developments, major market correction, and unforeseen "black swan" events.

Table 1

Top-20 Global Reinsurers

Large global reinsurers

Hannover Rueck SE

Lloyd's

Munich Reinsurance Co.

SCOR SE

Swiss Reinsurance Co. Ltd.

Midsize global reinsurers

Everest Re Group Ltd.

PartnerRe Ltd.

Transatlantic Holdings Inc.

XL Group Ltd.

London market

MS Amlin PLC

Aspen Insurance Holdings Ltd.

Hiscox Insurance Co. Ltd.

Qatar Insurance Co. S.A.Q.

Bermuda

Allied World Assurance Company Holdings GmbH

Arch Capital Group Ltd.

AXIS Capital Holdings Ltd.

Sirius International Group Ltd.

Property-catastrophe/short-tail specialists

Lancashire Holdings Ltd.

RenaissanceRe Holdings Ltd.

Validus Holdings Ltd.

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