## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Summary: Supply Rebalance Still Positive for Cedents</td>
<td>2</td>
</tr>
<tr>
<td>Global Reinsurer Capital: Alternative Fills the Traditional Gap</td>
<td>3</td>
</tr>
<tr>
<td>Demand Remains Stable</td>
<td>7</td>
</tr>
<tr>
<td>Disaster Losses on the Increase; Continues Trending Below Normal</td>
<td>9</td>
</tr>
<tr>
<td>Wildfire Peril Faces Third Consecutive Year of Billion Dollar Payouts for Insurers</td>
<td>10</td>
</tr>
<tr>
<td>Rating Agency and Regulatory: Focus on Transparency</td>
<td>11</td>
</tr>
<tr>
<td>Contact Information</td>
<td>18</td>
</tr>
</tbody>
</table>
Executive Summary: Supply Rebalance Still Positive for Cedents

While acquisitions in the reinsurance market have continued throughout 2018, overall capital available to write risk remains flat from year end 2017 at USD605 billion. Despite the lack of growth, our expectation is that insurers will continue to trade reinsurance risk at similar (or better) economics given the continued macro supply increase of 20 percent, or more than USD100 billion since year end 2012.

Traditional capital showed a decline of 2 percent since year end 2017 falling from USD516 billion to USD507 billion. While net income showed a positive outcome for the first six months of the year, half year results were overshadowed by dividends, share buybacks, foreign exchange losses, and unrealized investment losses.

Alternative capital, on the other hand, built on its strong growth of USD6 billion in first quarter with a further increase of USD3 billion for second quarter, a total increase of more than 10 percent for the first half of the year. Both catastrophe bonds and increased collateralized reinsurance contributed to the growth as assets under management for larger ILS funds increased and new managers have entered.

Global insured catastrophe losses continue at a lower than normal pace despite Windstorm Friederike in Europe, historic fires in California, significant flooding and the Osaka earthquake in Japan. In fact, losses to date are lower than they’ve been in more than a decade at this point in the year.

Our expectation is for demand to remain relatively stable in long-standing lines of business for January renewals, with continued growth in newer lines. Unless a material event impacts the industry throughout the remainder of 2018, our outlook for January 2019 renewals is positive for buyers due to growing supply outpacing current demand.
Global Reinsurer Capital: Alternative Fills the Traditional Gap

Aon estimates that global reinsurer capital stood at USD605 billion at June 30, 2018, stable relative to the end of 2017. This calculation is a broad measure of the capital available for insurers to trade risk with. Traditional capital fell by USD9 billion to USD507 billion (-2 percent), while alternative capital rose by USD9 billion to USD98 billion (+10 percent).

Exhibit 1: Change in global reinsurer capital

Sources: Company financial statements, Aon Reinsurance Analytics, Aon Securities Inc.
Traditional capital

Across the 21 companies covered in Aon’s Reinsurance Aggregate (ARA*), total equity fell by USD7 billion to USD181 billion (-4 percent). Net income of USD9.0 billion was out-weighed by dividends and share buybacks of USD7.6 billion, foreign exchange losses of USD2.1 billion and unrealized investment losses of USD6.3 billion. The latter mainly stemmed from rising interest rates in the United States.

Exhibit 2: Change in ARA* total equity

Sources: Company financial statements / Aon Reinsurance Analytics

*Companies included: Alleghany, Arch, Argo, Aspen, AXIS, Everest Re, Fairfax, Hannover Re, Lancashire, MAPFRE, Markel, Munich Re, Partner Re, Ren Re, SCOR, Swiss Re, Validus and XL Catlin.
The ARA companies generally reported strong premium growth in the first half of 2018. P&C net premiums earned stood at USD76 billion, up 10 percent relative to the prior year comparative period. The combined ratio improved marginally to 94.4 percent. Natural catastrophe losses were well below long-term averages at USD0.8 billion, contributing 1.0 percentage points (pp). Favorable prior year reserve development declined to USD1.2 billion, providing 1.5pp of benefit. For the first time in several years, the ordinary investment yield showed a small improvement at 2.7 percent, while unrealized losses on bonds restricted the overall return to 2.9 percent. ARA net income rose by 5 percent to USD9.0 billion, representing an annualized return on equity of 8.6 percent. This was up marginally on the 8.4 percent reported in the first half of 2017. Valuations have ticked-up, influenced by significant M&A deals involving Validus, XL Catlin, and Navigators.

**Exhibit 3: Reinsurance sector performance***

![Graphs showing combined ratio, ordinary investment return, return on equity, and valuation - price to book over the years from 2008 to H1 2018.](image)

Source: Aon Reinsurance Analytics

*Companies included: Alleghany, Arch, Argo, Aspen, AXIS, Everest Re, Fairfax, Hannover Re, Lancashire, MAPFRE, Markel, Munich Re, Partner Re, Ren Re, SCOR, Swiss Re, Validus and XL Catlin.
Alternative capital

Pension funds, sovereign wealth funds, endowment funds, and high net worth individuals continue to show strong appetite for insurance risk as a standalone asset class. Larger ILS funds have shown significant growth in assets under management during 2018 and a number of new managers have entered the space. As a result, Aon estimates that alternative capital is rapidly approaching the USD100 billion threshold.

**Exhibit 4: Alternative capital deployment**

Catastrophe bond issuance in the second quarter of 2018 exceeded USD4.0 billion, taking the total limit outstanding to a record high of more than USD30 billion. Pricing was below the levels seen prior to the catastrophe events in the third quarter of 2017.

**Exhibit 5: Property catastrophe bond issuance**

Source: Aon Securities Inc.
Demand Remains Stable

Overall demand remains relatively stable for the industry with a number of regions considering additional capacity given today’s value proposition for risk transfer.

US reinsurance premium ceded

When looking at US premium transferred, the total share across all lines remains relatively unchanged, up 0.3 percent from 12.6 percent to 12.9 percent for 2017. That said, total premiums ceded to non-affiliates increased by more than USD5.5 billion from 2016 to 2017 with the strongest growth percentage coming from specialty lines.

Exhibit 6: US ceded premium to non-affiliates as a percentage of gross written premium excluding assumed affiliates

Source: Aon Reinsurance Analytics
US primary rate changes

According to the Council of Insurance Agents and Brokers, US primary rates have increased for commercial auto, commercial property, general liability and umbrella. While the strongest annualized increase shown is in commercial auto (8.0 percent), commercial property rates increased 2.5 to 3.5 percent for the last 3 quarters ending prolonged decreases since the end of 2013. Albeit small, umbrella turned positive for the first time in 2018, showing slight increases again following declines since the end of 2014. Workers’ compensation continues its decline averaging 2.5 percent reductions over the last 2 quarters and not having seen an increase since the end of 2014.

Exhibit 7: US primary pricing trend

Source: Council of Insurance Agents and Brokers
Disaster Losses on the Increase; Continues Trending Below Normal

An active period from late June into August saw insured losses from global catastrophes begin to accumulate as the calendar turns deeper into the third quarter of the year. Public and private insurance agencies have now sustained losses of at least USD29 billion. This tally, which is preliminary and subject to change, equals just 52 percent of the 10-year average for first, second, and third quarters (USD56 billion) and 66 percent of the median (USD44 billion). Given this trend, claims payments from natural disasters are currently on pace to be much lower than what incurred in 2017. Through the first eight months of 2018, the severe convective storm peril (USD13 billion) remains the costliest globally, with most of those losses occurring in the United States following a very active late spring and summer for hailstorms across the Rockies, Plains, and Midwest. SCS losses for US insurers have topped USD10 billion in every year since 2008, and 2018 is expected to be the eleventh consecutive occurrence of losses exceeding that threshold.

Through the middle of the third quarter 2018, the costliest insured events included: Windstorm Friederike in Europe, multiple outbreaks of severe weather and two major winter storms in the United States, and significant July flooding and the Osaka earthquake in Japan.

Exhibit 9: Global insured losses by peril through third quarter 2018

As seen in exhibit 6, insurance-related catastrophe losses in 2018 are currently on pace to be significantly less than what was incurred last year. Despite current expectations of a below normal Atlantic Hurricane Season, this does not eliminate the potential for a costly landfalling event in the US or the Caribbean.

For the most up-to-date global catastrophe loss data for 2018, and other historical loss information, please visit Aon’s Catastrophe Insight website: http://bit.ly/aon-catastrophe-insight.
Wildfire Peril Faces Third Consecutive Year of Billion Dollar Payouts for Insurers

The wildfire peril has historically been an important one for the insurance industry, but one which was primarily never seen as having annual years with multi-billion-dollar payouts. Wildfire losses are typically very volatile on an annual basis. Years such as 2017, 2016, 2007, 2003, and 1991 were reasonably seen as outliers. However, the ongoing 2018 summer fires in Northern California have insurers facing the possibility of a third consecutive year of multi-billion-dollar payouts given the substantial damage resulting from the Carr Fire and the Mendocino Complex Fire.

The 2018 fires are unusual for multiple reasons: the timing (July/August), the fire behavior, and the meteorological parameters which caused the extensive spread. California’s fire season typically does not peak until the late summer and autumn months, when Santa Ana or Diablo wind patterns tend to be most prevalent to occur. The Carr and Mendocino Complex fires were ignited during peak summer and exploded in size due to excessively dry vegetation available for fuel to burn and abnormally dry soil conditions. The significantly intense nature of the fires spawned pyrocumulus clouds that created its own atmospheric environment. This led to swirling winds that had wind speeds of up to 165 mph (265 kph)—equivalent to an EF3 tornado. The result was nearly 1,600 structures—including more than 1,075 residential homes—being destroyed in Shasta County, CA.

Exhibit 10: Largest historical wildfire insured loss events

Source: Aon Reinsurance Analytics

The July and August 2018 fires in California follow what was the costliest year ever recorded for the insurance industry with the wildfire peril in 2017. Insurers paid out more than USD14 billion in insurance claims due to fire damage around the world, almost entirely due to the October and December events in California. Other wildfire events which set local insurance industry records for claims payouts were noted in Portugal and South Africa. In the industry’s history, only ten individual fires have prompted more than USD1 billion in payouts (2018 USD). Of those 10 events, five have occurred in the last 36 months. The Carr Fire is poised to become the sixth such event.
Rating Agency and Regulatory: Focus on Transparency

The final A.M. Best’s Credit Rating Methodology (BCRM) adopted in October of 2017 gives additional transparency to the rating process. As A.M. Best updates company reports throughout the year, they include the assessment for each building block of a company’s rating. The below charts are based on the global (P&C, L&H, and composite) companies whose assessments have been updated through August of 2018 (about 75 percent of rated units).

Balance sheet strength

The majority of companies rated under the updated criteria have a “Strongest” or “Very Strong” balance sheet strength assessment whereas very few companies (1 percent in total) are rated “Weak” or “Very Weak”. The North America region has the highest percentage of “Strongest” companies, while only 6 percent of companies in the Asia Pacific region have received the “Strongest” assessment.

While the BCAR threshold to be eligible for the “Strongest” assessment is 25 points at the 99.6 VaR, most companies achieve scores well in excess of this minimum. Similar to the prior BCAR model, the median scores are significantly higher than the minimums. For example, as shown in the below chart, the median BCAR for companies receiving the “Strong” assessment is 31 points which is well over the 25 minimum.
**Operating performance**

The majority of companies in our database are receiving an “Adequate” operating performance assessment. Of the 18 companies that earned a “Very Strong” assessment thus far 12 are US P&C insurers. The median 5 year combined ratio for “Very Strong” companies is 80 percent and 10 year is 82 percent with a low volatility of 6.5 (based on the standard deviation of the 5 year combined ratio).

No company has yet received a “Very Weak” assessment and only 7 companies have “Weak” operating performance so far (6 in US, 1 in Bermuda). The EMEA region is rated best in terms of operating performance with only 8 percent having a negative notch and the highest percentage of companies receiving a positive notch.
Business profile

Overall, 44 percent of companies receive a negative notch for the business and 41 percent have the "Neutral" assessment. Only 13 percent of companies in our database so far have received a positive notch for this category. Of the 23 companies that received the “Very Favorable” assessment, 9 are large, global reinsurance companies. The 26 companies with a “Very Limited” business profile cite high product and geographic concentration.

Surplus size affects business profile assessment significantly:

- 53 percent companies with surplus greater than USD1 billion have positive assessment, followed by 40 percent “Neutral” and 7 percent “Limited”
  - No negative notching in Caribbean & Latin America and the Asia Pacific region for larger companies
- Only 10 out of 548 companies with surplus less than USD100 million have positive business profile assessment; 72 percent have a negative notch
Enterprise risk management

The vast majority (88 percent of our sample size) of companies have “Appropriate” ERM assessment, whereas only 9 percent have received a negative notch and 3 percent a positive notch. Out of the 37 companies with “Very Strong” ERM assessment so far, 30 are rated “A+” and above and 7 are rated “A”. Geographically, 27 of the 37 “Very Strong” assessments went to US insurers, 2 are domiciled in Bermuda, 1 in Canada, 1 in Asia Pacific and remaining 6 represent European companies.

No companies have yet received “Very Weak” assessment and only 17 companies have the “Weak” assessment with “-2” notch. Of the 17 “Weak” companies are 5 are in the US, 1 Caribbean, 8 in Asia Pacific and 3 are African companies.

86 companies fall under the “Marginal” ERM assessment with a “-1” notch, out of which 1 is rated “A”, 9 rated “A-”, 21 rated “B++”, and rest “B+” or lower

A.M. Best mortgage criteria

In February 2018, A.M. Best finalized its criteria paper titled “Evaluating Mortgage Insurance,” which applies to primary mortgage insurers and reinsurers assuming business from mortgage insurers or the Government Sponsored Enterprises (GSEs). For reinsurers participating on GSE transactions, a factor-based analysis is used to determine the reserve capital charges in the BCAR model. A.M. Best reviews the specific transactions covered by the reinsurer, the proportion of the transactions (and layers) covered, cessions to other reinsurers associated with the transactions and booked reserves associated with the transactions.
Wildfires

A.M. Best released a briefing in August titled “Wildfires: The New Normal?”, which describes the population growth in California leading to real estate development in drier areas that are more prone to wildfires. Additionally, continued demand for construction labor and materials may increase insured losses. With A.M. Best now using an all perils view of catastrophe losses in the BCAR model, companies with California property exposure should be prepared to discuss management’s view of wildfire risk and any changes they are making in light of the 2017 and 2018 fires.

Innovation

A.M. Best has acknowledged that innovation is a key component when evaluating companies. They announced that they are considering applying an innovation assessment as part of the ‘Business Profile’ building block in their BCRM analysis. A.M. Best released a survey in August to rated companies around innovation and how management teams think about innovation. While the criteria has not been drafted yet, companies can begin to highlight innovative products or processes they undergo that sets them apart from others.

US RBC changes

Final adopted requirements and calculations for year-end 2017 of the Rcat remain substantially similar to what has been discussed and included in RBC filings (as informationally only) for the past several years:

- Catastrophe risk charge is for 1-in-100 year net of reinsurance earthquake and hurricanes modeled losses
- No tax effect offsets or reinstatement premiums should be included in the modeled losses
- Companies are allowed to report modeled losses based on either an Aggregate Exceedance Probability (AEP) or Occurrence Exceedance Probability (OEP) basis but should be consistent with the company’s internal risk management process
- Ceded recoverable amount is subject to 4.8 percent credit risk charge except amount ceded to reinsurers that are not subject to the RBC credit risk charge (i.e. US affiliates and mandatory pools)

Additionally, the NAIC Operational Risk Subgroup adopted the final operational risk charge into RBC during its meeting in January 2018. This new RBC charge will be effective on the 2018 Annual Statement reporting, which will be first filed in 2019. The operational charge is calculated using an “add on” approach. A flat 3 percent of total RBC after covariance is added to the RBC amount before operational charge. One offset to the operational charge is allowed for reporting entity’s charge of US direct life RBC filing insurance subsidiaries. The offset is capped to not reduce operational risk to less than zero.
IFRS 17 insurance contracts

With the January 1, 2021 effective date fast approaching, insurers around the world are launching or progressing on their implementation efforts. They need to have the reporting systems ready to prepare December 31, 2020 comparative information, which will accompany the January 31, 2021 results. From the cost and operational perspective, the IFRS 17 journey is expected to cost European insurers as much as Solvency II, if not more. The current status of investment and preparation stage varies across jurisdictions and companies. Some jurisdictions, such as Russia, Hong Kong, and South Korea, have declared that they will require the Standard from 2021. European insurers are awaiting the final endorsement advice to be issued by EFRAG (EU Parliament’s advisory body) in December 2018 that will precede the Parliament’s vote on adoption. Brexit negotiations are not expected to interrupt the adoption of IFRS 17 by British insurers. Regardless of jurisdictional circumstances, large composite businesses, life insurance companies, and underwriters of long duration contracts are more advanced in preparations than smaller firms or non-life insurers underwriting short duration contracts. All insurers are closely monitoring guidance issued by the IASB’s Transition Resource Group and public accounting firms.

The understanding of requirements for reinsurance contracts held, which differ slightly from those for the underlying contracts and will bring some changes to the current practice, is still evolving. The IASB indicated reinsurance as being one of the top issues on the horizon whose complexity has been underestimated. Aon has established a global IFRS 17 practice group to coordinate work of our experts in our offices around the world to help clients through:

- our expertise in reinsurance contracts and the ability to help structure reinsurance covers that will optimize the new balance sheet and profit or loss,
- proprietary tools, such as PathWise and ReMetrica for modeling, and
- expert consultancy
Contact Information

**Tracy Hatlestad**
Global Chief Operating Officer of Analytics
Aon Benfield
+65 6512 0244
tracy.hatlestad@aonbenfield.com

**Greg Heerde**
Head of Analytics & Inpoint, Americas
Aon Benfield
+1 312 381 5364
greg.heerde@aonbenfield.com

**Kelly Superczynski**
Head of Analytics, EMEA
Aon Benfield
+44 0(20) 7086 2175
kelly.superczynski@aonbenfield.com

**Peter Cheesman**
Head of Analytics, APAC
Aon Benfield
+61 2 9650 0462
peter.cheesman@aonbenfield.com

**Mike Van Slooten**
Head of Market Analysis, International
Aon Benfield
+44 0(20) 7522 8106
mike.vanslooten@aonbenfield.com

**Marie Teissier**
Market Analysis, International
Aon Benfield
+44 0(20) 7522 3951
marie.teissier@aonbenfield.com
About Aon

Aon plc (NYSE:AON) is a leading global professional services firm providing a broad range of risk, retirement and health solutions. Our 50,000 colleagues in 120 countries empower results for clients by using proprietary data and analytics to deliver insights that reduce volatility and improve performance.

© Aon plc 2018. All rights reserved.

The information contained herein and the statements expressed are of a general nature and are not intended to address the circumstances of any particular individual or entity. Although we endeavor to provide accurate and timely information and use sources we consider reliable, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act on such information without appropriate professional advice after a thorough examination of the particular situation.