Best's Market Segment Report

Welcome to AM Best's annual commentary on the global reinsurance industry.

In April 2020, we announced that we were maintaining our outlook for the global reinsurance segment at Stable. This may seem counterintuitive during a pandemic, but a number of factors are helping to mitigate the impact of COVID-19, which has created far-reaching economic challenges and tremendous uncertainty worldwide. Momentum for renewals in the first half of 2020 was strong, with clear signs of a hardening market. However, there was growing uncertainty about claims reserve development associated with prior years' property catastrophe events and business interruption and casualty lines owing to the pandemic.

For the non-life reinsurance segment, robust risk-adjusted capitalization, with significant excess capital, has positioned reinsurers to absorb both underwriting losses and investment volatility resulting from COVID-19. On the life side, strongly capitalized companies with advanced modeling capabilities have shown the ability to withstand a 1-in-200-year mortality event.

This year, Swiss Re remained in the top spot in our listing of the world's 50 largest reinsurers, even expanding its lead over #2 Munich Re. Partner Re returned to the top 10, while Korean Re slipped one place to #11.

A panel discussion featuring experts from Hannover Re, Swiss Re, and AM Best highlighted that, despite the many challenges arising from COVID-19, offsetting positive factors have created an equilibrium of sorts. Even the pandemic-related challenges have been manageable, below stress-tested thresholds.

The "total return reinsurer" is a relatively recent manifestation of the alternative capital concept. These reinsurers have the potential to generate significantly higher investment returns than traditional reinsurers, although results thus far have been muted and volatile.

Mortgage reinsurers have braced themselves for mortgage-related losses, as customers face difficulty making their mortgage payments owing to high unemployment and the severe contraction in GDP.

Cat bond issuance has been on a record-setting pace this year. Issuance volume in the first half, $6.6 billion, has already surpassed all of 2019 and may be on its way to pass the $10.3 billion of 2017, a year beset with major hurricanes and record-setting wildfires in California.

The pandemic has reinforced the need for the Lloyd's market to modernize and eased cultural resistance to change. The Lloyd's Corporation has heightened its focus on areas most likely to make an immediate difference to policyholders and market participants.

The IMF expects GDP in Latin America (which accounts for around 5% of global reinsurance premiums) to contract by 9.4% owing to the economic crisis arising from COVID-19.

In Asia-Pacific, many reinsurers are reassessing their business strategies in light of COVID-19. The region's reinsurance market is very competitive, as large global players look to diversify their presence, while new domestic reinsurers enter the mix, causing weak pricing.

In the Middle East and North Africa, reinsurers remain pressured by competitive pricing, overcapacity, and the frequency of large losses, which have been exacerbated by the pandemic and volatile oil prices. Performance in the sub-Saharan market has deteriorated due to competition and rising acquisition costs.

We at AM Best are committed to sharing our expertise to address the ever-evolving spectrum of issues the industry faces. I hope you find this report valuable to your understanding of our views on issues that impact the reinsurance industry, as well as our ratings, and welcome your thoughts. Please feel free to reach out to me or any of my colleagues to discuss your thoughts.

Jim Gillard
Executive Vice President & Chief Operating Officer, AM Best

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September 2, 2020

Global Reinsurers Maintain Equilibrium through COVID-19 Turbulence

When market uncertainty and economic volatility translate to a "stable" global reinsurance market outlook

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"In the midst of every crisis lies great opportunity."
— Albert Einstein

Far from implying that nothing has changed, AM Best's Stable outlook on the Global Reinsurance industry reflects negative and positive forces that offset each other. Negative factors include increased uncertainty on claims reserve development associated with previous years' property catastrophe events, social inflation, and, more recently, business interruption and casualty lines related to COVID-19. Combined with an overcapitalized sector, these factors have translated into companies struggling to meet their cost of capital. On the positive side, reinsurance renewals during the first half of 2020 started to show strong momentum, with clear signs of a hardening market. This is reinforced by third-party capital providers reassessing their role in the industry after being affected by loss creep, trapped capital, and a perceived higher risk as a result of discrepancies between actual and modelled claims experience.

Not all companies will be well positioned to take advantage of these improved market conditions. Business mix and recent underwriting performance by line of business are key. Flight to quality is also likely to play a role. Financial strength, reputation, market position, product diversification, clean balance sheets, and consistent and transparent underwriting performance may prove to be the main differentiators between winners and losers.

For reinsurers, meeting their cost of capital over time is critical if they want to survive and retain investor confidence. AM Best believes that the current market hardening will need to be sustained for at least the next year or two to have meaningful impact on the segment, but at this point, it is unclear how long these market dynamics will last. The pricing momentum will have to be sufficient to offset the losses from previous years, including the uncertain impact from COVID-19 and the continued surge from social inflation.

AM Best's 2018 Outlook Change from Negative to Stable

"My life seemed to be a series of events and accidents. Yet when I look back, I see a pattern."
– Benoît B. Mandelbrot

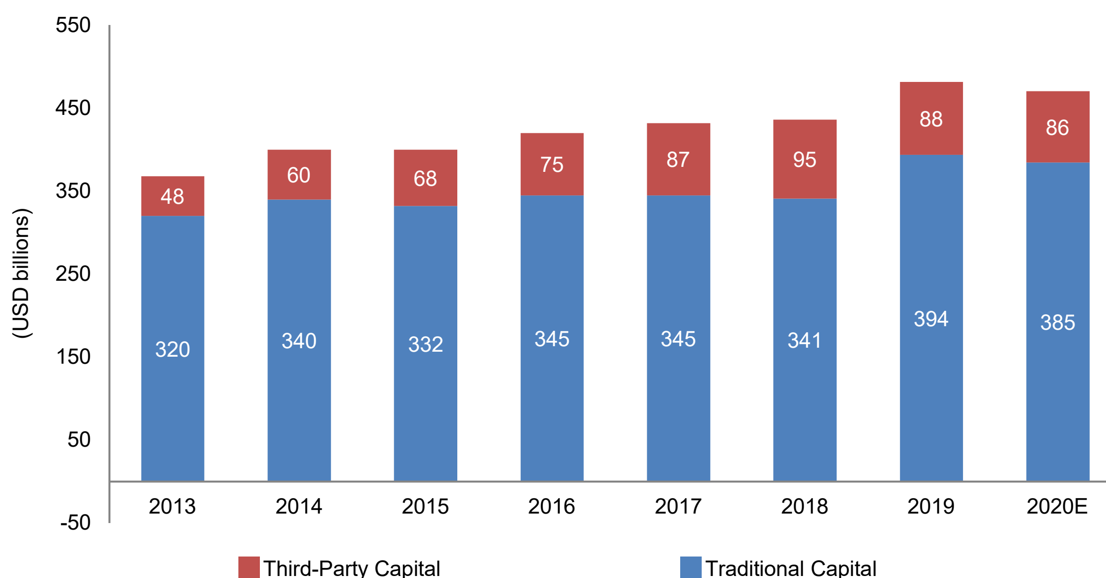
It hasn't been two full years yet since AM Best changed its Global Reinsurance market outlook from Negative to Stable. Between 2014 and 2018, we kept a Negative outlook on the segment owing to the deteriorating trends on underwriting, investment performance, and return on capital as a result of soft pricing conditions and excess capacity, driven by both an overcapitalized industry and the continued influx of third-party capital.

Our change of heart at the end of 2018 did not necessarily reflect increased optimism on the state of the market, or a different direction in trends. We acknowledged that we would have to get used to a "new normal", with operating returns below historical levels, but relatively stable. Despite the string of natural catastrophes and man-made losses that global reinsurers

Dedicated reinsurance capital is shown in **Exhibits 1** and **2**. This is the eighth year that AM Best has compiled an estimate of dedicated global reinsurance capacity, working in conjunction with Guy Carpenter. This estimate is not a simple aggregation of the shareholders' equity of all companies that write reinsurance, since some of that capacity is allocated to the insurance business or other outside interests. AM Best and Guy Carpenter have estimated the amount of capital dedicated to writing reinsurance by using AM Best's proprietary capital model, BCAR, and reviewing line-of-business allocations for the majority of the top 50 reinsurance organizations, while giving consideration to reinsurance capacity offered by smaller participants in the market.

Exhibit 1

Global Reinsurance – Total Dedicated Reinsurance Capital



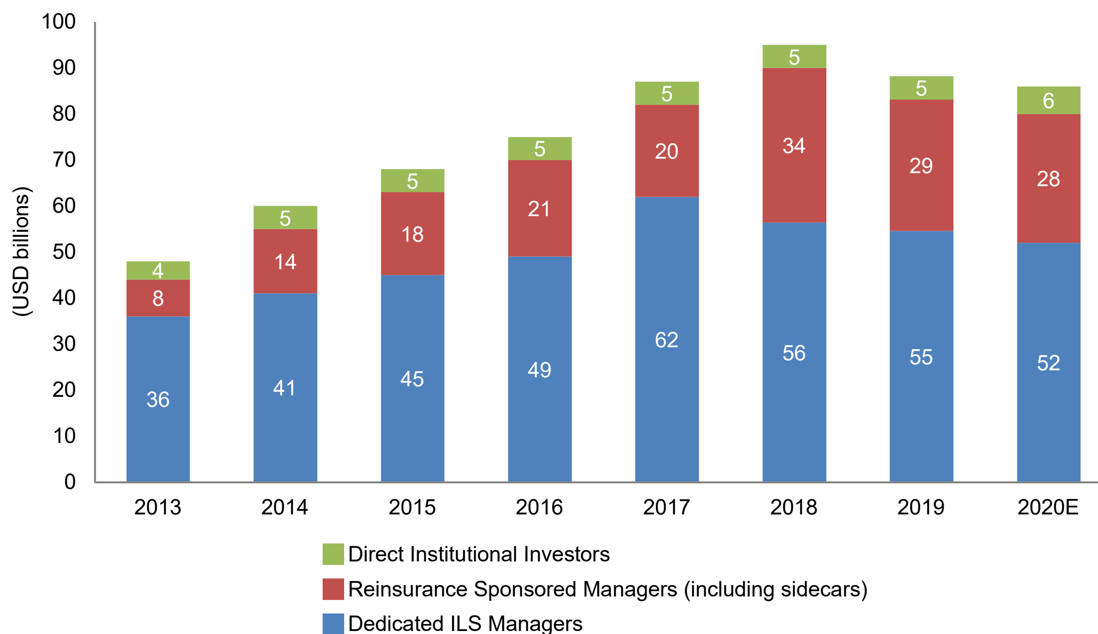
Note: Joint estimate by AM Best and Guy Carpenter.
Source: AM Best data and research

started to face in 2017, the reinsurance industry remained well capitalized and investor appetite from alternative capital was not showing signs of abating.

The reinsurance segment saw a significant increase in traditional reinsurance capital in 2019 from the prior year even though most reinsurers were underwriting at, or just above, break-even. The vast majority of companies were adversely impacted by mark-to-market unrealized losses from both fixed-income securities and equity holdings toward the end of 2018. In 2019, however, there was a reversal, as valuations on both equities and fixed-income securities improved considerably. Notably, National Indemnity—given the scale of its balance sheet—was a key driver in these movements, with unrealized losses of $11.4 billion in 2018 and unrealized gains of $47.7 billion in 2019.

The estimate for 2020 is particularly challenging given the extraordinary levels of market volatility brought on by the pandemic. Furthermore, COVID-19-related losses are still developing and the hurricane season is in full swing. Partially offsetting the downward pressure on capital has been the influx of capital raises, roughly half of which has come in the form of equity. Capital management is expected to have a somewhat muted effect compared to prior years, as many reinsurers have changed their plans for dividends and share repurchases

Exhibit 2
Global Reinsurance – Estimated Total Third-Party Capital



Notes: Joint estimate by AM Best and Guy Carpenter. Rounded values may not add up to non-rounded total.
Source: AM Best data and research

until there is more clarity in the capital markets and they have a better feel for the industry's COVID-19 losses.

During 2019, early signs of improving market conditions started to emerge, first driven by the primary and retrocession sectors. The impact on reinsurance rates was still considered insufficient to boost profits to the necessary level to meet cost of capital, but cautious optimism could be perceived for future rate increases. At the same time, third-party capital providers started to experience unexpected developments. Loss creep related to a number of property catastrophe events generated doubt around the robustness of risk modelling. The drawn out claims settlement process led to collateral being trapped longer than expected, further deteriorating annualized returns of alternative capital vehicles. Climate change and its uncertain effect on catastrophe activity, from hurricanes and typhoons to wildfires, added to that skepticism. The main question was to what degree investor appetite might be affected.

Another year of material catastrophe losses (albeit below the previous 10-year average), adverse reserve developments, and social inflation affecting casualty lines continued to pressure the need for improved underwriting discipline. The collapse of interest rates in particular and investment returns in general further exacerbated the pressure on underwriting discipline and, by extension, risk-adjusted premium rates. The January 2020 renewals started a strong positive trend in rate increases and third-party capital supply showed its first signs of retrenchment. The pandemic has drastically accelerated those trends, while simultaneously adding significant uncertainty on both sides of the balance sheet that may offset any predicted gains.

2020: Renewing AM Best's Stable Outlook – Not Necessarily for the Same Reasons

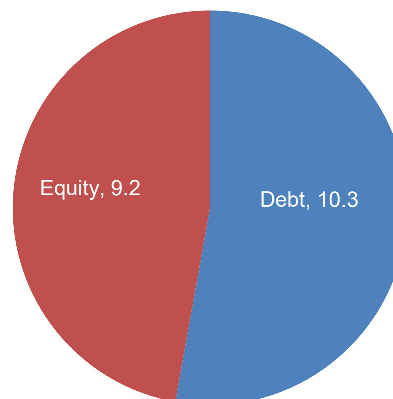
Changes in risk perception from third-party capital are becoming evident. The 2020 April and June renewals were accompanied by significant momentum in improving pricing, as well as terms and conditions. Some reinsurance placements were either not fulfilled, or third-party

capital required returns were so high and unlikely to be met that cedants preferred to use more traditional capacity or go without cover. A number of medium-sized reinsurers have been raising equity capital. There also is talk of new company formations and M&A activity, given the attractive pricing environment expected at least for the next couple of years (**Exhibits 3 and 4**).

In early April 2020, just a few weeks into the pandemic, AM Best renewed its Stable outlook for the global reinsurance market. This is not to say, once again, that nothing has changed over the last few months. On the contrary, COVID-19 has become a catalyst for a number of factors, both positive and negative, affecting the industry. It is too early to tell what the ultimate impact of the pandemic will be. Some companies are clearly better positioned than others to adapt to the new conditions. In the medium term, we believe that the sector as a whole should be able to manage this challenging—and promising—market environment.

There has been much talk about negative developments associated with COVID-19. On the liability side of the balance sheet, early estimates of increases in loss ratios for the full year 2020 fluctuate from 5% on the low end to more

Exhibit 3
Global Reinsurance – Insurance Industry 2020 Capital Raises
(USD billions)



Note: As of July 2020
Source: AM Best data and research

Exhibit 4
Global Reinsurance – ILS Fund Managers' Assets Under Management
(USD billions)

Name	Assets Under Management	Change in AUM	Funds Location	ILS Fund Managers Acquisitions
Nephila Capital	10,000	▼	Bermuda	Purchased by Markel 2018
RenaissanceRe Holdings Ltd.*	9,730	▲	Bermuda	
Credit Suisse Insurance Linked Strategies Ltd.	7,200	▼	Zurich	
LGT ILS Partners Ltd.	6,800	▼	Pfaeffikon, Switzerland	
Fermat Capital Management, LLC	6,800	▲	Westport, Connecticut	
Stone Ridge Asset Management	6,630	▲	New York	
Securis Investment Partners LLP	5,900	●	London	Northill bought out Swiss Re in 2012
Leadenhall Capital Partners LLP	5,500	●	London	Purchased by Amlin 2014
AlphaCat Managers	4,200	●	Bermuda	Purchased by AIG in 2018
Elementum Advisors, LLC	4,200	▲	Chicago	White Mountain purchased 30% stake in 2019
Aeolus Capital Management Ltd	4,000	●	Bermuda	Purchased by Elliott in 2016
Twelve Capital AG	4,000	●	Zurich	
Schroder Investment Management	3,000	▲	London	
Markel CATCo Investment Management	2,700	▼	Bermuda	Purchased by Markel 2015
Hudson Structured Capital Management Ltd	2,000	▲	Bermuda	
Top 15 Fund Managers	**82,660**			

* Renaissance Re includes Top Layer, DaVinci, Langhorn, Vermeer, and Medici.
*As of July 2020.
Source: Artemis

than 20%. This wide range is explained by each company's product mix—event cancellation, non-US business interruption, D&O, workers compensation, and financial lines are the most likely to be affected—but also by the different assumptions and degrees of prudence embedded in these calculations. Some of the relevant business lines may not realize material loss activity until later in 2020 or beyond, when the effects of the economic stimulus packages are expected to have subsided, but before any litigation has been adjudicated.

On the asset side of the balance sheet, AM Best observed by the end of the first quarter of 2020 mainly unrealized investment losses that ranged from single-digit percentage points to almost a third of policyholder surplus. The impact on each company depended on the concentration in equity holdings and any extant relief from hedging strategies. Since then, stock markets and credit spreads have significantly recovered to pre-COVID-19 levels, but AM Best believes that volatility is here to stay for the foreseeable future. In the current economic environment, optimism for a COVID-19 vaccine may boost stock prices one day only to be followed by fears of a second wave of infections.

The level of uncertainty on both sides of the balance sheet is mitigated, however, by the improving prospects for new and renewal business. Not only are reinsurance rates signaling a clear hardening trend, but third-party capital—which in the past has been simultaneously a competitor of and a partner to traditional capital—is reassessing its role in the industry. It may be that the three main premises that made reinsurance attractive to third-party capital investors (namely, perceived lack of correlation of the underlying risks with the rest of the economy, accurate catastrophe risk modelling, and the ability to enter and exit the market swiftly) are, for some, no longer valid. Or, better risk-adjusted return alternatives are being identified (which may mean that, especially due to COVID-19 uncertainty, reinsurance risks are being perceived as excessively high), or investors are more concerned about preserving liquidity during these uncertain times. Third-party capital—at current rates at least—does not always share the same level of enthusiasm for the hardening market that some equity capital investors express. That situation may change, however, if prices continue to rise, although from a protection buyer's point of view, the proposal may reach a point where it becomes economically prohibitive. In the interim, there appears to be flight to quality as cedants focus on reducing counterparty risk.

What to Expect for the Rest of 2020?

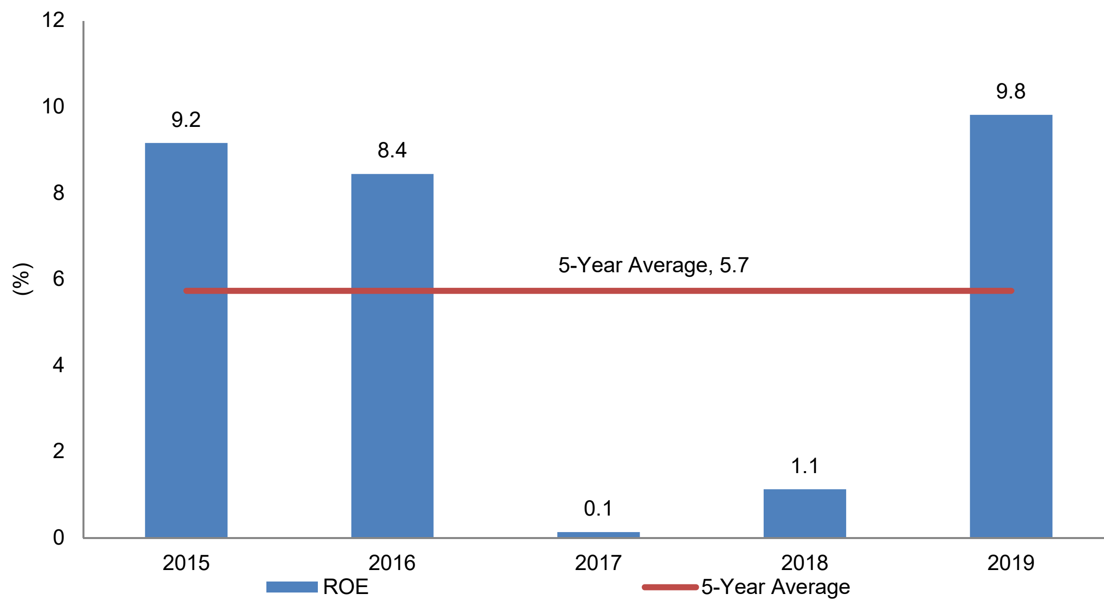
"One never notices what has been done; one can only see what remains to be done."—
— Marie Curie

It is clear that 2020 is a critical year for reinsurers, in terms of both challenges and opportunities. Since 2014, average return on equity measures have declined consistently, down to breakeven levels in the last three years. The situation is even more pressing when we note that 3% to 4% of that performance is attributable to favorable loss reserve development. This benefit to both the combined ratio and return on equity has steadily declined and without prompt, corrective action, will be become a drag on earnings (**Exhibits 5 and 6**). The underutilization of capital in the market (which AM Best estimated at around 80% in 2019), already low investment returns in a recessionary economic environment, and COVID-19-related claims uncertainty, all add pressure on players to improve underwriting discipline if they want to survive.

The current hardening pricing conditions are creating a window of opportunity for reinsurers. Property catastrophe, specialty lines, and some US casualty lines have been showing much-needed improvement in pricing and coverage terms. The risk is that the positive market momentum turns out to be short-lived, excess capacity starts expanding again, and we return

Exhibit 5

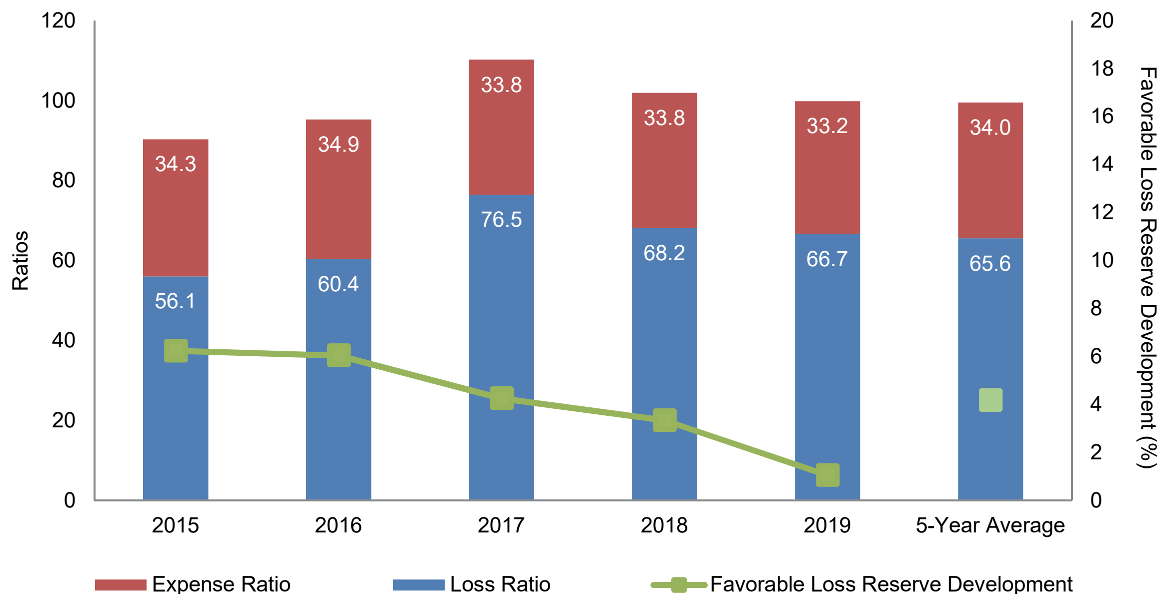
Global Reinsurance – Return on Equity



Source: AM Best data and research

Exhibit 6

Global Reinsurance – Loss Ratios, Expense Ratios, Favorable Loss Reserve Development



Source: AM Best data and research

to where we started. For this reason, AM Best believes that the current market hardening must be sustained long enough to offset the impact of prior inadequate market conditions.

The pricing momentum will have to be sufficient to offset the losses from previous years, including the uncertain impact from COVID-19 (likely to have a long tail due to legal disputes). If reinsurers do not accomplish this, they risk losing investor confidence.

There have been a number of capital raising initiatives over the last few months, but the reasons behind them may not be fully explained solely by the intention to write more attractive business volumes. Loss creep, social inflation, and declining reserve releases are still ongoing issues. Retrocession conditions have been hardening ahead of the reinsurance sector, as capacity is shrinking, which is forcing some protection buyers to increase their retention limits. Risk exposures in several product lines may become lower due to the economic slowdown, even if rates were to rise sharply. What is more, the US hurricane season is now underway and COVID-19 losses are expected to be in line with losses related to an active natural catastrophe year.

Not all reinsurers are created equal. Capital position, business mix, and recent underwriting performance in particular lines of business are key factors in the relative success of reinsurers. For some underperforming reinsurers, the rate increases so far, even if significant, may not be sufficient to restore desired profitability. When it comes to business mix, some of the largest, more globally diversified reinsurers tend to be more cautious about market trends. This may simply reflect having more levers to pull when trying to improve performance, or, in particular cases, having a lower cost of capital associated with less volatile performance compared to the rest of the industry.

Companies' individual abilities to take advantage of the hardening market conditions are likely to be influenced by a flight to quality. After three years of significant industry losses, those companies with a solid financial strength, robust reputation, and market position, as well as stable, consistent, and transparent results, should be best positioned to optimize their underwriting risk portfolio and continue to attract and deploy capital. There is some discussion regarding "Class of 2020" start-ups emerging and, despite the advantages of a clean balance sheet, AM Best believes that market recognition may prove to be a challenge and a key differentiator between winners and losers. The more pronounced the differences, the more likely they may become a driver behind certain rating actions.

Stress Testing and Government Intervention

AM Best's COVID-19 Stress Test identified only a limited impact on balance sheet strength for most global reinsurers. Based on current measures, these results are consistent with individual discussions with rated companies and, given the level of overcapitalization in the industry, confirm our view that, based on conservative estimates, this is most likely to be considered an earnings event of a magnitude similar to an active US hurricane season, except with a longer claims settlement period.

Reinsurers have been running stress scenarios based on pandemic risk for years, as part of their enterprise risk management (ERM) framework. However, an important, albeit perfectly understandable, omission in the modelling stands out: the exceptional degree of government intervention, both in terms of economic stimulus packages and widespread lockdown measures, not seen in any of the previous outbreaks—from the Spanish flu about a century ago to the more recent SARS and Ebola outbreaks. Despite the significant human cost seen so far, even the most conservative death estimates for the current pandemic remain below the corresponding figures for a 1-in-200-year return scenario. Conversely, the worldwide shelter-in-place measures have created a potential for non-life insured claims, which would have been unthinkable just by referring to previous pandemics.

Government intervention has led to a more "balanced" impact between the life and non-life (re)insurance segments. The mortality cost is being somewhat mitigated in exchange for higher economic costs, a share of which will be absorbed by the industry—both as investment

losses and as non-life underwriting claims. Regarding the asset side of the balance sheet, fiscal stimulus packages partly explain the recovery of the capital markets after a sharp decline earlier in the year. Nonetheless, volatility is likely to stay, even for the typical reinsurers for which this is not a matter of undue concern given their relatively low exposure to non-investment grade credit, equities, and real estate, as evidenced by the average mark-to-market investment loss for reinsurers, which was in the single digits during the first half of 2020.

Regulatory and rating agency risk-based capital requirements have contributed to the low risk profile of most reinsurers' investment portfolios. The depth and length of the pandemic and economic recession, however, may still put pressure on the credit markets, affecting the high quality and diversified fixed income portfolios that many companies currently enjoy.

As severe as COVID-19 may be, the reinsurance sector remains well positioned to manage the associated losses. On the non-life side, the estimates exclude the possibility of retroactive legislation extending business interruption coverage despite explicit exclusions. AM Best believes that forcing insurers to pay for COVID-19-related business interruption claims, despite any specific policy exclusions, could threaten many insurers' solvency and would be subject to vigorous legal challenges with a high likelihood of success.

Affirmative coverage or ambiguously worded contracts are more common in non-US markets (especially in the UK and throughout Europe), with much lower aggregated exposures. Event cancellation (the line whose loss estimates probably carry the least uncertainty) exposures tend to be concentrated in the large European reinsurers and the Lloyd's market. A number of liability lines that may be affected, with lower exposure volumes—such as D&O, E&O, and workers compensation—may still take a while to develop. Products associated with the transport, travel, and leisure industries will see much-reduced business volumes, as well as decreased claims activity.

Financial Lines and Life Reinsurance: When "Diversification" Leads to More Correlation and Improved Opportunities

Financial lines (such as mortgage, trade credit, and surety), by definition, are highly correlated to the economic cycle. They are likely to experience a material increase in loss activity as a result of the pandemic, although the timeline is uncertain. In recent years, they have been strong profit generators, even cross-subsidizing to some extent other loss-making lines. Since the 2008 financial crisis, with the advent of Private Mortgage Insurer Eligibility Guidelines (PMIERs), underwriting guidelines have become much more rigorous. Risk monitoring has become tighter, pricing techniques are more sophisticated, and the quality of the books generally is higher. The emergence of rising claims will take a while to develop, until government-sponsored economic relief measures are fully utilized by the insureds, and a reduced claims impact absorbed by the cedants. AM Best currently estimates that the mortgage insurers it rates will be able to comfortably absorb claims of 4% to 6% of their exposures. However, uncertainties abound regarding the ultimate loan forbearance take-up rates, the ultimate unemployment rate, and the possibility of a resurgence of the pandemic.

Reinsurers may re-evaluate their level of commitment to these risks, at a time where the pandemic-related losses may trigger rate spikes and scarce capacity in terms of new business. Conservative stress tests still indicate that the most exposed reinsurers generally should be able to absorb the worst loss scenarios without experiencing a dramatic deterioration of their risk-adjusted balance sheet positions.

On the life reinsurance side, the focus is on mortality risk. Let's first remember that life reinsurers may have a very different risk profile compared to primary carriers. The savings component associated with primary life products typically is not reinsured. Life reinsurers tend to be more concentrated on biometric risks than their direct writer peers. In addition to extensive in-house medical expertise, life reinsurers use decades of data to aid in their pricing. As a result, investment returns and interest rate assumptions are typically less of a pricing driver for reinsurers when compared to primary writers. Morbidity risk, when reinsured, is typically written on a stop-loss basis, with relatively high attachment points. The direct pandemic impact on the primary market has been somewhat mitigated by lower non–COVID-19-related claims activity. Longevity exposures, which could be a positive contributor to earnings during an outbreak, remain limited.

As mentioned above, the most conservative COVID-related death estimates remain well below the typical stress scenarios that companies use as part of their risk capital management. Additionally, coverage tends to be more concentrated on working age groups, which are generally less vulnerable to the virus.

In general, life reinsurance is written almost exclusively by the largest players in the market, with a very well balanced book of business and the strongest levels of capitalization. Given its long-term nature, life portfolios serve as a ballast, generating a steady flow of predictable earnings that offset the fluctuations from P&C risks, which are vulnerable to low frequency, high severity losses.

The current pandemic is a real life example of correlations that can dramatically increase beyond normal expectations during times of crisis. That is the case between life and non-life lines of business, as well as the asset and liability sides of the balance sheet. On the other hand, the correlation between financial lines and the rest of the economy may be somewhat mitigated—or its effect at least significantly delayed—thanks to unprecedented levels of government intervention. The reinsurance segment may be negatively impacted by current losses, but should benefit from improved market conditions during the next few years.

Appendix 1
Global Reinsurance Market*
(USD billions)

	5-Year Average	2019	2018	2017	2016	2015
NPW (Non-Life only)	144.7	167.3	150.0	144.5	130.3	131.7
Net Premiums Earned (Non-Life only)	142.1	162.3	147.3	143.3	128.0	129.7
Net Investment Income	21.9	28.2	16.1	25.8	20.4	18.9
Unrealized/Realized Investment Gains(Losses)	5.4	13.6	8.0	4.2	2.3	-0.9
Total Revenue	**230.6**	**263.8**	**223.8**	**238.8**	**216.4**	**210.3**
Net Income	**11.7**	**20.9**	**2.2**	**0.3**	**16.7**	**18.5**
Shareholders' Equity (End of Period)	205.8	225.3	191.4	207.8	204.2	200.2
Loss Ratio	65.6	66.7	68.2	76.5	60.4	56.1
Expense Ratio	34.0	33.2	33.8	33.8	34.9	34.3
Combined Ratio	99.6	99.9	101.9	110.3	95.3	90.4
Reserve Development - (Favorable)/Unfavorable	-4.2	-1.1	-3.3	-4.3	-6.0	-6.2
Net Investment Ratio**	15.4	17.4	10.9	18.0	15.9	14.6
Operating Ratio	84.2	82.5	91.0	92.3	79.4	75.8
Return on Equity	5.7	9.8	1.1	0.1	8.4	9.2
Return on Revenue	5.1	7.9	1.0	0.1	7.7	8.8
NPW (Non-Life only) to Equity (End of Period)	70	74	78	70	64	66
Net Reserves to Equity (End of Period)	246	238	270	234	244	244
Gross Reserves to Equity (End of Period)	275	269	310	267	266	266

* AM Best's Reinsurance Composite changes over time as companies enter and exit the market or rating process. In some cases, companies have been added or removed retroactively. When possible, historical data has been updated to reflect changes in companies' segment reporting.
** Net investment ratio based on non-life NPE.
Source: AM Best data and research

Appendix 2
Global Reinsurance – European "Big Four" Market*
(USD billions)

	5-Year Average	2019	2018	2017	2016	2015
NPW (Non-Life only)	64.8	72.5	67.5	64.8	59.8	59.3
Net Premiums Earned (Non-Life only)	64.1	70.5	67.2	65.3	58.8	58.4
Net Investment Income	15.4	18.7	10.8	18.9	14.3	14.2
Unrealized/Realized Investment Gains(Losses)	2.3	4.7	2.6	2.0	1.5	0.6
Total Revenue	**137.8**	**142.8**	**134.8**	**146.9**	**134.7**	**129.9**
Net Income	**6.2**	**5.7**	**4.6**	**2.4**	**8.2**	**10.0**
Shareholders' Equity (End of Period)	82.6	82.3	74.8	85.6	86.5	84.0
Loss Ratio	67.5	69.6	68.1	76.7	63.4	59.9
Expense Ratio	32.3	31.8	32.6	32.2	32.8	31.9
Combined Ratio	99.8	101.4	100.7	108.9	96.3	91.8
Reserve Development - (Favorable)/Unfavorable	-3.7	-0.2	-3.3	-5.0	-5.7	-4.6
Net Investment Ratio**	24.0	26.5	16.1	28.9	24.3	24.3
Operating Ratio	75.8	74.9	84.6	79.9	72.0	67.5
Return on Equity	7.4	7.2	5.8	2.7	9.7	11.5
Return on Revenue	4.6	4.0	3.4	1.6	6.1	7.7
NPW (Non-Life only) to Equity (End of Period)	79	88	90	76	69	71
Net Reserves to Equity (End of Period)	434	440	487	392	424	426
Gross Reserves to Equity (End of Period)	455	461	515	413	441	445

* AM Best's Reinsurance Composite changes over time as companies enter and exit the market or rating process. In some cases, companies have been added or removed retroactively. When possible, historical data has been updated to reflect changes in companies' segment reporting.
** Net investment ratio based on non-life NPE.
Source: AM Best data and research

Appendix 3
Global Reinsurance – US & Bermuda Market*
(USD billions)

	5-Year Average	2019	2018	2017	2016	2015
NPW (Non-Life only)	48.1	61.1	50.0	46.1	42.0	41.2
Net Premiums Earned (Non-Life only)	46.6	58.0	48.2	45.0	41.3	40.8
Net Investment Income	4.8	6.2	4.1	4.9	4.5	4.1
Unrealized/Realized Investment Gains(Losses)	3.0	7.6	6.0	1.6	0.8	-0.9
Total Revenue	**59.2**	**82.4**	**56.3**	**56.3**	**51.7**	**49.2**
Net Income	**4.5**	**11.9**	**-1.1**	**0.6**	**6.0**	**5.3**
Shareholders' Equity (End of Period)	87.2	103.9	81.8	86.2	83.6	80.4
Loss Ratio	65.3	65.1	70.0	77.8	58.3	55.4
Expense Ratio	32.5	31.8	31.9	31.8	33.9	33.2
Combined Ratio	97.9	96.9	101.9	109.7	92.2	88.6
Reserve Development - (Favorable)/Unfavorable	-4.8	-2.2	-3.1	-4.2	-7.2	-7.4
Net Investment Ratio**	10.2	10.6	8.4	11.0	10.8	10.1
Operating Ratio	87.7	86.2	93.5	98.6	81.4	78.5
Return on Equity	5.1	12.2	-1.3	0.7	7.3	6.7
Return on Revenue	7.2	14.4	-2.0	1.1	11.5	10.8
NPW (Non-Life only) to Equity (End of Period)	55	59	61	54	50	51
Net Reserves to Equity (End of Period)	113	117	122	116	104	107
Gross Reserves to Equity (End of Period)	140	142	160	148	123	125

* AM Best's Reinsurance Composite changes over time as companies enter and exit the market or rating process. In some cases, companies have been added or removed retroactively. When possible, historical data has been updated to reflect changes in companies' segment reporting.
** Net investment ratio based on non-life NPE.
Source: AM Best data and research

Appendix 4
Global Reinsurance – Lloyd's Market*
(USD billions)

	5-Year Average	2019	2018	2017	2016	2015
NPW (Non-Life only)	31.8	33.6	32.5	33.6	28.4	31.2
Net Premiums Earned (Non-Life only)	31.4	33.8	31.9	33.1	27.9	30.5
Net Investment Income	1.8	3.4	1.3	1.9	1.7	0.6
Unrealized/Realized Investment Gains(Losses)	0.1	1.3	-0.6	0.5	0.0	-0.6
Total Revenue	**33.6**	**38.6**	**32.7**	**35.5**	**30.0**	**31.1**
Net Income	**1.0**	**3.3**	**-1.3**	**-2.7**	**2.6**	**3.1**
Shareholders' Equity (End of Period)	36.0	39.1	34.8	36.1	34.1	35.9
Loss Ratio	62.1	63.4	65.4	74.5	57.3	49.9
Expense Ratio	39.6	38.7	39.2	39.5	40.6	40.1
Combined Ratio	101.7	102.1	104.6	114.0	97.9	90.0
Reserve Development - (Favorable)/Unfavorable	-4.1	-0.9	-3.9	-2.9	-5.1	-7.9
Net Investment Ratio**	5.5	10.0	3.9	5.8	5.9	2.0
Operating Ratio	96.2	92.1	100.6	108.2	92.0	88.1
Return on Equity	3.0	9.0	-3.7	-7.3	8.1	8.9
Return on Revenue	3.2	8.6	-3.9	-7.6	8.6	10.1
NPW (Non-Life only) to Equity (End of Period)	88	86	93	93	83	87
Net Reserves to Equity (End of Period)	136	133	149	142	131	125
Gross Reserves to Equity (End of Period)	192	200	220	205	172	160

* AM Best's Reinsurance Composite changes over time as companies enter and exit the market or rating process. In some cases, companies have been added or removed retroactively. When possible, historical data has been updated to reflect changes in companies' segment reporting.
** Net investment ratio based on non-life NPE.
Source: AM Best data and research

September 2, 2020

World's 50 Largest Reinsurers

Swiss Re retains top spot in annual reinsurer ranking

For the second consecutive year, and the third time in four years, Swiss Re topped the list of the world's largest reinsurers, by year-end reinsurance gross premium written. Munich Re came in at second, having previously topped the list in 2017.

Swiss Re not only maintained its top position, but also expanded its lead after posting GPW growth of 16% (USD 5.8 billion) in 2019. This growth was due to a 25.1% increase in non-life business, driven by large transactions in the Americas and EMEA, growth in the group's natural catastrophe business, and rate activity in underperforming lines. Munich Re reported a more modest 5.7% increase (USD 2 billion) in total reinsurance GPW, dampened by depreciation in the euro of 2.2% against the USD. Munich Re reports its figures in euros and Swiss Re, in USD. AM Best converts to US dollars using the foreign exchange rate that coincided with the date of the financial statements. Currency exchange rate fluctuations have, and will continue to have, a meaningful effect on companies' rankings.

Munich Re has sizable primary insurance operations, which account for approximately 32% of its total GPW, leading to an exclusion from AM Best's GPW calculation. Swiss Re's primary insurance business remains below the 25% threshold for separating the primary and reinsurance premium.

World's 50 Largest Reinsurers Ranking – Methodology

AM Best's ranking of leading global reinsurers has continued to evolve over time. The intention of the Top 50 exercise is to try to isolate a (re)insurer's business profile using GPW as the metric. To obtain the most accurate figures possible, we make a number of assumptions and adjustments as we examine different financial statements, accounting standards, and segment reporting. Capturing only third-party business, excluding affiliated or intergroup reinsurance, and eliminating any compulsory business are perhaps the most essential adjustments.

Another important adjustment is splitting out reinsurance and insurance premiums. Our approach has been that if a company or group's GPW for reinsurance is equal to or greater than 75% of its entire gross premium volume, all of its GPW is counted in the ranking as reinsurance premiums. Conversely, if a company's or group's reinsurance/insurance split consists of less than 75% reinsurance premiums, only the reinsurance premiums are counted and insurance premiums are excluded. The logic behind this adjustment is that if the company's book of reinsurance business is equal to or greater than 75% of its total book of business, reinsurance represents its core book of business. Finally, in cases where financial statements and supplements do not provide a proper breakout of reinsurance premiums, AM Best seeks to obtain certain data points through a direct dialogue with the (re)insurer.

Swiss Re and Munich Re will likely continue to occupy the top two spots on the list, as they accounted for 27.8% of the top 50's total GPW in 2019 (**Exhibit 1**), further demonstrating the dominance of large reinsurers at the top of the list. The top 10 accounted for 68.6% of the top 50's total GPW (USD 197.5 billion), which is up from 67.9% in 2019 (**Exhibit 2**). In recent years, this percentage has consistently been around 70%, reinforcing that

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Exhibit 1
Global Reinsurance – Top 50 World's Largest Reinsurance Groups
Ranked by Unaffiliated Gross Premium Written in 2019
(USD millions)[1]

Ranking	Company Name	Reinsurance Premiums Written: Life & Non-Life Gross	Life & Non-Life Net	Non-Life Only Gross	Non-Life Only Net	Total Share-holders' Funds[2]	Ratios[3] Loss	Ratios[3] Expense	Ratios[3] Combined
1	Swiss Re Ltd.	42,228	39,649	26,095	25,135	31,037	79.7	31.7	111.4
2	Munich Reinsurance Company	37,864	35,282	24,742	23,455	34,245	66.7	34.4	101.0
3	Hannover Ruck SE[4]	25,309	22,096	16,555	14,333	12,718	69.0	29.5	98.5
4	SCOR S.E.	18,302	16,176	8,005	6,826	7,139	68.1	30.9	99.0
5	Berkshire Hathaway Inc.	16,089	16,089	11,112	11,112	428,563	86.6	25.1	111.7
6	Lloyd's[5, 6]	14,978	10,433	14,978	10,433	39,150	71.0	34.5	105.5
7	China Reinsurance (Group) Corporation	13,161	12,196	5,218	4,820	13,881	65.0	36.4	101.4
8	Reinsurance Group of America Inc.	12,150	11,297	N/A	N/A	11,601	N/A	N/A	N/A
9	Great West Lifeco	10,149	10,055	N/A	N/A	19,549	N/A	N/A	N/A
10	PartnerRe Ltd.	7,285	6,909	5,792	5,439	7,270	72.4	28.0	100.4
11	Korean Reinsurance Company	6,963	4,785	6,157	4,079	2,124	85.9	14.9	100.8
12	General Insurance Corporation of India[7]	6,862	6,229	6,735	6,109	5,027	97.2	18.2	115.5
13	Everest Re Group Ltd.	6,356	5,732	6,356	5,732	9,133	66.9	28.4	95.4
14	XL Bermuda Ltd.	5,010	4,252	5,010	4,252	13,240	65.4	34.5	99.9
15	Transatlantic Holdings, Inc	4,946	4,495	4,946	4,495	5,243	68.4	32.5	100.9
16	RenaissanceRe Holdings Ltd.	4,808	3,381	4,808	3,381	5,971	62.8	29.5	92.3
17	MS&AD Insurance Group Holdings, Inc.[7,8]	4,188	N/A	4,188	N/A	15,120	N/A	N/A	N/A
18	MAPFRE RE, Companía de Reaseguros S.A.[9]	3,313	2,690	2,716	2,100	1,956	77.8	24.2	102.1
19	AXIS Capital Holdings Limited	3,223	2,280	3,223	2,280	5,544	73.7	27.5	101.2
20	R+V Versicherung AG[10]	3,160	3,160	3,160	3,160	2,408	78.6	24.3	102.9
21	Arch Capital Group Ltd.[11]	3,078	2,136	3,078	2,136	12,260	72.4	26.6	99.0
22	The Toa Reinsurance Company, Limited[7,8]	2,878	2,472	2,878	2,472	2,671	82.7	27.0	109.7
23	Assicurazioni Generali SpA	2,646	2,646	1,093	1,093	33,433	66.7	28.2	94.9
24	Sompo International Holdings, Ltd.	2,441	1,972	2,441	1,972	6,662	60.0	31.6	91.6
25	IRB - Brasil Resseguros S.A.	2,114	1,561	2,114	1,561	1,152	56.4	25.3	81.7
26	Pacific LifeCorp	2,072	1,625	N/A	N/A	16,055	N/A	N/A	N/A
27	Taiping Reinsurance Co. Ltd[8]	2,040	1,787	1,255	1,064	1,161	64.5	34.8	99.3
28	Validus Reinsurance, Ltd.	1,991	1,296	1,991	1,296	3,447	73.8	21.1	94.8
29	Odyssey Re Holdings Corp.	1,849	1,783	1,849	1,783	4,590	66.7	27.1	93.7
30	Caisse Centrale de Reassurance	1,688	1,541	1,446	1,304	2,856	86.6	10.1	96.7
31	Peak Reinsurance Company Ltd	1,665	1,258	1,531	1,125	1,095	73.1	27.1	100.2
32	Aspen Insurance Holdings Limited	1,486	1,251	1,486	1,251	2,726	73.1	30.0	103.1
33	Sirius International Insurance Group, Limited	1,351	1,112	1,351	1,112	1,866	81.7	26.4	108.1
34	Deutsche Rueckversicherung AG	1,241	825	1,139	775	337	72.5	35.6	108.1
35	QBE Insurance Group Limited	1,179	984	1,179	984	8,153	76.2	27.5	103.7
36	Tokio Marine & Nichido Fire Insurance Co., Ltd.[7]	1,174	921	1,174	921	17,883	N/A	N/A	N/A
37	Markel Corporation	1,114	965	1,114	965	11,078	69.8	34.6	104.4
38	American Agricultural Insurance Company[12]	1,079	385	1,079	385	620	74.8	20.8	95.6
39	Qianhai Reinsurance Co., Ltd.	930	563	333	294	414	69.8	32.7	102.5
40	Hiscox Ltd	867	217	867	217	2,190	136.2	37.6	173.7
41	African Reinsurance Corporation	844	682	787	632	975	60.4	38.0	98.4
42	Allied World Assurance Company Holdings, AG	821	736	821	736	4,136	65.6	26.7	92.3
43	Qatar Reinsurance Company, Limited	749	654	749	654	696	80.7	38.1	118.8
44	Chubb Limited	719	649	719	649	55,331	53.8	31.2	85.0
45	W.R. Berkley Corporation	678	N/A	678	N/A	6,118	N/A	N/A	N/A
46	Nacional de Reaseguros, S.A.	662	529	553	421	438	63.1	29.7	92.8
47	Asia Capital Reinsurance Group Pte. Ltd.[13]	656	565	656	565	794	75.3	33.9	109.2
48	Third Point Reinsurance Ltd	632	623	632	623	1,414	57.6	45.6	103.1
49	Central Reinsurance Corporation	558	518	458	423	524	73.0	28.6	101.6
50	Wilton Re U.S. Holdings, Inc.	543	420	543	N/A	4,105	N/A	N/A	N/A

[1] All non-USD currencies converted to USD using the foreign exchange rate as of company's fiscal year-end.
[2] As reported on balance sheet, unless otherwise noted.
[3] Non-life only.
[4] Net premium written data not reported; net premium earned substituted.
[5] Lloyd's premiums are reinsurance only. Premiums for certain groups in the rankings may include Lloyd's Syndicate premiums when applicable.
[6] Total shareholders' funds includes Lloyd's members' assets and Lloyd's central reserves.
[7] Fiscal year-end March 31, 2020.
[8] Net asset value used for total shareholders' funds
[9] Premium data excludes intergroup reinsurance.
[10] Ratios are as reported and calculated on a gross basis.
[11] Based on Arch Capital Group Ltd. consolidated financial statements and includes Watford Re segment.
[12] Data and ratios based on US Statutory Filing.
[13] Effective December 5, 2019, Asia Capital Re ceased writing new business.
N/A: Information not applicable or not available at time of publication.
Source: AM Best data and research

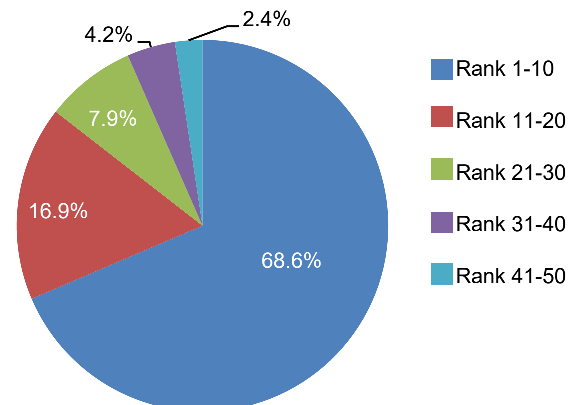
the largest reinsurers house disproportionately sizable amounts of risk, despite cedants' efforts to diversify their reinsurance panels and spread out their counterparty risk. The static nature of this weighting reflects the largest companies' strong long-term relationships with brokers and cedants.

The top 10 were relatively stable, as the nine largest reinsurers held onto their rankings from 2018 to 2019. Despite this consistency, Hannover reported GPW growth of 15.8%; China Re, 13.8%; and Great West, 31.2%. Hannover's growth is highlighted by 20.8% organic growth in non-life business, specifically traditional business and structured reinsurance. China Re and Great West were both aided by large transactions in 2019. China Re benefitted from the addition of premium from its acquisition of Chaucer towards the end of 2018. Great West capitalized on two large longevity deals in 2019, which resulted in the third-largest premium increase and the largest increase among the life reinsurers.

The new addition to the top 10 this year is Partner Re, which surpassed Korean Re and GIC after posting GPW growth of 15.6%. This marks Partner Re's return to the top 10 after falling just short in the prior three years. The group's growth in 2019 was driven by favorable rate activity on renewals and successful new business production. Partner overtakes Korean Re, which recorded similar production in 2018, with growth of only 2.4%. The top 10 reported overall GPW growth of 10.6%, in line with the overall sentiment that markets are hardening.

The greatest rise in ranking this year was Validus (**Exhibit 3**), which moved up five spots to 28. The group grew its GPW by 39.1% in 2019. Validus was able to effectively expand its non-property lines, as well as grow its business relationship with AlphaCat to improve production totals. This is the highest Validus has been ranked since it came in at 24 in 2009.

Exhibit 2
Global Reinsurance – Life and Non-Life GPW Distribution by Ranking, Year-End 2019



Source: AM Best data and research

Exhibit 3
Global Reinsurance – Notable Changes in Rankings

Upwards	Current	Prior	Change
Validus	28	33	5
W.R. Berkley	45	50	5
Peak Re	31	34	3
PartnerRe	10	12	2
IRB	25	27	2
Sirius	33	35	2
Deutsche Rueck	34	36	2
QBE	35	37	2

Downwards	Current	Prior	Change
Qatar Re	43	26	-17
Tokio Marine	36	30	-6
R+V	20	18	-2
Third Point Re	48	46	-2
Korean Re	11	10	-1

Source: AM Best data and research

Renaissance Re generated the largest relative premium growth, up a substantial 45.2% in GPW and 58.6% in net premiums written (NPW). The increases were driven mainly by RenRe's acquisition of Tokio Millennium Re. Despite the substantial growth, Ren Re only advanced one spot to 16. At the other end of the transaction, Tokio Marine dropped six spots following the sale of Tokio Millennium. Tokio Marine's was the largest decline in 2019, excluding the drop in Qatar Re, which was due to corrections in the reporting of intercompany reinsurance in the data. Tokio Marine's GPW may continue to decline through 2020, as the transaction with Ren Re was finalized in mid-2019.

The final highlights in this year's ranking relate to three Asia-Pacific companies; Qianhai Re, Taiping Re, and Peak Re. Qianhai Re ranked 39, despite only being in business since year-end 2016. As a new entrant to the top 50 just last year, Qianhai maintained its market share to move up one spot, although growth could accelerate as the company continues to implement its global diversification strategies. Taiping Re moved up one spot to cap off its 10-spot increase over the previous five years. Taiping concluded 2019 with 17.9% growth in GPW, driven mainly by growth in the life reinsurance business.

Although the rise of Qianhai and Taiping in the top 50 list has been significant, no company has risen more than Peak Re over the past five years. Peak Re moved up three spots this year—up 19 spots since 2016. The launch of Peak Re's sidecar in 2019 allowed the company to deploy more capacity, resulting in GPW growth of 20.5%.

New entrants to the list this year include Central Reinsurance Corp and Wilton Re. Central last made the top 50 in 2018, and Wilton, in 2014. Falling off the list this year were Greenlight Capital and Argo Group. Greenlight ended a three-year streak on the list, reaching as high as 45, while Argo dropped off after one year.

The top 50 list reported an average combined ratio of 102.4 in 2019, a modest deterioration from the 2018 combined ratio of 100.9. Losses were driven primarily by social inflation in the US casualty business and typhoons in Asia, as well as loss creep from 2018 storms. As the market continues to harden, pricing changes should result in improvement in underlying combined ratios. However, the impact of COVID-19 could lead to a wide variance in performance metrics in 2020.

Top 15 Non-Life and Top 10 Life Global Reinsurers

AM Best also breaks out two additional sub-rankings, one non-life (**Exhibit 4**) and one life (**Exhibit 5**), for (re)insurance groups with a truly global footprint or business profile. These groups not only have diverse product offerings, but generally maintain a very strong geographic spread of risk and provide material capacity to numerous markets. Nearly all of these companies have somewhat modest origins, some going back over 100 years, as they have evolved from being a regional or specialty player into a truly global reinsurer. Often, their very strength as a regional or specialty reinsurer eventually created concentration risk and compelled them to expand their footprint for geographic and product diversification. There is no set rule to determine specifically when or how a reinsurer truly becomes global. As market dynamics ebb and flow, so can a group's profile. As the world's largest reinsurance groups enter new markets and provide capacity, we will accordingly add them to these lists.

Exhibit 4
Top 15 Global Non-Life Reinsurance Groups, Ranked by Unaffiliated Gross Premiums Written in 2019
(USD millions[1])

		Non-Life Only		Total Share-holders'	Combined
Ranking	Company Name	Gross	Net	Funds	Ratio
1	Swiss Re Ltd.	26,095	25,135	31,037	111.4
2	Munich Reinsurance Company	24,742	23,455	34,245	101.0
3	Hannover Ruck SE	16,555	14,333	12,718	98.5
4	Lloyd's	14,978	10,433	39,150	105.5
5	Berkshire Hathaway Inc.	11,112	11,112	428,563	111.7
6	SCOR S.E.	8,005	6,826	7,139	99.0
7	Everest Re Group Ltd.	6,356	5,732	9,133	95.4
8	PartnerRe Ltd.	5,792	5,439	7,270	100.4
9	XL Bermuda Ltd.	5,010	4,252	13,240	99.9
10	Transatlantic Holdings, Inc	4,946	4,495	5,243	100.9
11	RenaissanceRe Holdings Ltd.	4,808	3,381	5,971	92.3
12	MS&AD Insurance Group Holdings, Inc.	4,188	N/A	15,120	N/A
13	MAPFRE RE, Compañía de Reaseguros S.A.	2,716	2,100	1,956	102.1
14	AXIS Capital Holdings Limited	3,223	2,280	5,544	101.2
15	Arch Capital Group Ltd.	3,078	2,136	12,260	99.0

[1] All non-USD currencies converted to USD using the foreign exchange rate as of company's fiscal year end.

Note: Please see Exhibit 1 for other footnotes.

Source: AM Best data and research

Exhibit 5
Top 10 Global Life Reinsurance Groups, Ranked by Unaffiliated Gross Premiums Written
(USD millions[1])

		Life Only		Total Share-holders'
Ranking	Company Name	Gross	Net	Funds
1	Swiss Re Ltd.	16,133	14,514	31,037
2	Munich Reinsurance Company	13,122	11,827	34,245
3	Reinsurance Group of America Inc.	12,150	11,297	11,601
4	SCOR S.E.	10,297	9,350	7,139
5	Great West Lifeco	10,149	10,055	19,549
6	Hannover Ruck SE	8,754	7,764	12,718
7	Berkshire Hathaway Inc.	4,977	4,977	428,563
8	Pacific LifeCorp	2,072	1,625	16,055
9	Assicurazioni Generali SpA	1,553	1,553	33,433
10	PartnerRe Ltd.	1,493	1,470	7,270

[1] All non-USD currencies converted to USD using the foreign exchange rate as of company's fiscal year end.

Note: Please see Exhibit 1 for other footnotes.

Source: AM Best data and research

September 2, 2020

Reinsurance Experts: Uncertainty Adds to Rate Momentum

Reinsurers navigate the global pandemic after a solid 2019

A panel of experts came together recently at AM BestTV to discuss the complex reinsurance market. Although we typically focus on results from the preceding year in these panels, we would be remiss if we did not recognize the unique challenges imposed in 2020 by the COVID-19 global pandemic. It has been a tug-of-war, with both positive and negative factors competing in the reinsurance segment. Despite many unforeseen challenges, many reinsurers have adapted well to these unique conditions.

AM Best's Meg Green moderated the panel, which featured the following panelists:

- Carlos Wong-Fupuy, Senior Director of Global Reinsurance Ratings, AM Best
- Scott Mangan, Associate Director of Global Reinsurance, AM Best
- Silke Sehm, Executive Member of the Board, Hannover Re
- Jonathan Isherwood, CEO of Reinsurance Americas, Swiss Re

AM Best Outlook and Ratings

In April 2020, AM Best announced that, for a variety of reasons, it was maintaining the outlook for the global reinsurance market at Stable, even as other rating agencies moved to Negative.

Carlos Wong-Fupuy opened the panel discussion by noting that our Stable outlook on the reinsurance segment did not mean that nothing changed in the last year. On the contrary, a number of developments, both positive and negative, offset each other. Between 2014 and 2018, the outlook for the reinsurance market was Negative. "Excess capacity from traditional capital and a continued influx from third-party capital providers were pressuring rates. The result was soft market conditions, low investment returns, and companies really struggling to meet their cost of capital."

Wong-Fupuy further noted that, at the end of 2018, "we changed the outlook to Stable, and it wasn't because we were seeing a dramatic change in trends or we were particularly optimistic about what was happening. The whole point was that we were seeing things stabilizing at a lower level. Expectations for return on equity were definitely lower than what historical trends would have suggested."

Wong-Fupuy pointed out that claims activity has been increasing the past four years. Natural catastrophes—US hurricanes, Japanese typhoons, and wildfires—have caused third-party capital to look at insurance risks more closely. The different attitude was not just about losses; concerns from loss creep and trapped capital also emerged.

Scott Mangan clarified that AM Best's market segment outlook isn't a *ratings* outlook. Despite the Stable segment outlook, some reinsurers may not be able to weather the conditions due to lagging ERM practices, business profile, capitalization, or operating performance.

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Hardening Market Attracts Capital

There has been some speculation in the market about the possibility that a class of 2020 could enter with clean balance sheets and capital to take advantage of rising rates. Silke Sehm stated that "we definitely see capital flowing into the reinsurance space. A number of insurers and reinsurers have done capital raises." She added: "New money has been coming in to start new reinsurance companies. The number being mentioned is about four billion US dollars in comparison to the Bermudian class of 2005, which was around five billion US dollars. So, state money and the class of 2001, eight billion US dollars."

Jonathan Isherwood pointed out "clearly, there is a change in rates across the world. We see that. We actually saw it accelerating through the first half of the year, from January through June/July renewals and across most lines." He also pointed out that analysts need to look at returns for the last few years. "There's a lot of capital that is looking at returns that doesn't quite match what they were expecting the last few years."

Mangan noted that there might be a "class of 2020 in terms of specialty and E&S-type business. It's possible in the reinsurance space, but specialty really seems to have a lot of the momentum going forward, at least at this time."

Wong-Fupuy added that the settlement process for losses is taking longer than expected. Property cat risks have a tail because of loss creep, which affects the ability to swiftly enter and exit the market. There may not be a dramatic decline in availability of third-party capital, but growth could slow down a bit and investors will be more selective.

Sustainability of Rate Increases

The panelists observed that reinsurance pricing has been improving lately, and this time it has not been driven by capital depletion, as in 2001 and 2005, when capital depletion had resulted in widespread market hardening. They were asked whether this makes the current rate increases less sustainable and reliant on underwriting discipline.

"Now, with tremendous uncertainty about COVID 19, this means a lot of fuel for further rate increases."
Silke Sehm

Mangan replied in the affirmative and noted that underwriting discipline was key to this hardening market, in contrast to hard markets in the past. "I'm not quite sure that the market hardening is as widespread as it was in 2001, and to some extent, 2005. The underlying mechanics were quite different.... As we've already mentioned, there was a capital void where existing market participants were not deploying capital. Now, we've been saying for a number of years that the industry is very well capitalized and, to some extent, there's excess capacity in the market."

Sehm agreed to a need for sustainable rate increases and mentioned that 2017, 2018, and 2019 were challenging years for the reinsurance industry. "Now, with tremendous uncertainty about COVID-19, this means a lot of fuel for further rate increases.... [G]iven the uncertainty in the pandemic, a sustainable rate increase is a logical consequence." Amid the volatility and uncertainty, highly rated reinsurers have value again. "Individual tailor-made reinsurance solutions are more requested. Sehm was confident that the rate increases may be sustainable for the next two years.

According to Isherwood, "it is a different environment in many different ways. Each marketplace is slightly nuanced. It is something that ... [has been] built up over the years.... We're on the tail end of many years of softening. That's not just in rates, but also terms and conditions." He thinks that "the thing that is fundamentally different though, and it will take

a different kind of leadership from the client base this time, is our yield environment. It is the lowest it has ever been. If you look at some of the metrics around 10-year US Treasuries, for example, there is no chance to rely on the asset side of the balance sheet over the next few years performing."

Life Reinsurance Diversification Despite COVID-19

The panelists next looked at life reinsurance, which has been seen as a balance that helps reinsurers mitigate the volatility of risks such as property catastrophe and large commercial lines. Panelists were asked whether this argument is still valid, in particular with the current level of asset volatility and the number of deaths from the pandemic still far from stabilizing.

Mangan observed that much of the asset risk taken by life insurers versus life reinsurers is different. Life reinsurers focus on mortality and morbidity and take less asset risk. They're not completely insulated from the asset volatility, but the risk profile on the primary side differs from that on the reinsurance side.

Sehm concurred and said that, as a reinsurer engaged in life and P/C insurance, "[t]he current situation indicates that the life and health losses are less severe than the losses arising from business interruption, credit, event cancellation, workers comp, etc.... Therefore, the argument of diversification for a reinsurer is still valid. This means that there is increased efficiency of capital usage and, therefore, lower cost of capital."

Low Interest Rates Add Momentum to Underwriting Discipline

Sehm emphasized that interest rates are now lower for a longer period. Insurers and reinsurers need to consider this in their pricing. Investors are not buying insurance and reinsurance shares, for their investment expertise. They want to invest in underwriting skills and underwriting expertise. "That is our strength. That's where we want to have our focus.... There might be reinsurers which are trying to mitigate lower ROE by investing more aggressively" but she noted that Hannover Re is still being prudent and sticks to ALM principles, and that Hannover Re is a reinsurer, not a hedge fund.

"In many ways, the low yield environment, which we're already facing, could be the longest lasting legacy coming out of COVID for the next few years. As we look ahead, this doesn't feel like a short term situation."

Jonathan Isherwood

Isherwood added: "In many ways, the low-yield environment, which we're already facing, ... could be the longest-lasting legacy coming out of COVID for the next few years.... As we look ahead, this doesn't feel like a short-term situation.... I don't believe there's any easy fix on the asset side without significant risk or capital issues." As of 2018, US 10-year yields were close to 3% and are currently just over 0.5%. "On a blended casualty book ... we would see, for every point of reduction, somewhere between two and three points of combined ratio improvement required to be equivalent ROE.... That is dramatic." He felt that, unfortunately, that message is taking time to get through to the marketplace and to the front-end underwriting teams to actually make those changes.

Isherwood also mentioned that other factors affect the momentum for casualty rates: pricing uncertainty, tail volatility, and social inflation. "If you look at the median of the top 50 claims in the US, they've doubled. That's not a small percentage increase that's doubled over those years.... Then you've got all the aspects on casualty, for example, the tail volatility that needs to be covered." With emerging risks like the reviver claims in this yield environment, we need to price casualty like a short-tail volatile line. That's fundamentally different than in the past."

From a rating agency and a capital management perspective, Mangan cautioned that investment risk consumes capital. If a reinsurer is holding capital to support riskier investments, it might not have that same capital to deploy for underwriting opportunities, without it affecting AM Best's assessment of balance sheet strength. Wong-Fupuy agreed and mentioned that it was not all about rates, but reinsurers need to keep an eye on limits and the terms and conditions, which may have not been as tight in previous cycles.

Significant Uncertainty in Reserve Estimates

The panelists were asked whether the consistent decline in the benefit of reserve releases across the reinsurance industry extended beyond US casualty. Wong-Fupuy responded that "six points in 2015/2016 were attributable to these favorable loss reserve developments and the ability to rely on these releases has declined over time.... On average, companies are struggling to meet their cost of capital, and not having the ability to rely on these favorable loss reserve developments just adds to the pressure."

Isherwood observed that "reinsurance was coming in off a cycle where it's clearly been softening the source ... of funding to support the returns." Reserving, the yield environment, all these factors were coming together and "there is no panacea except focusing ... on underwriting returns and not being carried away by one-quarter of a double-digit number."

Mangan said that another area to focus on would be expenses. "One of the few areas other than better underwriting and reducing the loss ratio, the only other real lever to pull there, is on the expense side.... Companies will have to look at that. Technology has gone a long way to help in that area and it's probably an area we'll see going forward where companies will have to focus on in order to help get those combined ratios to more reasonable levels."

Public-Private Partnership Solutions for Pandemic Risk

The panelists touched on whether insurance solutions for pandemic risk could be written profitably. All agreed that the systemic nature of pandemic risk makes it a non-insurable risk, and that there needs to be some public-private partnership to help economies become more resistant to such risk.

Mangan said that "maybe the best takeaway would be that we learn from COVID-19." We see "how governments are reacting, what the shelter-in-place orders translate into in terms of the economic impact." No stress test would have predicted the real experience.

Sehm further explained that public partnerships are necessary to cover systemic risks such as COVID-19. The industry could draw from existing experience and frameworks "such as EXTREMUS in Germany, Pool Re in the UK, and GAREAT in France." The insurance industry can only play a limited role due to capacity restraints and the systemic nature of the risk.

Isherwood remarked that "the systemic nature of the (pandemic) peril is why it's excluded to date. The intention is not to cover it for the reasons we now see. It's a global pandemic and you cannot diversify it away." Isherwood believes there is a role for the re)insurance industry to play given its experience in risk management, claims assessment, and its expertise.

"Maybe the best takeaway would be that we learn from COVID-19. We see how governments are reacting, what the shelter in place orders translate into in terms of the economic impact."

Scott Mangan

Planning for a Second Wave of COVID-19

The final topic was the possibility of a second wave of COVID-19. Would it add to uncertainty? What if a major natural catastrophe occurs simultaneously?

Sehm cautioned that COVID-19 is making 2020 a costly year. If there is a severe second wave or any other large catastrophe, 2020 could well become one of the costliest years for the industry. Still, capacity is very strong, as the industry entered the pandemic with strong balance sheets, very strong ratings, and regulatory regimes such as Solvency II, which emphasize risk management and stress testing.

Isherwood noted that "the capital is there to be able to absorb this long tail event… it's clear that it's another year of potential underperformance of the industry. The capital is not per se the issue right now but this flight to quality we've talked about. People reassessing their partnerships and the accelerated hardening, not just in rates but in the way things are structured. Relooking at the core business and not relying on other aspects is going to be absolutely key."

Wong-Fupuy agreed: "This could be a very costly year. It's not just the possibility of a second wave, but we may have a very active natural catastrophe year, [if] all these come back.... Fortunately, the industry remains very well capitalized." He added that it's not just about preserving balance sheets, but about the industry remaining relevant and playing a positive role as a supplier for the whole economy.

"This could be a very costly year. It's not just the possibility of a second wave, but we may have a very active natural catastrophe year."
Carlos Wong-Fupuy

Mangan concluded by stating that outside of multiple events or another extreme event, the industry was positioned to absorb losses. He was concerned more about the economic impact of a second wave that would have to be considered in the calculus in terms of the prospects for the industry going forward.

Trend Review
August 28, 2020

Emergence of "Total Return Reinsurers"

Total return reinsurers have the potential to generate significantly higher investment returns than traditional reinsurers, although results thus far have been muted and volatile

A "total return reinsurer" contemplates risk and returns from both sides of the balance sheet, by deploying risk capital where the best opportunities present themselves, whether as investments or reinsurance contracts. These opportunity sets are analyzed in tandem, under the common assumption of low correlation between investment returns and reinsurance results for most lines of business.

AM Best views the total return reinsurer as a relatively recent manifestation of the alternative capital concept, which started with the first issuance of catastrophe bonds in the mid-1990s, following the Northridge earthquake and Hurricane Andrew. Most of the total return reinsurers were formed in 2012, in a tenuous and deteriorating reinsurance rate environment, as well as a historically very low interest rate environment.

Market Dynamics Driving the Total Return Reinsurer Concept

In some ways, the reinsurance and investment market dynamics following the financial crisis led to the total return reinsurer concept. Reinsurance pricing had softened from the hard market after Hurricanes Katrina, Rita, and Wilma in 2005, with pricing on almost all lines of business having declined below technical adequacy by 2012. Exacerbating the situation were low investment yields, with 10-year US Treasury bond rates near 200 basis points, a level not seen since before 1950. These market dynamics in effect halved the return on equity for reinsurers as a group, from the mid-teens to the high single digits. Developed economies have been in an anemic nominal and risk-adjusted interest rate environment for almost a dozen years now. The rise in interest rates that many have predicted for several years has failed to manifest, and the COVID-19 economic shut down will very likely prolong the low rate environment—the "New Abnormal."

Sovereign interest rates in some countries in Europe and Asia are negative, with the US 10-year Treasury bond yield at 59 basis points as of this writing. The insurance industry relies heavily on investment income to drive operating results. For the five-year period ended December 31, 2019, investment income for this cohort accounted for 98.5% of net income, and long-term fixed-income securities constituted 57.0% of the industry's invested assets and 48.7% of admitted assets. This asset allocation is essentially prescribed by regulators for insurers and reinsurers licensed in the US. Offshore reinsurers are also exposed to the low rate environment, but they generally have more investment flexibility.

The total return reinsurer emerged out of this environment. Traditionally, reinsurers take a significant majority of enterprise risk on the liability side of their balance sheets by deploying risk capital for reinsurance business and parking most of the float in highly rated, relatively short-duration fixed-income investments. However, hedge fund managers questioned why reinsurers would deploy capital writing underpriced reinsurance business just to sustain market share and invest the float in low-yielding fixed-income instruments—and how they could make money in such an environment. The solution they developed was to find adequately priced, longer-tail, low-volatility reinsurance business to generate float, to invest for higher risk-adjusted asset returns. This business has been overweight on standard casualty lines of business such as general liability, auto, accident and health, and workers' compensation, which are generally written on a quota share basis, compared with a more

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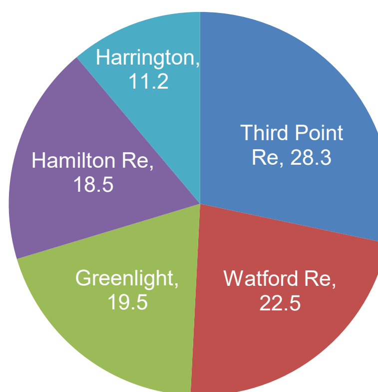
traditional reinsurer. Large amounts of excess capital are a positive in the total return model because that capital can be invested to earn a higher return while simultaneously being available to ensure policyholder security.

A number of property/casualty and life insurers and reinsurers have deployed a barbell investment strategy. AM Best does not take into account these entities' total return in the rating process because they are not actively managing risk capital across the balance sheet. They are trying to increase total investment returns by deploying a portion of excess capital into higher-yielding, higher-risk investments, and are traditional (re)insurers in that they underwrite first and invest excess capital to increase enterprise returns.

Exhibit 1
Total Return Reinsurers – Net P/C Premiums Earned as a Percentage of the Market, 2019
(%)



Source: AM Best data and research

Since 2015, the capital markets have experienced an increased level of volatility, especially in 2018 and 2019. Value equity investing in particular has generated some rocky results, as equity pricing has seemed to deviate materially from intrinsic value (as calculated by fundamental techniques). Additionally, the rise of algorithmic program trading, where speed is almost as essential as identifying mispriced securities, has quickly absorbed any alpha that emerges. At the same time, reinsurance pricing is starting to see positive momentum, after the heavy property catastrophe loss activity in 2017 and 2018.

In response to these changes in investment market and reinsurance pricing dynamics, all of the total return companies rated by AM Best (**Exhibit 1**) have decreased their risk asset allocations materially and are deploying the newly freed excess capital to write reinsurance business, which has experienced recent significant price increases and improved terms and conditions. The change in risk allocation can be viewed as evidence that the total return reinsurer concept does have the flexibility contemplated in the model.

Emergence of Several Total Return Reinsurer Models

Initially, a "Hedge Fund Re" was a configuration in which money was raised from private investors who were known to a prominent hedge fund manager—the first generation of the model. A CEO from the reinsurance industry was named as well as a chief financial officer and a chief underwriting officer. The investments were run by the hedge fund manager, with a separately managed account or a fund of one. Local management was charged with finding low volatility standard casualty quota share reinsurance business (characterized by low premium and reserve leverage) based on an investment strategy designed to go farther out on the risk/reward continuum and incorporate publicly traded securities to provide liquidity. These entities were named so that they could be easily identified with the hedge fund manager. Greenlight Re and Third Point Re are examples of the first generation.

The second generation can be thought of as the partnership model, which used outside expertise for investments and underwriting. This model sourced almost all reinsurance business from underwriting partners, which have been large, highly rated reinsurers. The

investment side of these entities is managed by large, multi-strategy investment firms that design investment portfolios with varying risk/reward and liquidity characteristics. Partnership total return companies execute long-term partnership agreements with the investment manager and the reinsurance partner. These partners also have material investments in their "customer." Harrington Re and Watford Re are examples of the second generation.

The potential third generation of the total return model takes the form of a special purpose vehicle (SPV) designed to aggregate several unrelated alternative asset strategies with a common source of reinsurance business. The SPV can be an "incorporated cell captive," in which asset managers "own" a cell capitalized by investors who are clients of the investment manager. The underwriting entity may be from a rated reinsurer or from a managing general agent or managing general underwriter. This third generation of the model has the advantage of allowing the entity to match reinsurance business with multiple asset managers and strategies, thus increasing diversification and limiting the influence of a dominant asset manager. AM Best is aware of marketplace discussions on this third generation of total return company, but none of these have been assigned a rating as of this writing.

Thus far, the total return companies rated by AM Best have been limited to primarily casualty reinsurance lines of business. Regulated primary insurers have not embraced the total return concept, possibly because of regulatory constraints, which can discourage material amounts of risk asset investment allocations.

Theoretical Advantages and Disadvantages

The advantages and disadvantages of a total return reinsurer depend on one's perspective. From a reinsurer's perspective, the potential for significantly higher investment returns (say, 6% versus 3% over the long term) can allow the deployment of capital to diversify the reinsurer's earnings sources, which can have particular advantages during a prolonged soft reinsurance pricing cycle. The total return reinsurer has the opportunity to toggle its risk capital allocation between a risk asset portfolio and a portfolio of reinsurance opportunities. These opportunities can be managed to maximize the return on equity compared to more traditional reinsurers, by pushing the boundaries of the efficient frontier. Entities with more traditional, lower-yielding investment strategies can be forced into deploying a much greater percentage of capital into writing underpriced reinsurance business or shrinking their way into oblivion by decreasing their writings and returning capital. In essence, the total return model allows greater optionality.

From an asset manager's perspective, a common assumption of a low correlation of reinsurance to the capital markets, tax advantages, and a fee income stream on permanent capital all represent significant advantages over other investment opportunities. The correlation of reinsurance results with risk asset returns is relatively low, depending on the line of business. Property catastrophe reinsurance has the lowest correlation to asset returns, while workers' compensation has a higher correlation. The sweet spot seems to be the general casualty lines of business, which have a relatively low correlation to asset returns and a claim tail that creates float with which investment income can be earned for multiple years. All but one of the total return reinsurers are domiciled in tax-advantaged countries, mostly Bermuda, which allow a reinsurers' investment returns and reinsurance profits to accumulate tax-free, further enhancing the return on equity. Passive foreign investment corporation (PFIC) rules ensure that these entities are "real" reinsurers instead of a tax dodge. In fact, total return reinsurers generally have less premium leverage than traditional reinsurers do. Risk modeling tends to limit the premium and exposure levels driven by the risks taken on the asset portfolios of total return reinsurers.

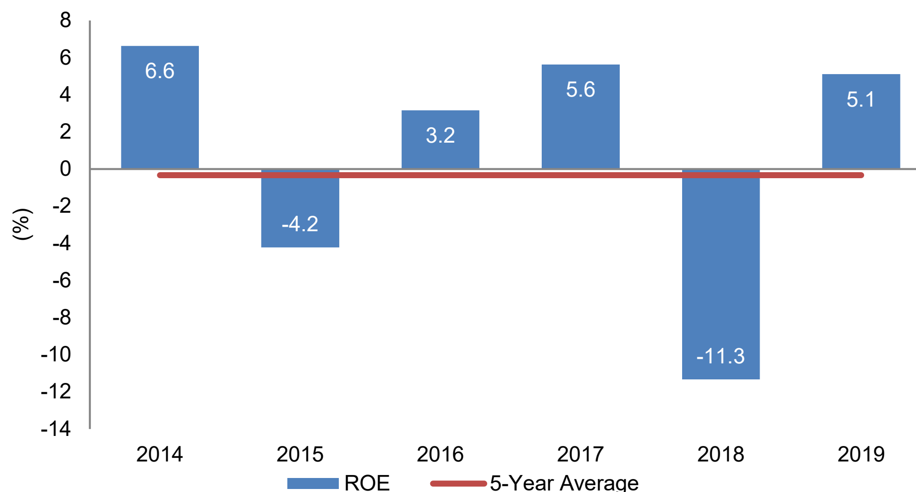
From an investor's perspective, the low correlation of reinsurance to other investment opportunities, coupled with tax advantages, can represent an accretive opportunity for long-term investors such as pension funds, mutual funds, and family offices. Notably, smaller investors can avail themselves of the expert investment management they would otherwise be excluded from due to closed funds and buy-in minimums. By investing in shares of a publicly traded total return reinsurer, smaller investors can also benefit from the significant long-term outperformance of these investment managers.

The total return reinsurer model has two main disadvantages: operating performance volatility and market acceptance. A total return reinsurer's net income, operating ratio, and return on equity will experience higher volatility (**Exhibit 2**). To offset this volatility, a total return reinsurer retains excess capital in the form of less operational leverage, to absorb adverse earnings and capital events that can be generated by risk asset portfolios. Although most of the total return reinsurers secure known underwriting talent and CEO personalities, market acceptance is a disadvantage. Due to operational volatility, relatively high investment manager fees, and relatively small size and short tenure, market acceptance requires that a ceding company or insured understand the value of placing business with a total return reinsurer. Adverse operational volatility in 2015, 2018, and the first quarter of 2020, coupled with the total return reinsurers' relatively short tenure and relatively small balance sheets, can make reinsurance panel acceptance challenging.

Viability of the Total Return Model

Whether the total return reinsurer model in its initial iteration is viable is questionable. The reinsurer model has struggled in the recent environment. Recent investment return volatility, coupled with the soft reinsurance pricing environment that lasted from 2012 until 2018—which represent the first five years of most of these entities' existence—has resulted in volatile and muted operating results. These dynamics were a challenge to market acceptance, affecting the entities' ability to consistently write profitable reinsurance business, which was exacerbated by struggling value investing opportunities and followed by an almost complete shut-down of global economies in the first quarter of 2020, which punished almost all investors. The long-term viability of the total return reinsurer model hinges primarily on

Exhibit 2
Total Return Reinsurers – Return on Equity, 2014-2019



Source: AM Best data and research

management's ability to realize the theoretical returns that can be generated by effectively deploying capital and taking risk on both sides of the balance sheet.

Total Return Composite Results and Financial Analysis

AM Best has created a composite of five total return reinsurers that have operated for at least five years. As of December 31, 2019, this composite had combined net premiums written of $2.4 billion, shareholders' equity of $5.2 billion, and total cash and invested assets of $9.6 billion, with net loss and loss adjustment expense (LAE) reserves of $4.0 billion.

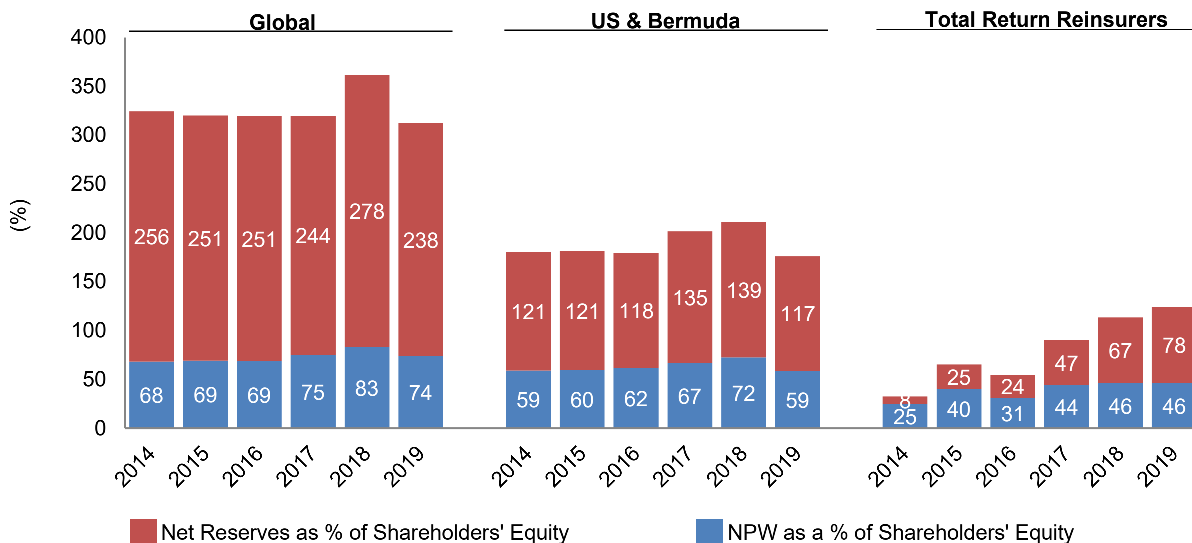
Asset Composition and Liquidity

Invested assets for the total return composite as of December 31, 2019, were composed of fixed- income securities of $2.2 billion, or 23%; other invested assets, including short-term investments under the control of an alternative asset manager of $3.9 billion, or 41%; and cash and cash equivalents of $3.5 billion, or 36%. These figures are quite different from the invested assets of AM Best's Bermuda reinsurance composite, which had fixed-income securities of $137 billion, or 61%; equities and alternative asset allocations of $29 billion, or 12%; and cash, cash equivalents, and stand-alone short-term investments of $59 billion, or 27%. The cash and cash equivalent figures for both the total return composite and the Bermuda composite indicate ample liquidity, with fixed-income and cash and cash equivalents constituting 139% of net loss reserves and 143% of LAE reserves. One of the main allocation differences between the total return composite and the Bermuda composite is that the risk assets in the total return composite are diverse by reinsurer and even within some reinsurers. The risk asset allocations include long/short equity, private equity, distressed credit and leveraged loans, and real estate. Four of the five reinsurers' asset managers uses more fundamental investment analysis; the fifth uses a programmatic trading platform. All of these asset managers use, at least in part, a value-based approach that seeks to identify mispriced traded value versus intrinsic value.

Operational Leverage

As of December 31, 2019, the total return composite's premium to surplus ratio (premium leverage) was 0.46x, and its loss and LAE reserve leverage (reserve leverage) was 0.78x, for a

Exhibit 3
NPW & Net Reserve Leverage by Reinsurance Segment



Source: AM Best data and research

net leverage ratio of 1.24x. The figures compare very favorably to the Bermuda composite's premium leverage of 0.59x, reserve leverage of 1.17x, and net leverage of 1.76x (**Exhibit 3**).

Reserve Stability

The total return composite's loss and LAE reserves for the years ended December 31, 2019, and December 31, 2018, essentially indicate loss and loss expense reserve stability, with a very small redundancy and a very small deficiency, both under 1%. The preceding three years (2017, 2016, and 2015) were characterized by small deficiencies, reaching a high of 4.1% for 2016. The total return composite's business retention rate at the end of 2019 was 76%, which indicates that total return reinsurers are using reinsurance as a capital and earnings management tool.

Total Underwriting Performance

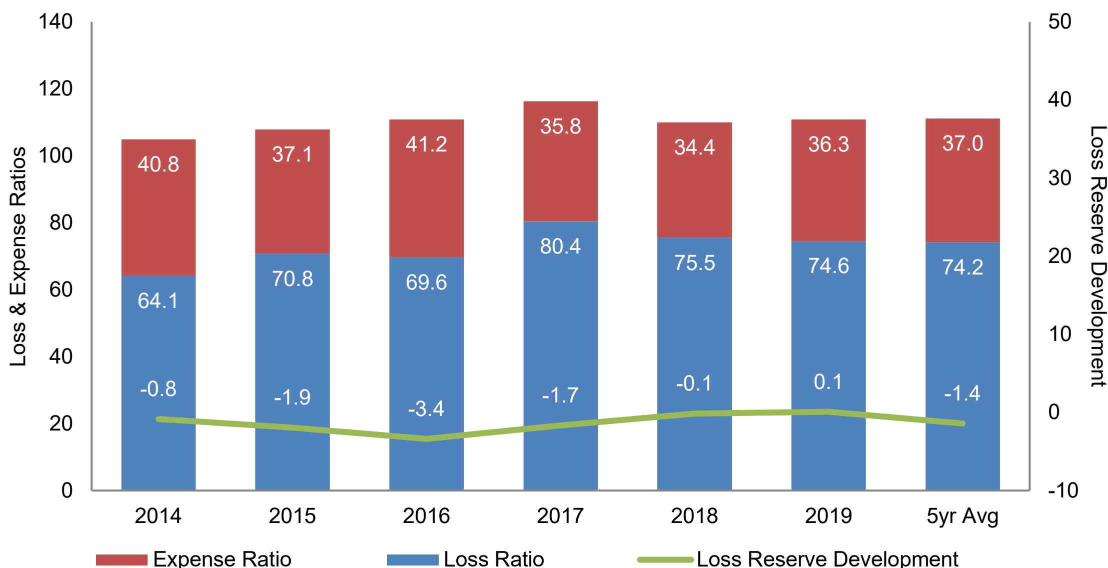
Total return reinsurers have significantly underperformed the (re)insurers that comprise the Bermuda composite. The total return composite's combined ratio for the year ended December 31, 2019, was 110.8, versus 96.9 for the Bermuda composite. Similarly, the total return composite's average combined ratio for the five-year period ended December 31, 2019, was 111.2 (**Exhibit 4**), versus 98.4 for the Bermuda composite. Several factors seem to be driving the underperformance of the companies in the total return composite.

— Losses

The total return composite's loss ratio was of 74.6, versus 65.1 for the Bermuda composite. The total return composite's average loss ratio for the five-year period ended December 31, 2019 was 74.2, versus 65.8 for the Bermuda composite. The higher loss ratio generated by the total return reinsurers is driven partly by their concentrations in medium-term casualty lines, in comparison to the Bermuda composite. Their relatively small balance sheets and short tenures may also be contributing to the higher loss ratio. Additionally, loss ratios have not declined materially from taking down prior year reserve redundancies—actions that lowered the

Exhibit 4

Total Return Reinsurers – Loss, Expense, and Loss Reserve Development Ratios



Source: AM Best data and research

Bermuda composite's five-year average loss ratio by 4.1 points, versus a deficiency of 1.4 points for the total return composite. The total return reinsurers have not been able to accumulate a long-tenured reserve base from which they can mine annual realization of prior year reserve releases. This last item is responsible for 5.5 points of the 9.5 loss ratio point difference between the Bermuda and total return composites' five-year average loss ratio.

— Expenses

The total return composite's 2019 expense ratio was 36.3, versus 31.8 for the Bermuda composite, and the average expense ratio for the five-year period ended December 31, 2019, was 37.0 versus 32.6. Tenure may be driving the underperformance, as the companies in the total return composite are somewhat younger than the companies in the Bermuda composite, which been around for more than 15 years—many for much longer. Only one of the companies in the total return composite has existed for 15 years; the other four did not have a first full underwriting year writing business until after 2014. Building out an underwriting platform and filling it with business takes time and requires funding to build the underwriting systems and risk management platforms, as well as acquiring talent—expenses that are not immediately matched by premium revenue streams. Growing premium too quickly could have significant adverse operating performance consequences, so the prudent way is to grow slowly and carefully and realize the detrimental expense ratio as the investment required to launch and develop a new reinsurer.

Recent Adjustment of the Strategy

All of the total return reinsurers have adjusted their investment allocations, such that 20% to 50% of invested assets are allocated to risk assets, with the remainder allocated to safe harbor assets such as cash, sovereign debt, and highly rated corporate debt. These allocations differ significantly from the initial model's, which allocated 80% to 90% of invested assets to risk assets, with the remainder in cash and short-term, highly rated securities, representing three to six months of outbound operating cash flow. The change could help diminish volatility in investment results and increase market acceptance, given the claims-paying ability invested in lower-volatility assets. Recent reinsurance rate hardening following the property catastrophe events of 2017 and 2018, as well as the COVID-19 economic shut-down, could allow total return reinsurers to deploy recently freed capital from their investment reallocations to write profitable reinsurance business, which is how the model was designed to work—the proof will be in the returns.

Rating Implications

The uniqueness and relatively short tenure of the total return model is taken into account in the components of Best's Credit Rating Methodology. All of the total return reinsurers have been assigned and have maintained Financial Strength Ratings (FSR) of A-. Balance sheets are assessed as Strong or Very Strong, supported by healthy Best's Capital Adequacy Ratio (BCAR) scores and holding companies that have only moderate amounts of financial leverage, although interest coverage measures are lower than they are for other reinsurers. BCAR scores tend to be high, as evidenced by the results of the simultaneous investment and underwriting stress testing conducted by AM Best and companies' risk managers.

Total return reinsurers' operating performance has been less than optimal. Some of this underperformance can be attributed to the relatively short tenure of total return reinsurers, which haven't had a long enough time to create a reserve base with built-in redundancies that can buffer current accident year loss ratios. Additionally, total return reinsurers' underwriting books of business skew somewhat toward medium-term casualty, which has generated loss ratios a few points higher than reinsurers that write more higher-margin business. Moreover,

investment returns on risk assets have not lived up to expectations. Several of the total return reinsurers have been assessed at Marginal on operating performance, and none has been assessed at Strong.

Total return reinsurers' business profiles are all assessed at Neutral, reflecting management, geographic and line of business spread of risk, and relatively short tenures. Earnings volatility and its effect on surplus volatility has had a negative impact on the business profiles of two of the total return reinsurers, which has resulted in Negative outlooks/implications. The risk management functions of total return reinsurers have been assessed as Appropriate, as they all employ professional risk managers and have developed risk management systems.

AM Best expects that the hardening reinsurance pricing environment will help float all boats somewhat and that the underwriting performance of the total return reinsurers will improve over the next few years, supplemented by the migration to higher-margin business. Also, potentially accretive to underwriting performance is a perceived flight to quality, given that most other forms of alternative capital are less "traditional" than total return reinsurers and are not rated, licensed, or regulated legal entities expected to post collateral for extended periods.

The investment environment is the wild card with regard to the total return reinsurers' operating performance and business profiles. As of mid-August 2020, the S&P 500 had returned to all-time highs, and credit spreads for both investment grade and non-investment grade fixed income have narrowed precipitously since April 2020, despite a tenuous economic, political, and social environment.

September 2, 2020

Trade Credit Reinsurance During a Global Economic Crisis

Trade credit loss estimates from COVID-19 for 1H 2020 vary greatly due to a high level of uncertainty

Trade credit insurance is a backstop for providers of goods and services to protect accounts receivable from customers either unable or unwilling to make payments. Transferring credit risk gives businesses additional flexibility to deploy working capital and use insurers' expertise in evaluating the creditworthiness of their buyers. Standard trade credit insurance is primarily a short-term working capital risk management product, but some insurers also offer longer-term credit products. Coverage may include political risk or it may be offered as a stand-alone option.

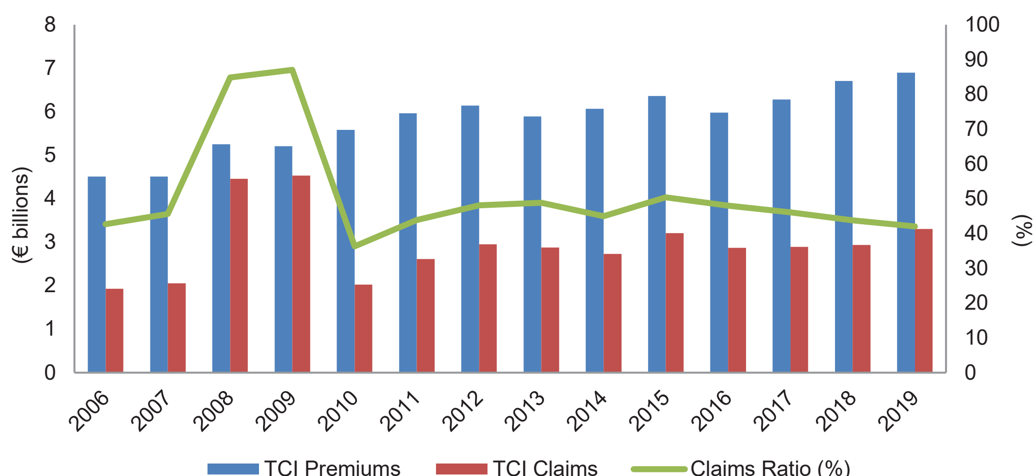
Historically, trade credit insurance has gained the most traction in Europe, but US companies are now seeing growth as well. Undoubtedly, this is the result of a more highly interconnected world of complex dependencies and supply chain networks. Private Trade Credit Insurance is dominated by Euler Hermes (Allianz), Coface, and Atradius. Other significant trade credit insurers include Chubb, Axa XL, QBE, and Lloyd's Syndicates.

Trade credit insurers are typically heavy users of reinsurance, using a combination of quota shares and excess of loss treaties to protect their capital against increases in both frequency and severity of losses. Unlike the concentrated primary market, the reinsurance trade credit market is fragmented, with a large number of reinsurers maintaining a presence in this segment.

The COVID-19 pandemic has sparked a global economic slowdown that has the potential to lead to significant trade credit losses. Given the substantial amount of reinsurance used by the primary writers of this business, AM Best expects a material share of trade credit insurance losses to be transferred to reinsurers.

Exhibit 1

Trade Credit Insurance – Premiums, Claims, and Claims Ratio, 2006-2019



Source: ICISA

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Trade credit insurance and reinsurance are cyclical lines, with strong correlation between declines in GDP and increases in insolvency rates and trade credit losses. As a result, AM Best expects the good performance of recent years to be interrupted by spikes in loss ratios during the economic downturn. Very good performance can be expected post-crisis, following the pattern exhibited most recently during the financial crisis of 2008-09, as illustrated by **Exhibit 1**.

AM Best notes that trade credit insurers have reported increased loss ratios for the first half of 2020. Likewise, a number of reinsurers have reported trade credit losses as part of their COVID-19 loss estimates at half-year 2020. The loss estimates of reinsurers for this line vary greatly, which illustrates the uncertainty that still exists around such loss estimates. A common point made by reinsurers is that reported 2nd quarter loss estimates primarily reflect incurred but not reported (IBNR) claims reserves.

AM Best expects further trade credit losses to materialize for both insurers and reinsurers through the remainder of 2020 and into 2021 given the ongoing global economic crisis. However, there are mitigating factors:

First, the short-tail nature of trade credit insurance should partly mitigate the impact on loss ratios for both insurers and reinsurers. Trade credit insurers can reprice and de-risk their portfolios in light of worsening economic conditions. AM Best notes that the leading trade credit insurers have taken substantial portfolio actions, including both reductions in exposures and increases in premium rate, since the onset of the COVID-19 crisis. The actions taken by the primary writers will also help mitigate losses for their reinsurers.

Second, a number of countries have put in place government schemes for trade credit insurance to bolster their economies and ensure that trade credit insurance cover remains available. The schemes differ in the details but they all provide a government backstop to ensure that the industry continues to provide insurance cover and forego their right to cancel or reduce available limits significantly. At the time of this report, schemes were in place in a number of European countries and Canada, while discussion is ongoing in other countries. See the sidebar ***Representative Trade Credit Schemes*** for further details of a number of the programs in place and under discussion. Where in place, the schemes will reduce the net loss experience of trade credit insurers by transferring a share of losses to the state. The schemes attach based on gross losses, so private reinsurers also are covered by this protection. AM Best notes that there are other important markets, such as Spain, where schemes are now unlikely. Moreover, the schemes are set to expire at the end of 2020, although there is already discussion ongoing about potential extensions.

Despite these mitigating factors, AM Best expects trade credit reinsurance to experience underwriting losses in 2020 and probably into 2021. The level of losses is expected to be manageable for reinsurers, given the small size of this line relative to the balance sheets of reinsurers. However, the impact will be more substantial from an earnings point of view, as trade credit reinsurance was a profitable line for reinsurers before COVID-19. AM Best will continue to monitor very closely the performance of the trade credit line for rated reinsurers.

Representative Trade Credit Schemes

Canada: The establishment of the Trade Protection Insurance product enabled by Export Development Canada (EDC) and underwritten by the Receivables Insurance Association of Canada provides support to Canadian businesses.

France: The EU approved under its state aid rules a €10 billion guarantee scheme to ensure trade credit insurance can continue to be issued and the liquidity needs of businesses are met.

Germany: The government introduced a state guarantee scheme supporting the insurance of trade between companies affected by the coronavirus outbreak. The German government has agreed to guarantee claims payments of up to €30 billion in exchange for 65% of trade credit premiums. The scheme is effective from March 2020 to the end of the year.

Netherlands: The government backstop means that Dutch trade credit insurers can maintain their current level of protection. The guarantee is limited to cover trade credit originated until the end of 2020. The reinsurance is in the form of risk sharing between the insurers and the state, up to €1 billion, and provides an additional cover up to €12 billion in total.

United Kingdom: To support domestic businesses, the UK government has established a trade credit reinsurance scheme that allows participation by eligible trade credit insurers. The scheme provides capacity of up to £10 billion and is available until 31 December 2020. It has been backdated to April 2020.

USA: US trade credit insurers provide cover for close to $400 billion of credit lines. Insurance capacity could be severely constrained in an environment replete with high levels of insolvency and financial distress. Efforts are under way for a US program similar to those in place in Europe. On March 25, EXIM Bank unveiled four new initiatives to support the US response to the pandemic. The Bridge Financing Program will allow exports to go forward through short-term (e.g., one year) financing of these US exports, until private sector liquidity returns. EXIM also will temporarily expand its Pre-Export Payment Policy for a one-year term. Furthermore, EXIM will expand the Supply Chain Financing program by relaxing its criteria and increasing its guarantee level. Finally, EXIM will modify its Working Capital Guarantee Program.

September 2, 2020

COVID-19 Reinforces Lloyd's Need to Modernise

Improving conditions in core lines of business, as well as robust remedial actions, are expected to support further incremental improvements in attritional accident-year performance

As a leading underwriter of specialty property and casualty risks, Lloyd's occupies a strong position in the global insurance and reinsurance markets. The collective size of the Lloyd's market and its unique capital structure enable syndicates to compete effectively with large international (re)insurance groups under the well-recognised Lloyd's brand. Its competitive strength derives from a reputation for innovative and flexible underwriting, supported by the pool of underwriting expertise in London.

On July 15, 2020, AM Best affirmed the Best's Financial Strength Rating (FSR) of A (Excellent) and the Issuer Credit Rating (ICR) of "a+" on the Lloyd's market. The outlook for each rating is Stable. The ratings reflect Lloyd's balance sheet strength, which AM Best assesses as Very Strong, as well as its Strong operating performance, Favourable business profile, and Appropriate enterprise risk management.

Lloyd's is expected to report strong operating performance across the underwriting cycle, taking into account potential volatility due to its exposure to catastrophe and other large losses. During 2019, there were a number of natural disasters that resulted in meaningful losses for the market but, in aggregate, major losses were lower than those experienced in either 2017 or 2018. Recent underwriting performance has been below AM Best's expectations for a Strong assessment, demonstrated by a five-year (2015-2019) combined ratio of 102.2%. In 2019, the market's attritional accident-year combined ratio (excluding major claims) improved marginally, by 0.8 percentage points, to 96.0%. AM Best expects improving conditions in the market's core lines of business, as well as the robust remedial actions by the Corporation of Lloyd's and individual managing agents, to support further incremental improvements in attritional accident-year performance over the next three years.

In response to increasing competitive pressures, the Corporation of Lloyd's published The Future at Lloyd's prospectus in 2019, setting out proposals to increase access to the market while trimming the cost. Proposals include a digital platform for complex risks, a risk exchange to handle less-complex business, and more flexible use of capital.

The COVID-19 pandemic has reinforced the importance of modernising the market and has helped soften some of the cultural resistance to change. For 2020, taking into account the impact of the pandemic on operations, the Corporation has prioritised the development of areas that will make the most immediate difference to market participants and policyholders, namely improving electronic placement, delegated authority services, and claims handling. If the proposed reforms are successfully implemented, meaningful cost reductions should support profitability.

Lloyd's is a leading player in the global reinsurance market, ranking as the sixth-largest risk carrier by 2019 reinsurance gross premiums written (GPW) and the fourth largest when life premiums are excluded. Lloyd's has an excellent brand in its core markets, which are currently experiencing improving conditions. Reinsurance is Lloyd's largest segment, accounting for 32% of GPW in 2019, and comprises property (with property catastrophe excess of loss the

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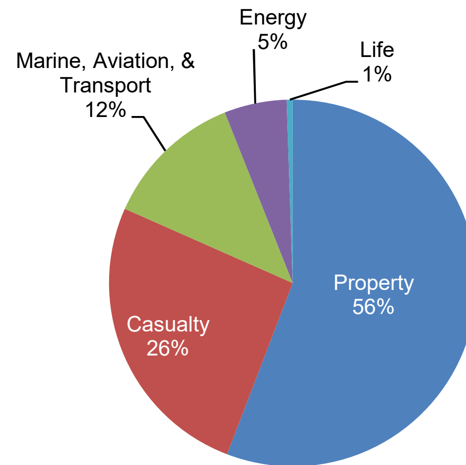
largest segment), casualty (primarily non-marine excess of loss and US workers' compensation), and specialty reinsurance (marine, energy, and aviation reinsurance) (**Exhibit 1**).

Exhibit 1
Lloyd's — Reinsurance Premiums, 2019



Source: Lloyd's Annual Report 2019

In 2019, total reinsurance premiums written by Lloyd's increased by 3.6% to GBP 11.4 billion. Property reinsurance, which accounts for over half the reinsurance segment, reported a 0.5% decrease in GPW. The impact on premium volumes of better pricing on property treaty and facultative contracts was offset by more prudent risk selection following higher than average loss activity in recent years and the adverse development of some prior-year catastrophe losses beyond expectations.

Lloyd's reinsurance segment reported a loss in 2019. Prior-year reserve releases in the property segment were lower than in recent years, mainly due to deterioration of Typhoon Jebi reserves. In addition, the casualty book saw some strengthening of reserves driven by social inflation, which has become more prevalent, particularly in the US. All three sub-segments (property, casualty, and specialty) reported calendar-year combined ratios above 100%, with prior-year reserve movements reducing the sector's overall combined ratio by only 0.2 percentage points.

The market's operating expense ratio is around 40%. While this is high compared with its peers, the ratio has been largely stable over the past five years–though notably higher in this period than previously (36% in 2011). An increase in acquisition costs due to a change in business mix, with more business underwritten through coverholders, partly explains the step change in the expense ratio. The actions being taken through the Future at Lloyd's initiative to reduce the cost of placing business at Lloyd's should start to realise benefits over the short term.

Lloyd's use of reinsurance is high compared with large specialty insurers and reinsurers. This is due to the nature of the market, which consists of small to medium-sized businesses that purchase reinsurance independently. The market as a whole ceded 28.5% of its GPW in 2019. This figure includes premium ceded by syndicates to related groups, as well as between syndicates.

Lloyd's continues to analyse its reinsurance exposure through a range of submitted returns, complemented by the monitoring of Realistic Disaster Scenarios and its Catastrophe Risk Oversight Framework for individual syndicates. The security required by managing agents for their syndicate reinsurance programmes is reviewed regularly, to address any issues that have the potential to affect the financial strength of the overall market. In particular, total outstanding reinsurance recoverables, counterparty concentration risk, and the purchasing trends of individual syndicates are closely monitored.

September 2, 2020

Mortgage Reinsurance and the COVID-19 Pandemic

Reinsurers brace for pandemic-fueled wave of mortgage losses

The COVID-19 pandemic has significantly affected the mortgage-related activities of the reinsurance industry, most notably the reinsurance programs of Fannie Mae and Freddie Mac (the government-sponsored enterprises [GSEs]), and the reinsurance programs of private mortgage insurers.

AM Best revised its outlook for the private mortgage insurance segment from Stable to Negative on April 7, 2020, owing to the expected increase in losses on mortgages due to higher unemployment and significant contraction in gross domestic product. Factors that affect the primary mortgage market also influence the broad secondary markets, encompassing mortgage-backed securities and mortgage reinsurance.

Over the past five years, reinsurers have been assuming incrementally more US mortgage risk from two main sources: GSEs and private mortgage insurers. The GSEs transfer mortgage credit risk to the reinsurance market through their reinsurance Credit Risk Transfer (CRT) programs–Agency Credit Insurance Structure (ACIS), sponsored by Freddie Mac, and Credit Insurance Risk Transfer (CIRT), sponsored by Fannie Mae.

The six US private mortgage insurers transfer mortgage risk to the reinsurance market through quota share and/or excess of loss transactions. The fortunes of the private mortgage insurers are tied to the GSEs because they provide insurance on mortgages that are purchased by the GSEs, which effectively set capital standards and other requirements to which the private mortgage insurers must adhere.

Key factors driving the increased involvement by reinsurers in the mortgage space include:

- the mandate by the Federal Housing Finance Agency (FHFA), in its role as conservator of the GSEs, requiring the GSEs to cede a substantial portion of the credit risk of their pooled mortgages to the private sector
- the need for the private mortgage insurers to meet risk-based capital requirements imposed by the GSEs through the Private Mortgage Insurer Eligibility Requirements (PMIERs)
- the strategy of the private mortgage insurers to "originate, manage, and distribute" their risk through the use of traditional reinsurance and reinsurance from the capital markets
- prolonged soft market conditions experienced by most lines of business in the property/casualty reinsurance sector, driven by competition between reinsurers and from the alternative capital sector
- augmented knowledge of mortgage risks by large diversified reinsurers that use in-house mortgage experts to analyze extensive mortgage performance data released by the GSEs since the 2008 credit crisis

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Obstacles to Estimating Impact of COVID-19 on Mortgage Risk

The unprecedented nature of the COVID-19 pandemic and its economic impact make it extremely difficult for reinsurers and insurers that take on mortgage-related risk to estimate ultimate claims. Our ongoing conversations with mortgage industry participants suggest that

it is still too early to estimate their exposures. Not enough time has elapsed in the reporting cycle to gauge the full effect of the pandemic-induced economic hard stop. AM Best notes, however, that private mortgage insurers and the two GSEs have all reported considerably higher delinquency rates in the second quarter over the prior quarter. For example, Fannie Mae's second quarter 2020 financials revealed that 60 days+ delinquencies increased to 4.25% from 0.98% at the end of the first quarter.

In addition, there are challenges in determining how an anticipated spike in mortgage forbearance cases will necessarily lead to higher delinquency rates and, eventually, to more claims. The GSEs have offered forbearance assistance to borrowers with liquidity issues arising from either being furloughed or losing their jobs due to the economic fallout of the pandemic. The forbearance period can last up to one year, after which the lender may offer to borrowers further loan modifications or deferral options. This affects reinsurers because virtually all the mortgage business they currently reinsure in the US is related to mortgages purchased by the GSEs.

While the expected deluge in forbearance activity has not been as high as anticipated and, in fact, has been declining, COVID-19-related forbearance for all loans still hovers close to 7.5%, as reported by Mortgage Bankers Association (MBA). The figure is close to 5% for GSE-related loans.

Even though overall forbearance cases are declining, the share of borrowers still current on their mortgage payments has been steadily declining as well since April 2020. As of the end of June, roughly 25% of homeowners in forbearance had remitted their June payments. By way of contrast, 46% of homeowners in forbearance in April and 30% in May remitted their payments for those months. This adds uncertainty in determining the claims rate for loans in forbearance.

Despite the signs of improvement in forbearance activity, there remains uncertainty in the ultimate forbearance number because the foreclosure moratorium under the Coronavirus Aid, Relief, and Economic Security (CARES) Act was set to expire at the end of August 2020. In addition, the extra $600 weekly unemployment benefit on top of the normal unemployment benefits paid to laid-off workers has already ended. Any extension of the foreclosure moratorium or supplemental unemployment benefits will depend on how Congress resolves the impasse on COVID-19-related relief.

As discussed earlier, delinquencies dramatically increased in the second quarter of 2020 due to the economic impact of COVID-19. While forbearance, loan modifications, and provisions of the CARES Act will help homeowners weather the effects of the pandemic, borrowers who take advantage of such forbearance programs likely will experience higher losses. In addition, the sheer size of the cumulative jobless claims, resulting in a July unemployment rate of 10.2%, points to higher losses associated with mortgages even if some of the unemployed get their jobs back when this crisis finally ends.

This leaves both private mortgage insurers and traditional reinsurers struggling to find ways to estimate the loss and loss adjustment expense reserves (loss and LAE reserves) they should record on their mortgage exposures. With no exact historical precedence that duplicates a widespread government-mandated economic hard stop and a disaster designation by the Federal Emergency Management Agency (FEMA) in all 50 states, private mortgage insurers have resorted to making their best estimate of losses based on some scenarios, including:

- a repeat of the 2008 credit crisis
- Moody's Analytics economic scenarios

- Comprehensive Capital Analysis and Review (CCAR) adverse loss scenarios
- claims associated with prior severe storms in FEMA-declared disaster areas
- use of third-party models with built-in stresses on unemployment, housing prices, and economic recovery periods
- other disaster scenarios that may relate to a combination of unemployment, housing prices, and economic recoveries

Reinsurance of GSE Mortgage Risk

To comply with the FHFA's mandate to de-risk their portfolios, the GSEs transferred single-family mortgage credit risk on $709 billion of unpaid principal balance (UPB) with a total risk-in-force of $24 billion in 2019 through three structures:

- ***Securities Issuance:*** These securities are issued by Connecticut Avenue Securities (CAS) by Fannie Mae and Structured Agency Credit Risk (STACR) by Freddie Mac.
- ***Reinsurance:*** This involves traditional reinsurers providing coverage for the ACIS transactions by Freddie Mac and CIRT transactions by Fannie Mae.
- ***Lender Risk Sharing:*** This involves a seller of loans to the GSEs taking back, through a contractual arrangement, a portion of the associated credit risk.

Reinsurance credit risk transfer is an important tool available to the GSEs for managing mortgage credit risk. Securities issuance constituted about 60% of mortgage credit risk transfer in 2019, with reinsurance at 21% and lender risk sharing programs at 19%. It provides the GSEs with another outlet for shedding credit risk in order to meet diversification goals, and gives them some flexibility to move between markets if one leg of their de-risking triumvirate becomes dislocated due to market conditions. From 2013 through the second quarter of 2020, the GSEs transferred $27.8 billion of exposure limit to the reinsurance industry (**Exhibit 1**).

Effect of Current Economic Conditions on ACIS/CIRT Transactions

In 2019, credit risk transfer to the traditional reinsurance market was $4.8 billion and, so far in 2020, it stands at $3.4 billion. It is unlikely that Securities Issuance, Reinsurance and Lender Risk Sharing will continue at their normal pace given market conditions. In Freddie Mac's

Exhibit 1

Limits of GSE Mortgage Exposures Transferred to Reinsurers

($ billions)

	Fannie Mae (CIRT)		Freddie Mac (ACIS)		Combined	
Year	Total Initial Principal Balance	Limit of Liability	Total Initial Principal Balance	Limit of Liability	Total Initial Principal Balance	Limit of Liability
2013	0.0	0.0	2.9	0.1	2.9	0.1
2014	6.4	0.2	20.4	0.7	26.9	0.9
2015	40.3	1.0	50.8	2.8	91.1	3.8
2016	77.5	1.9	69.1	2.7	146.6	4.5
2017	100.4	2.3	93.6	2.9	194.1	5.2
2018	90.8	2.6	82.1	2.6	172.9	5.1
2019	89.2	2.7	68.2	2.1	157.4	4.8
2020*	70.3	2.3	28.6	1.1	98.9	3.4
Total	474.8	12.9	415.7	14.9	890.5	27.8

* Figure as of 2Q 2020

Based on AM Best estimates and data from FHFA, FHMLC, FNMA

Source: AM Best data and research

second quarter 2020 10-Q filing with the SEC, the GSE stated the following about a decline in CRT activity:

While we continued to successfully transfer multifamily credit risk throughout 2Q 2020, our single-family CRT issuance amounts declined significantly during 2Q 2020 due to the volatility in the CRT markets driven by the impact of the COVID-19 pandemic. However, single-family CRT markets recovered substantially by the end of 2Q 2020 and demonstrated an ability to support new issuances, and we successfully executed new single-family CRT offerings in early 3Q 2020.

Fannie Mae also made a statement about a pause in the issuance market in its second quarter 2020 10-Q filing with the SEC:

We did not enter into credit risk transfer transactions in the second quarter of 2020 due to continuing adverse market conditions resulting from the COVID-19 pandemic. This contributed to the percentage of loans in our single-family conventional guaranty book of business with credit enhancement declining from 53% as of December 31, 2019 to 49% as of June 30, 2020. Although market conditions have improved, we currently do not have plans to engage in additional credit risk transfer transactions as we evaluate FHFA's re-proposed capital rule, which would reduce the amount of capital relief we obtain from these transactions.

For the reinsurance CRT structures to be fully resuscitated, the spreads on the STACR/CAS deals would probably have to narrow considerably because the economics of the securities in these transactions impact the ACIS/CIRT reinsurance transactions.

ACIS/CIRT Bouncing Back

The ACIS/CIRT transactions appear ready for a rebound. The first single-family reinsurance transaction since the pandemic struck the US in March 2020 was ACIS 2020-DNA3 by Freddie Mac. This reinsurance transaction was offered along with its accompanying securities structure, STACR 2020-DNA3, in July 2020. According to Freddie Mac, both of these transactions were oversubscribed, thus demonstrating "the resiliency of the CRT market and the eagerness of investors to have a big, programmatic issuer back at work."

The structure and terms of both transactions anticipate the heightened delinquencies that will inevitably accompany the pandemic-induced forbearance and modification programs given the current dynamics of high unemployment and GDP retrenchment.

Taking a closer look at the reinsurance transaction, ACIS 2020-DNA3 ("Post-Pandemic Transaction"), we note some differences between this transaction and ACIS 2020-DNA2 ("Pre-Pandemic Transaction"), which was completed in February 2020, just before the pandemic became the central issue in the US. Both transactions cover low LTV loans, provide protection to loans originated in 2019, and broadly have similar structures. **Exhibit 2** shows a side-by-side comparison of both transactions. We focus on the two main differences between the Pre-Pandemic Transaction and the Post-Pandemic Transaction:

Credit Enhancement Has Increased: Overall credit enhancement has changed such that the credit enhancement for the Post-Pandemic Transaction is higher than the credit enhancement for the Pre-Pandemic Transaction for all corresponding layers. For example, the credit enhancement for the M-2H layer for the Pre-Pandemic Transaction is 1.10% (or the sum of the limits for the B-1H, B-2H, and B-3H layers) as shown in Column 3 of **Exhibit 2**. By way

of contrast, the credit enhancement for the M-2H layer for the Post-Pandemic Transaction is 1.75% (or the sum of the limits for the B-1H, B-2H, and B-3H layers) as shown in Column 4 of **Exhibit 2**. Note that the first loss position held by Freddie Mac was 0.10% of pool losses in the Pre-Pandemic Transaction (Column 1 of the B-3H Retained layer), but increased to 0.25% in the Post-Pandemic Transaction (Column 2 of the B-3H Retained layer). Overall, higher credit enhancement for all the layers in the Post-Pandemic Transaction provides more of a loss cushion to investors than in the Pre-Pandemic Transaction.

Premium Rates Have Increased: The premium rates have increased for every layer in the Post-Pandemic Transaction compared to the Pre-Pandemic Transaction. For example, the M-2H layer's premium rate for the Pre-Pandemic Transaction is 1.90% of the layer (Column 5 of **Exhibit 2**) compared to a premium rate of 2.9% of the corresponding layer in the Post-Pandemic Transaction (Column 6 of **Exhibit 2**). Broadly speaking, higher premium rates for all the layers in the Post-Pandemic Transaction are generally presumed to compensate investors for taking on more risk in the Post-Pandemic Transaction than in the Pre-Pandemic Transaction.

Transaction Structure in the COVID-19 Context

To understand how the economic conditions brought on by COVID-19 will affect the current outstanding ACIS/CIRT transactions, it's important that we fully explain their general structure above and beyond the description of the Pre- and Post-Pandemic Transactions. Broadly speaking, the pool of mortgages for which the GSEs seek credit protection consists of specified origination dates, original loan-to-value ratios, mortgage types, and origination terms. The coverage period for the reinsurance associated with the pools is normally between 10 and 12.5 years. Each ACIS transaction offered by Freddie Mac normally consists of multiple excess of loss layers while each CIRT transaction offered by Fannie Mae consists of just one layer. **Exhibit 3** is an illustration of the structure of ACIS 2017-2, a Freddie Mac transaction, while **Exhibit 4** is an illustration of the structure of CIRT 2017-3, a Fannie Mae transaction. We note that the ACIS/CIRT transactions are partially collateralized based on the credit rating of the reinsurers providing the protection.

Over the past few years, AM Best has been determining specific net capital charges associated with ACIS/CIRT transactions, as well as mortgage-related reinsurance agreements. The net capital charges are then included in the reserves risk calculations for the reinsurers engaged

Exhibit 2

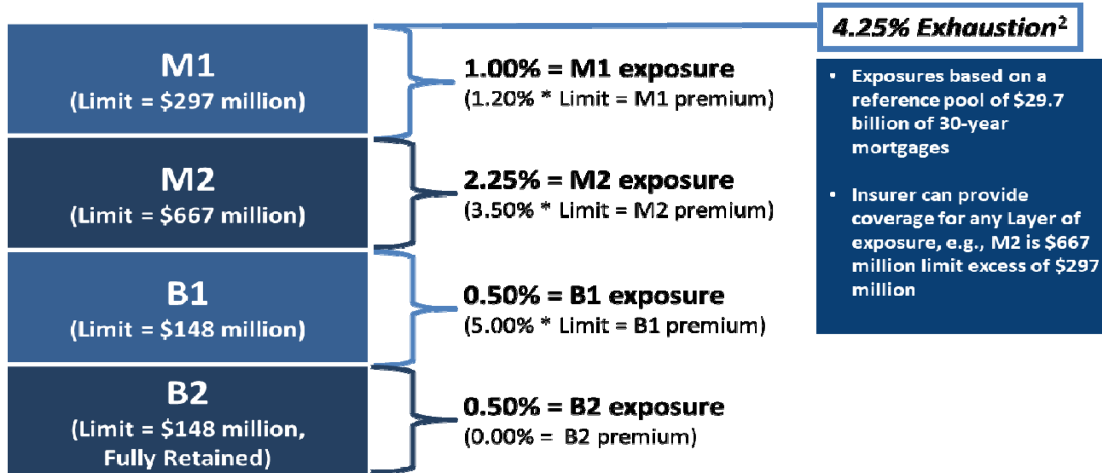
Features of ACIS 2020 DNA2 & DNA3 Transactions*

	(1)	(2)	(3)	(4)	(5)	(6)
	Limit of Each Layer		Credit Enhancement		Premium Rate	
Layers	Pre Pandemic (DNA2)	Post Pandemic (DNA3)	Pre Pandemic (DNA2)	Post Pandemic (DNA3)	Pre Pandemic (DNA2)	Post Pandemic (DNA3)
M-1H	1.25%	1.00%	2.50%	3.00%	1.00%	1.50%
M-2H	1.40%	1.25%	1.10%	1.75%	1.90%	2.90%
B-1H	0.50%	1.00%	0.60%	0.75%	3.50%	6.50%
B-2H	0.50%	0.50%	0.10%	0.25%	10.20%	11.00%
B-3H Retained	0.10%	0.25%	0.00%	0.00%	NA	NA

* Freddie Mac transactions: ACIS 2020-DNA2 closed in February 2020; ACIS 2020-DNA3 closed in July 2020

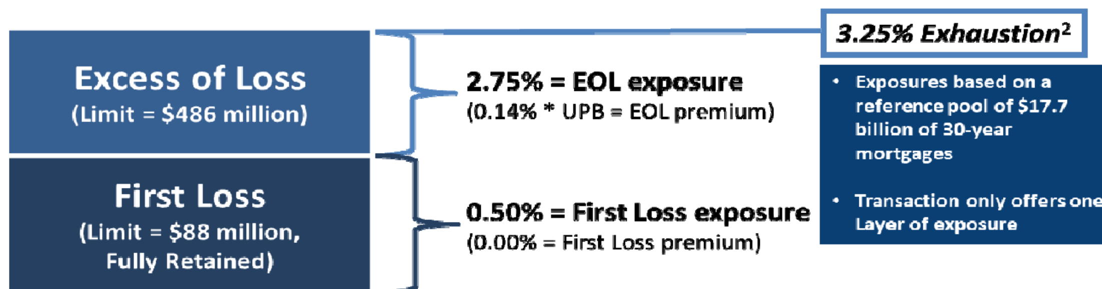
Source: AM Best data and research

Exhibit 3
Freddie Mac Program: ACIS 2017-2
Example: Exposures Shown in Risk Tower[1] Associated With $29.7B of UPB



[1] Not drawn to scale
[2] Exhaustion = $1.26B or 4.25% of UPB
Note: The dollar values in this exhibit are in terms of the entire reference pool, which includes STACR, ACIS, and retention components
Source: AM Best Criteria: *Evaluating Mortgage Insurance*

Exhibit 4
Fannie Mae Program: CIRT 2017-3
Example: Exposures Shown in Risk Tower[1] Associated With $17.7B of UPB



[1] Not drawn to scale
[2] Exhaustion = $575 million or 3.25% of UPB
Source: AM Best Criteria: *Evaluating Mortgage Insurance*

in the transactions. The process for determining the net capital charge and incorporating such risks into reinsurers' credit evaluations are fully described in AM Best's criteria procedure, *Evaluating Mortgage Insurance.*

The mortgage credit losses since the advent of the ACIS/CIRT transactions have been especially low, primarily driven by good market conditions, better mortgage underwriting standards (and the elimination of risky mortgage products), and the implementation of the PMIERs risk-based capital requirements. Under benign circumstances, the limits of most transactions have been reduced relatively quickly due to scheduled amortizations and prepayments, which have been quite robust, especially in a low rate environment.

One can observe this phenomenon in the published AM Best risk factor calculations for ACIS/CIRT transactions[1], which are ultimately used in determining reserves risk, discussed further in the last section of this report.

For example, ACIS 2017-2, which was placed in the reinsurance market in February 2017, has M1 and M2 layers that were originally $297 million (1% of original UPB) and $667 million (2.25% of original UPB), but by June 2020, the limit had been reduced to zero and approximately $645 million (or 2.17% of the original UPB). The B1 layer was exactly the same as at inception due to the sequential nature of the paydown of limits based on amortizations and prepayments. By June 2020, this transaction's UPB had been reduced by approximately 38% due to scheduled amortization and prepayments.

CIRT 2017-3 also experienced a relatively quick paydown under benign market conditions, although this is less noticeable as the Fannie Mae transactions consist of only one layer. Specifically, this transaction was placed in the market in May 2017, but by the end of June 2020, the outstanding UPB for the transaction was 65% of the original UPB.

The prospect of a spike in losses caused by the COVID-19 pandemic, however, poses a real threat of diminished total returns on the ACIS/CIRT deals, depending on the duration and severity of the fallout from the crisis.

Regardless of how mortgage risk participants establish reserves and/or treat loans in forbearance or delinquency, the ACIS/CIRT transactions will have higher realized losses, which will ultimately erode at least a portion of the first loss layers in the transactions and may also erode the upper layer(s), depending on the structure of the transactions in question. As noted earlier, it is too early to predict the level of losses the ACIS/CIRT pools will experience.

The speed at which losses develop matters greatly. If losses are realized quickly in the pool, the layer(s) will also be breached and portions will be written off, thus affecting earnings in the near term and possibly increasing the net capital charges associated with the remaining layers of the ACIS/CIRT transactions.

AM Best believes that forbearance, loan modifications, and foreclosure moratoria will slow the speed of realized loss in the pools underpinning these transactions. At the very least, forbearance will delay the realized losses in the pools simply because of the time needed to go through the foreclosure process after the maximum forbearance timeframe expires.

Reinsurance of Private Mortgage Insurers

Prior to 2016, private mortgage insurers generally ceded mortgage exposures to reinsurance affiliates and a small group of traditional reinsurers. The amount of mortgage exposures ceded by private mortgage insurers to third-party traditional reinsurers (including total return reinsurers) has been growing since PMIERs went into effect at the end of 2015. To date, all six private mortgage insurers have a quota share and/or an excess of loss reinsurance contract in place with traditional reinsurers.

As shown in **Exhibit 5** (column G), the percentage of the total gross premiums written ceded to all non-affiliated reinsurers has been 14.9% from 2016 to 2019, which is a significant increase from an average of 5% prior to 2016. However, mortgage insurance-linked securities (MILS),

[1]See Best's Special Report, *Net Capital Charge Tables for ACIS/CIRT Reinsurance Transactions (July 2020 Update)*, for net capital charges that are in $B5_m$ (mortgage-related reserves risk) in Best's Capital Adequacy Ratio (BCAR) model; the criteria procedure, *Evaluating Mortgage Insurance*, fully explains how net capital charges are calculated and used in the rating process.

Exhibit 5

Gross and Ceded Premiums (Active Private Mortgage Insurers)

($ millions)

	(A)	(B)	(C)	(D)	(E) = (C)/(A)	(F)=(D)/(A)	(G) = (E) + (F)
Year	Gross Premiums Written (GPW)	Premiums Ceded to Affiliates	Ceded Premium to Non-Affiliates (MILS)	Ceded Premium to Non Affiliates (Traditional Reinsurers)	Ceded Premium to Non Affiliates (MILS) as % of GWP	Ceded Premium to Non Affiliates (Traditional Reinsurers) as % Of GWP	Ceded Premium to Non Affiliates as % of GWP
2012	3,522	560	0	232	0.0%	6.6%	6.6%
2013	3,890	530	0	214	0.0%	5.5%	5.5%
2014	4,025	592	0	219	0.0%	5.4%	5.4%
2015	4,443	912	8	142	0.2%	3.2%	3.4%
2016	4,595	850	24	511	0.5%	11.1%	11.7%
2017	4,764	1,195	30	674	0.6%	14.1%	14.8%
2018	5,041	1,021	82	724	1.6%	14.4%	16.0%
2019	5,406	931	179	735	3.3%	13.6%	16.9%
2012-2015	**15,880**	**2,594**	**8**	**807**	**0.1%**	**5.1%**	**5.1%**
2016-2019	**19,807**	**3,998**	**316**	**2,644**	**1.6%**	**13.4%**	**14.9%**

Note: Figures may not foot due to rounding

Source: AM Best data and research

which have been adopted by private mortgage insurers as an efficient method to transfer significant portions of their mortgage risk to the capital markets, are included in column G. Column F in the exhibit shows that the percentage of the total gross written premiums ceded to traditional reinsurers alone has been 13.4% from 2016 to 2019, still a significant increase from an average of 5% prior to 2016. Private mortgage insurers have dubbed their new business model in which they now make extensive use of both traditional reinsurance and the MILS reinsurance transactions as "originate, manage, and distribute" rather than "originate and hold". Their systematic use of reinsurance is designed to help stabilize their earnings against unfavorable mortgage market conditions and provide capital credit to fulfill the requirements of PMIERs.

This new business model of the private mortgage insurers has increased their demand for traditional reinsurance in recent years. The reinsurers, meanwhile, had also been eager to supply reinsurance capacity given the favorable pre-pandemic mortgage insurance market conditions, resulting in improved bottom lines. In addition, some of the larger reinsurers recognized the diversification benefit of adding mortgage risk to their portfolios and taking advantage of the perceived low correlation of mortgage and non-mortgage reserves risk (further described in the last section of this report).

The reinsurance of private mortgage insurers is normally placed through quota share and excess of loss coverages. The scheduled termination date of the reinsurance generally is 10 to 11 years after the policy effective date. **Exhibit 6** illustrates the reinsurance split between quota share and excess of loss contracts associated with five of the six active private mortgage insurers. Even though the cumulative number of quota share and excess of loss transactions are close, the actual risk transfer by the quota share contracts dominates reinsurance coverages for private mortgage insurers.

Effect of Current Economic Conditions on Reinsurance of Private Mortgage Insurers

For quota share reinsurance, a private mortgage insurer cedes a predetermined percentage of mortgage risk in force to a reinsurer and, in return, the reinsurer receives a percentage of the

mortgage insurance premium. Some private mortgage insurers cede business to reinsurers based on future policy in-force dates. For example, at the end of 2019, one private mortgage insurer had a quota share reinsurance agreement that covers risk on eligible policies written between January 1, 2020 and December 31, 2021.

Quota share reinsurance ceding commissions generally range from 20% to 25% and the reinsurer margins range from 18% to 20%. Profit commission provides for profit sharing payback to private mortgage insurers if lifetime gross loss ratios are below about 60%. Therefore, quota share agreements provide reinsurers with a steady margin due to the profit commission mechanism as long as this ratio does not exceed 60%. The 60% lifetime gross loss ratio is generally considered to be high, so it will take a substantial amount of losses to breach that level on a portfolio basis. This means that reinsurers are somewhat insulated from all but the more extreme loss scenarios. Time will tell if the economic fallout of the pandemic will increase realized losses beyond losses produced by the disaster scenarios devised by these reinsurers.

For excess of loss reinsurance, a reinsurer agrees to indemnify a private mortgage insurer for mortgage claims within the boundaries of an attachment and detachment point. Some private mortgage insurers set these attachment and detachment points to help them reduce the level of Minimum Required Assets[2] as they perform calculations required by PMIERs. In general, attachment points vary from 2% to 3% of risk-in-force of a private mortgage insurer's reference pool and detachment points vary from 6% to 8%. Reinsurers that cover the mortgage risk of private mortgage insurers must post some collateral (based on their credit ratings) in order for these insurers to receive credit for their reinsurance transactions under PMIERs.

Whether the reinsurance contracts are of the quota share or excess of loss variety, the pool of mortgages covered by in-place agreements have become much more susceptible to higher losses than when the agreements were first consummated, due to the economic impact of the pandemic. Of course, this new view of risk based on the onset of the pandemic was not priced into the premiums negotiated with reinsurers at the time the contracts were signed. However, new reinsurance agreements (including new agreements that cover forward originations) should produce improved terms and conditions and higher margins because of the heightened mortgage risk profile that is certain to result from the current economic conditions. In addition, private mortgage insurers are likely to tighten underwriting standards and are currently implementing price increases in segments of their product lines. This will ultimately mitigate some of the effects of future heightened claims on new reinsurance agreements.

As with GSE ACIS/CIRT transactions, heightened mortgage risk will result in reinsurers recording higher reserves, thereby reducing surplus. AM Best believes that forbearance and subsequent loan modifications will delay the potential claims to be paid by private mortgage insurers as well

Exhibit 6
Traditional Reinsurance Sought by Active Private Mortgage Insurers*

Policy Effective Year	Quota-Share	Excess of Loss	Total
2015	1	2	3
2016	2	1	3
2017	1	1	2
2018	3	2	5
2019	2	2	4
2015-2019	**9**	**8**	**17**

*Excludes Arch Mortgage Insurance Company

Source: AM Best data and research

[2]PMIERs requires private mortgage insurers to calculate Available Assets (AA) and Minimum Required Assets (MRA). AA must exceed or equal MRA for private mortgage insurers to be in compliance with PMIERs.

as their reinsurers. Ultimately, however, AM Best has to determine the mortgage risk assumed by reinsurers covering private mortgage insurers just as with the GSE ACIS/CIRT transactions. This determination is made with a third-party mortgage model[3], where applicable.

In a broad sense, private mortgage insurers can engage in risk transfer with either the traditional reinsurance market or the MILS market, which provides excess of loss mortgage reinsurance protection.

The MILS market had been temporarily dislocated during the peak of the COVID-19 pandemic, though there are signs that the capital markets are slowly reopening for private mortgage insurers to fully reenter and issue MILS transactions. As of August 2020, four MILS transactions were issued by private mortgage insurers, compared to six at the same time last year. Two out of the four MILS transactions were issued during the first two months of 2020, before the COVID-19 outbreak in the US. In June 2020, Arch Capital Group (Arch) issued an MILS transaction (Bellemeade Re 2020-1 Ltd.) that transferred about $529 million of its mortgage risks to the capital markets. This was Arch's second attempt this year; it tried to seek reinsurance from the MILS market earlier this year but had to withdraw it due to the widening rate spreads caused by the pandemic.

Bellemeade Re 2020-1 Ltd. is quite different from Arch's prior MILS transactions. On average, the attachment point was 2.5% of original UPB and the detachment point was 8.7% of original UPB for the company's prior Bellemeade Re transactions, before COVID-19 pandemic became the top issue in the US. The attachment and detachment points for Bellemeade Re 2020-1 Ltd. are 7.5% and 12.5% of original UPB, respectively, indicating that the purpose of the transaction was not for PMIERs capital relief and thus may not fully point to the full restoration of the typical MILS issuance environment. As this document was going to press, it was reported that Arch is in the market with another MILS transaction, Bellemeade Re 2020-2 Ltd., expected to close in September 2020.

Another encouraging sign of the resumption of the typical MILS transaction is National Mortgage Insurance Corporation's (NMI's) return to the capital markets. NMI issued its first MILS transaction of the pandemic period in July 2020. The $322 million transaction (Oaktown Re IV Ltd.) covers credit risk of mortgages originated from July 2019 through March 2020. Unlike Bellemeade Re 2020-1 Ltd., Oaktown Re IV Ltd.'s attachment (2.5%) and detachment (8.0%) points of original UPB are more in line with those found in the typical MILS transaction.

Overall, the re-entry of Arch and NMI back into the MILS market indicates a thawing of conditions. However, because the MILS market has not fully restored to pre-pandemic condition and traditional reinsurance capacity remains available, AM Best believes that reinsurance of private mortgage insurers will continue, albeit with different terms and conditions and higher rates.

At the very least, some private mortgage insurers need to continue buying reinsurance for purposes of reducing their PMIERs-related Minimum Required Assets (and mitigating the effect of the anticipated rise in claims) because the private mortgage insurers want to maintain substantive cushions for their PMIERS sufficiency ratios[4], which currently range from a low of 131% to a high of 177%. Therefore, AM Best believes traditional reinsurance will still be a

[3]AM Best uses Andrew Davidson and Co.'s "LoanKinetics" application, where applicable, to calculate reserves risk associated with US private mortgage insurers and their reinsurance agreements.

[4]The PMIERs sufficiency ratio is the ratio of the Available Assets to Minimum Required Assets. A sufficiency ratio above 100% indicates the amount of cushion a private mortgage insurer has in complying with PMIERs.

necessary risk management tool for these insurers, particularly those currently on the lower rung of the PMIERs sufficiency ratio range.

Effect on Capitalization and Operating Performance

AM Best's method for determining capitalization levels for insurers and reinsurers is anchored to Best's Capital Adequacy Ratio (BCAR). The BCAR score, as fully described in the *Best's Credit Rating Methodology*, is the ratio of the excess of Available Capital over Net Required Capital to Available Capital. The major component of Available Capital for multi-line reinsurers is surplus. Net Required Capital is an amalgamation of various risks (B1 through B8) associated with the asset and liability side of the balance sheet (**Exhibit 7**).

Introducing mortgage risk to a reinsurer's book of business generates $B5_m$, Mortgage-related Net Loss and LAE Reserves Risk, shown in **Exhibit 7**. For the ACIS/CIRT programs, AM Best calculates net capital charges using a factor-based approach described in the criteria procedure, *Evaluating Mortgage Insurance*. AM Best uses a third-party mortgage model to calculate risk charges on the reinsurance programs covering private mortgage insurers. The net capital charge calculations for both the ACIS/CIRT risk and the mortgage risk associated with reinsuring private mortgage insurers constitute the $B5_m$ in the Net Required Capital formula.

The ultimate reserves risk, B5, is achieved by correlating $B5_m$ and $B5_{nm}$ (Non-mortgage-related Net Loss and LAE Reserves Risk). For diversified reinsurers, $B5_{nm}$ will generally be much higher than $B5_m$. Therefore, it is a mathematical truism that under our base assumption of a 10% correlation between these two reserves risk components, mortgage-related reserves risk should play a relatively minor role in the overall calculation of B5. However, this may not be the case as we stress[5] the correlations to much higher levels based on current economic conditions.

Highly or moderately diversified reinsurers that engage in mortgage-related risks are unlikely to face high incremental Net Required Capital based solely on higher $B5_m$ risk due to the after-effects of the pandemic. However, a diversified reinsurer's Net Required Capital may also be affected by the 50% correlation AM Best assumes between $B5_m$ and the non-affiliated equity and asset risk charges ($B1_n$ and $B2_n$). AM Best currently does not anticipate that reinsurers will

Exhibit 7
NRC Formula

$$\text{NRC} = \sqrt{B1^2 + B2^2 + B3^2 + (B1_n + B2_n) * B5_m + (0.5B4)^2 + (0.5B4 + B5)^2 + B6^2 + B8^2} + B7$$

Component
(B1) Fixed Income Securities Risk
($B1_n$) Non-affiliated Fixed Income Securities Risk
(B2) Equity Securities Risk
($B2_n$) Non-affiliated Equity Securities Risk
(B3) Interest Rate Risk
(B4) Credit Risk
(B5) Net Loss and LAE Reserves Risk (10% correlation applied to $B5_m$ and $B5_{nm}$)
($B5_m$) Mortgage-related Net Loss and LAE Reserves Risk
($B5_{nm}$) Non-mortgage-related Net Loss and LAE Reserves Risk
(B6) Net Premiums Written Risk
(B7) Business Risk
(B8) Potential Catastrophe Losses

Source: AM Best Criteria: *Evaluating Mortgage Insurance*

[5] This is different from *Stress Testing Rated Companies for COVID-19*, released on May 18, 2020.

face an unmanageable effect of the Net Capital Charge produced by the correlation of $B5_m$ and $B5_{nm}$ or the correlation between $B5_m$ and asset risk charges.

On the other hand, reinsurers that exclusively write mortgage-related risks may see their Net Required Capital noticeably increase due to the fact that they lack the diversifying effect of non-mortgage-related reserves risk. Furthermore, these reinsurers may experience a noticeable drop in risk-adjusted surplus and, ultimately, balance sheet strength if mortgage-related losses increase sharply.

Capitalization of reinsurers can be enhanced or diminished by their operating performance. Reinsurers have enjoyed significant underwriting income generated from writing mortgage reinsurance over the last few years. Combined ratios recorded in accordance with current accounting pronouncements on mortgage insurance underwriting activities have been very low and return on equity contributions have been very high compared to almost all other lines of property/casualty business. AM Best anticipates that some reinsurers may experience significant incurred losses from their mortgage books of business that are hard to estimate at this time, but should become clearer over the next two quarters. We remain vigilant in monitoring the impact on these reinsurers' operating performance and the overall economic fallout of the COVID-19 pandemic.

September 2, 2020

Catastrophe Bonds in the COVID-19 Era

Capital markets' participation in the cat bond segment continues to grow despite the COVID-19 pandemic

Cat bonds are used by (re)insurance companies to transfer insurance risks to the capital markets, typically through four types of bonds: traditional property/casualty 144A cat bonds, cat bond lites, life/health cat bonds, and mortgage insurance-linked securities (MILS).

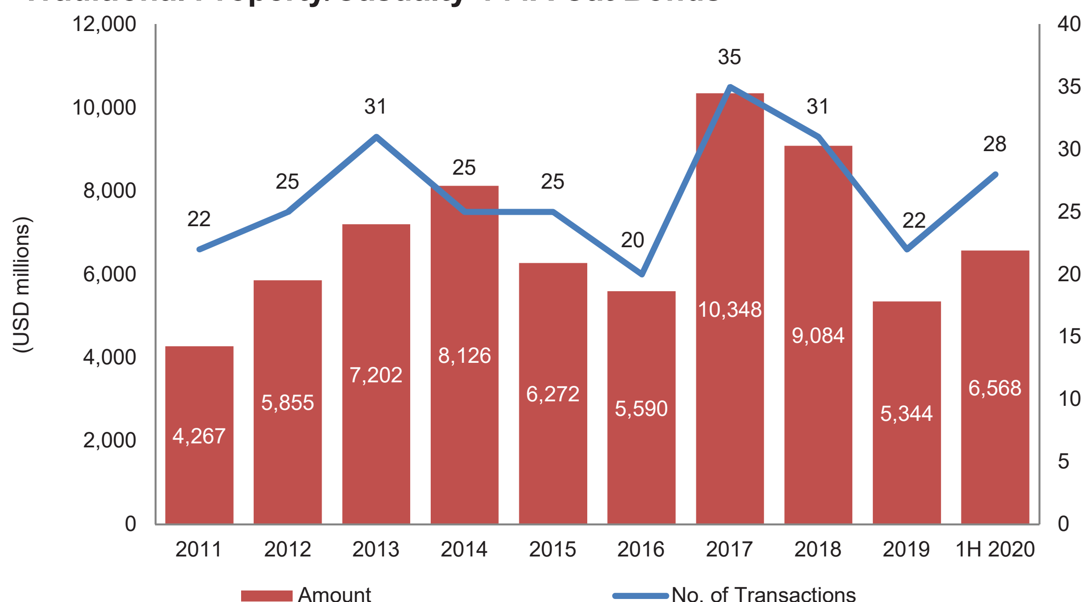
The traditional P/C 144A cat bond allows (re)insurance companies to offload their P/C insurance risks—named storms, earthquakes, floods, and wildfires—to the capital markets. An alternative to the traditional P/C 144A cat bond offerings, cat bond lite transactions are private transactions designed to fund smaller catastrophe reinsurance programs efficiently, by allowing capital market participants to take advantage of Regulation D, Regulation S, and Rule 4(a) (2) of the US Securities Act of 1933. Life/health cat bonds are similar to P/C cat bonds except that they transfer life and health risks such as medical benefit and mortality. Mortgage insurance-linked securities transfer their mortgage risk to the capital markets.

Cat bonds are issued for a number of reasons, among them, providing excess-of-loss coverage for exposures over defined zones; increasing retrocession capacity; diversifying the source of reinsurance coverage; providing multiyear cover; and obtaining fully collateralized protection.

Traditional P/C 144A Cat Bond

Capital market participation in the traditional P/C 144A cat bond segment continues to grow in volume, the range of perils covered, and the number of insurance company sponsors. Since their appearance in the capital markets in late 1996, the volume of 144A catastrophe bonds has grown annually, but has been quite volatile. For example, from 2017 to 2019, issuance volume dropped nearly 50%. However, despite the impact of the COVID-19 pandemic, volume in the first half of 2020 surpassed all of 2019, increasing to approximately $6.6 billion, as **Exhibit 1**

Exhibit 1
Traditional Property/Casualty 144A Cat Bonds



Sources: Artemis, AM Best data and research

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shows. The increase can be attributed primarily to the need to replace about $6.2 billion of cat bonds that matured in the first half of the year.

Two notable transactions took place in the second quarter of 2020: the Sierra Ltd ($225 million) cat bond and the Stratosphere Re Ltd ($100 million) cat bond. The Sierra Ltd cat bond was issued for the benefit of Bayview Asset Management LLC, an asset management firm that invests in mortgage-related securities. The bond provides protection against mortgage

Exhibit 2
Traditional P/C 144A Cat Bond Transactions
As of June 30, 2020
(USD millions)

Group	Vehicle	Sponsor	Amount
Government Backed/ Residual Market	Alamo Re II Pte. Ltd. (Series 2019-1)	Texas Windstorm Insurance Association (TWIA)	400
	Sutter Re Ltd.	California Earthquake Authority	700
	Everglades Re II Ltd.	Citizens Property Insurance	110
	Catahoula Re Pte. Ltd.	Louisiana Citizens Property Insurance Corporation	60
	International Bank for Reconstruction and Development (IBRD)	FONDEMN/AGROASEMEX S.A.	485
	FloodSmart Re Ltd. (Series 2019-1)	FEMA / NFIP via Hannover Re	400
	Subtotal		**2,155**
Retro Transactions	Windmill II Re Ltd.	Achmea Reinsurance Company N.V.	113
	Matterhorn Re Ltd Series 2020-3	Swiss Re	215
	Matterhorn Re Ltd Series 2020-2	Swiss Re	255
	Atlas Capital Reinsurance 2020	SCOR Global P&C SE	200
	Matterhorn Re Ltd Series 2020-1	Swiss Re	350
	3264 Re Ltd.	Hannover Re	150
	Stratosphere Re Ltd.	Markel Bermuda Limited	100
	Mona Lisa Re Ltd.	Renaissance Re	400
	Subtotal		**1,783**
Large Nationwide US Primary Insurers	Sanders Re II Ltd. 2020-2	Allstate	200
	Sanders Re II Ltd. 2020-1	Allstate	250
	Residential Reinsurance 2020 Limited	USAA	100
	Merna Reinsurance II 2020-1 Ltd	State Farm	250
	Caelus Re VI Ltd.	Nationwide Mutual Insurance Company	490
	Subtotal		**1,290**
Japanese, European and Bermuda Primary Carriers & Others	Blue Halo Re Ltd. (Series 2020) -1	Allianz Risk Transfer	175
	Herbie Re Ltd.	Fidelis Insurance	125
	Akibare Re Pte Ltd.	Mitsui Sumitomo Insurance Co. Ltd	100
	Nakama Re Ltd.	Zenkyoren	200
	Sierra Ltd	Bayview Asset Management, LLC	225
	Subtotal		**825**
Small to Medium-Sized US Domestic Insurers	Casablanca Re Ltd.	Avatar Property and Casualty Ins. Company	65
	MetroCat Re Ltd.	First Mutual Transportation Assurance Co.	100
	Integrity Re II Pte Ltd.	American Integrity Insurance Company of Florida, Inc. via Hannover Rück SE	150
	Bonanza Re Ltd.	American Strategic Insurance Group	200
	Subtotal		**515**
	Grand Total		**6,568**

Source: AM Best data and research

loan defaults due to earthquakes. Sierra Ltd is unique in that the new sponsor is an asset management firm and not the usual insurer or reinsurer.

The Stratosphere Re Ltd cat bond, sponsored by Markel Bermuda Ltd. (also a new sponsor), provides tail risk protection that State National retains through its affiliation with Nephila, against US named storms, earthquakes, winter storms, and severe thunderstorms. This transaction will benefit and provide protection for the portfolio of primary property insurance underwritten for the ILS funds of Nephila Capital. It is one of a very few cat bonds to achieve an investment grade rating.

Other notable new cat bond transactions since the second quarter of 2020 include the following:

- SD Re Ltd Series 2020-1 on behalf of Sempra Energy for protection against liability rising from California wildfires (USD 90 million) is the first pure wildfire cat bond in two years
- Azzurro Re II Ltd Series 2020-1 on behalf of Unipol Assicurazioni for protection against European earthquakes with a focus on Italy (EUR 100 million)

Cat bonds can generally be grouped into five broad segments:

- Government-backed transactions ("residual markets"), including Citizens Property Insurance Corporation of Florida, California Earthquake Authority, State Wind Pools, and the World Bank/IBRD, as sponsors of these transactions, which amounted to $2.2 billion (33%) of $6.6 billion cat bonds issued during the first two quarters of 2020
- Retro Transactions (per occurrence or per aggregate transactions) based on industry loss triggers from reinsurers, which came to approximately $1.8 billion (27%)
- Large nationwide US primary insurers, with approximately $1.3 billion (20%)
- Japanese, European, and Bermuda primary carriers & others, which accounted for $825 million (13%)
- Small to medium-sized US domestic insurers, generally Florida insurers, with approximately $515 million (8%)

Exhibit 2 breaks down issuance for these five segments through the second quarter of 2020.

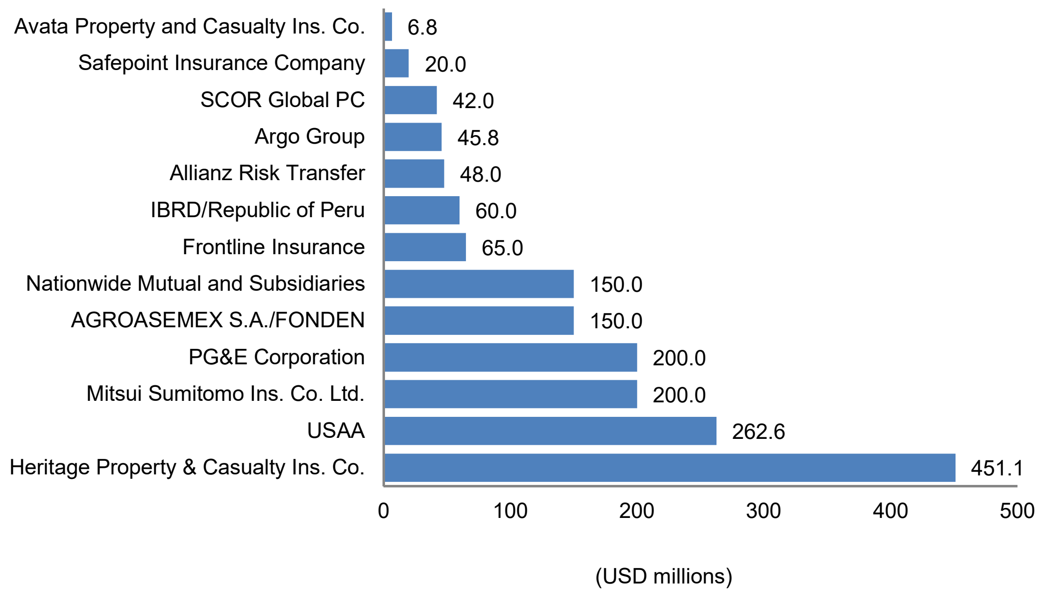
The market expects issuance of approximately $8 billion-$10 billion for 2020, an increase of as much as 90% from last year's $5.3 billion and in line with issuance in 2017 and 2018. This expectation is driven in part by the demand for additional reinsurance protection from primary insurers, reinsurers seeking retro cover from the cat bond market due to the tightening of retro capacity, the approximately $6.2 billion of cat bonds that matured in the first half of 2020, and the growing acceptance of the cat bond market as a way to transfer risk to capital market participants.

Defaulted Catastrophe Bonds

Hurricanes Harvey, Irma and Maria, as well as the California wildfires and Windstorm Riley, led to an increase in the number of cat bonds triggered in 2017 and 2018. **Exhibit 3** shows the defaulted cat bond losses, approximately $1.7 billion, due to loss events from 2017 through 2019. Heritage Property Ins. Company, the cedant, expects recoveries of approximately $451 million from the Citrus Re cat bond series, while USAA expects recoveries of approximately $263 million from Residential Re cat bonds. Two cat bonds in the retro cat bond market defaulted, for approximately $88 million: SCOR's Atlas IX Capital Ltd ($42 million) and Argo Group's Loma Reinsurance Ltd ($45.8 million).

Exhibit 3

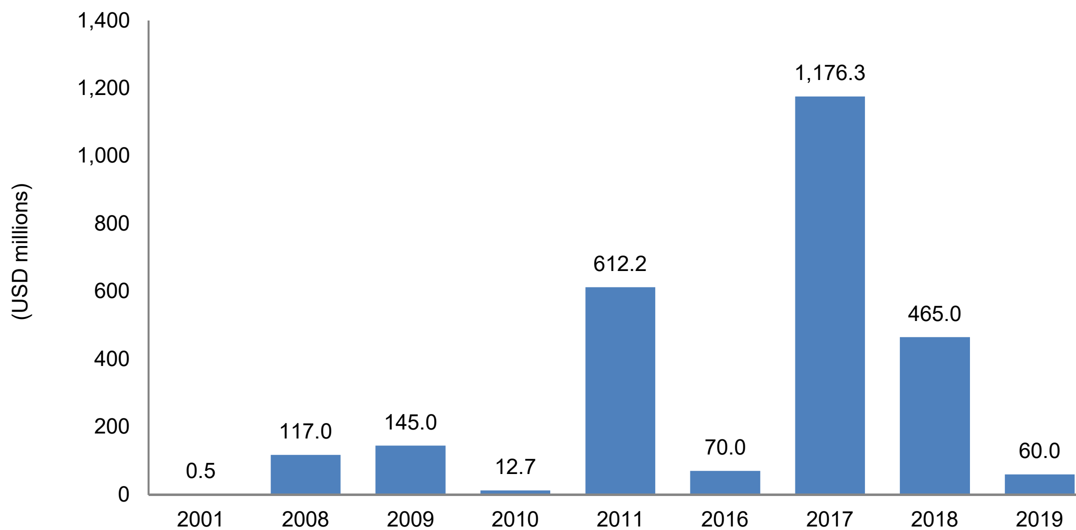
Traditional P/C 144A Defaulted Cat Bond Losses – by Cedant, 2017-2019



Sources: Trading Risk, AM Best data and research

Exhibit 4

Traditional P/C 144A Defaulted Cat Bond Losses



Sources: Trading Risk, AM Best data and research

The approximately $1.7 billion of defaulted cat bond losses from 2017 through 2019 surpasses the approximately $1 billion recorded during the entire 21-year period before 2017. Overall, since the inception of cat bonds, defaulted cat bond losses have amounted to around $2.7 billion, or 2.85% of the approximately $94.6 billion of cat bond issuance from 1996 through 2019. **Exhibit 4** shows actual losses from the first loss year of cat bond losses from 2001 through 2019. The spike in 2017 was due mainly to the three major hurricanes and the California wildfires; in 2018, defaults were the result of Typhoon Jebi and California wildfires.

Price/Return Dynamics

Catastrophic events from 2017 through 2019 have not only caused a spike in the number of cat bond defaults but they also increased the cat bond return demanded by insurance-linked securities (ILS) investors. In addition, COVID-19 has caused considerable volatility in the capital markets and disruption in the (re)insurance markets, affecting both the primary and secondary cat bond markets, as is evident in changes in the metrics used to evaluate the risk and return of a cat bond transaction.

Two metrics used by ILS investors to gauge the perceived risk/reward scenario are (1) the expected excess return, the difference between the spread and the expected loss percentage, and (2) the loss multiple, the ratio of spread to expected loss. The spread is the compensation or premium to noteholders.

Exhibits 5 and **6** show that the loss multiple declined each year from 2013 to 2017, which underscores cat bond investors' willingness to accept reduced compensation for taking on the same level of risk. The trend was similar in the overall traditional reinsurance market, where the rate on line (the premium-to-limit ratio) for property catastrophe reinsurance had been in the doldrums in prior years. However, this changed after 2017 following losses due to Hurricanes Harvey, Irma, and Maria, and the California wildfires.

On top of the major cat losses in 2017, a number of cat events in 2018 and 2019, including Japan Typhoons Jebi, Hagibis, and Faxai, the Camp Fire, Windstorm Riley, and Hurricane Michael, also led to significant property losses for (re)insurance companies and ILS investors. As a result, spreads for most cat bonds issued in 2019 widened. The higher coupons were a reflection of the market hardening and investors' demand for higher cat bond returns on similar risks.

The loss multiple continued to rise from 2019 through the first half of 2020. As of June 2020, the loss multiple (dollar-weighted) was 3.00x, up significantly from 2.35x in 2019. The widening of the spread paid on bonds issued in 2020 was driven mainly by the additional uncertainties and disruptions caused by COVID-19 on top of the already hardening market conditions.

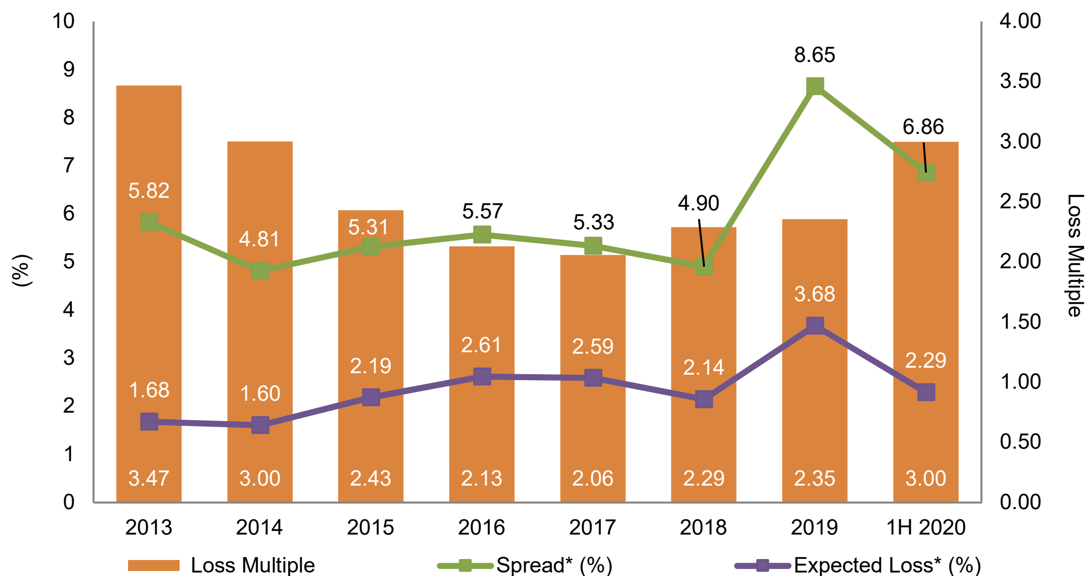
Exhibit 5
Loss Multiple – Spread to Expected Loss

Year	# of Tranches	#of Tranches with Expected Loss Information	Spread [1]	Expected Loss [1]	Excess Spread	Loss Multiple[2]
(1)	(2)	(3)	(4)	(5)	(6) = (4) - (5)	(7) = (4) / (5)
2Q 2020	47	46	6.86	2.29	4.57	3.00x
2019	31	29	8.65	3.68	4.97	2.35x
2018	41	41	4.90	2.14	2.76	2.29x
2017	69	66	5.33	2.59	2.74	2.06x
2016	36	36	5.57	2.61	2.95	2.13x
2015	38	31	5.31	2.19	3.13	2.43x
2014	46	35	4.81	1.60	3.21	3.00x
2013	46	41	5.82	1.68	4.14	3.47x

[1] Dollar weighted.
[2] Loss multiple = Ratio of spread to expected loss.
Source: AM Best data and research

Exhibit 6

Loss Multiple, Spread, and Expected Loss



* Spread and expected loss are dollar-weighted.
Source: AM Best data and research

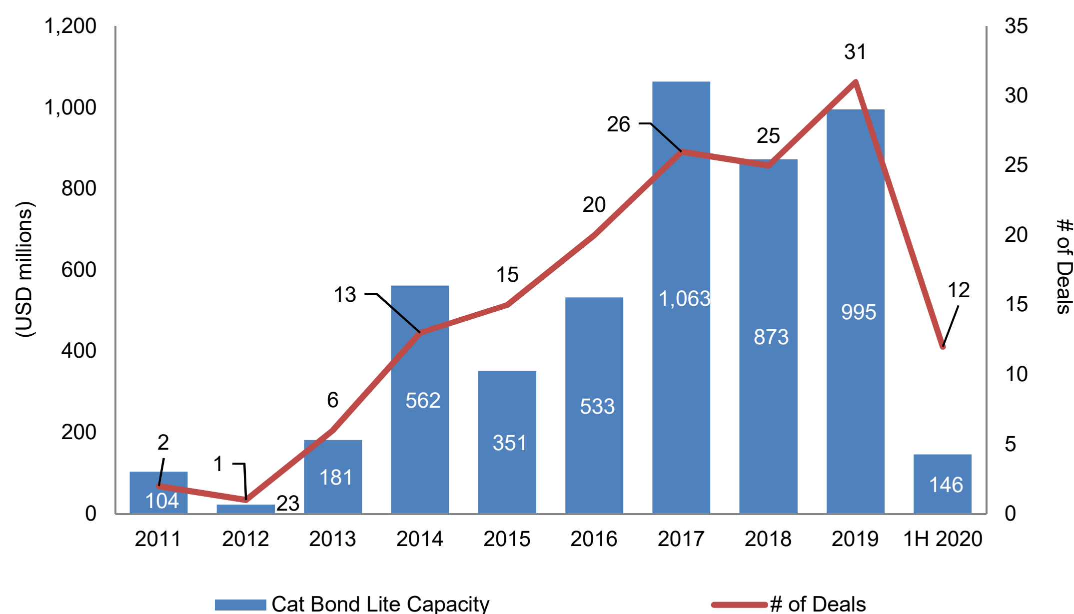
(Re)insurance companies have used catastrophe bonds to seek protection from the capital markets to ensure their financial stability. Projected COVID-19-related US insured losses from business interruption and specialty coverage, including event cancellation and travel insurance, range from USD 2 billion to USD23 billion, according to Willis Towers Watson. Many (re)insurance companies are facing not just financial uncertainty because of the pandemic, but also the 2020 US hurricane season. The potential weakening of financial strength could spur some (re)insurance companies to seek additional insurance protection by issuing cat bonds in the capital markets. As **Exhibit 5** indicated, 47 cat bond tranches were issued as of June 2020, compared with 31 in 2019. In May-June 2020, 16 tranches were issued, up from 10 in the same period in 2019. The strong pace of cat bond issuance in the first half of this year was also due to the large volume of cat bonds set to expire in 2020. Around $6.2 billion of cat bonds have scheduled maturities in the first half of 2020 and would need to be replaced through either the capital market or the traditional reinsurance market.

The capital market has exhibited significant volatility due to COVID-19. Even though cat bond losses are tied directly to covered perils, the market value of these bonds still experienced market pressure because they are more liquid than other ILS instruments. Investors were willing to trade cat bonds to bolster their liquidity because of the financial distress caused by the pandemic. As a result, prices in the secondary market declined owing to the high trading volume from those investors. The price pressure in the secondary market has influenced the primary market, as ILS investors demanded higher returns, in line with the secondary market. As of June 2020, the loss multiple is at the same level as in 2014.

Cat Bond Lite

One notable development in the cat bond marketplace is the evolution of “cat bond lite” transactions, which are gaining traction due to the efforts of the major insurance brokers, insurance managers, and the Florida take-out companies formed through the depopulation program of Citizens Property Insurance Corporation.

Exhibit 7
Cat Bond Lite



Sources: Artemis, AM Best data and research

The dollar volume—often below USD 50 million per transaction—and number of cat bond lite offerings have generally been rising since 2013 (**Exhibit 7**). However, in the first half of 2020, only 12 cat bond lites were issued, amounting to USD 146 million, partly reflecting a pause in transactions due to the pandemic.

Life/Health-Related Cat Bonds

L/H-related cat bond issuance volume is relatively small in comparison with the P/C segment, despite growing interest and the sheer volume of longevity risk exposures. The last decade has seen, on average, two cat bond transactions covering mortality and health risks (**Exhibit 8**) a year. The US market has been more focused on reserving financing needs for capital relief/ redundant reserves transactions and health risks, while the UK market has been focused on longevity risk transactions using swaps to mitigate the risks.

The 2017 $320 million IBRD Capital-At-Risk Notes 111-112 cat bond sponsored by the World Bank's Pandemic Emergency Financing Facility was triggered as a result of COVID-19, resulting in a loss of $132.5 million to investors. The bond was designed to provide funding for developing countries in response to a global coronavirus outbreak. The World Bank has since postponed plans for additional rounds of pandemic bonds.

The Vitality Re cat bonds, covering health/medical benefits sponsored by Aetna Life Insurance Company, are at risk of loss due to the pandemic that would result in severe morbidity stress. The potential losses associated with Vitality Re cat bonds (risk capital of $800 million), Vitality Re XI Ltd ($200 million), Vitality Re X Ltd ($200 million), Vitality Re IX Ltd ($200 million), and Vitality Re VIII ($200 million) could lead to payouts to Health Re Inc. and, ultimately, to Aetna Life Insurance Company. According to Trading Risk, secondary market trading of these bonds has been discounted, with markdown prices of 94 to 98 cents on the dollar for some of the most remote tranches and around 83 to 85 cents on the dollar for others. However, despite the impact of COVID-19, the medical benefit claims ratio reported

Exhibit 8
Catastrophe Bond Transactions – Life and Health Risk Transactions
Catastrophe and Non-Catastrophe Events
(USD millions)

Year	Issue Date	Vehicle	Sponsor	Amount [1]	Rated Debt	Unrated Debt	Type of Peril	Modeler	Trigger
2020	Jan-20	Vitality Re XI Ltd.	Aetna Life Insurance Co.	200.00	200.00		Health - Medical Benefit	Milliman Inc.	Indemnity
2019	Jan-19	Vitality Re X Ltd.	Aetna Life Insurance Co.	200.00	200.00		Health - Medical Benefit	Milliman Inc.	Indemnity
2018	Jan-18	Vitality Re IX Ltd.	Aetna Life Insurance Co.	200.00	200.00		Health - Medical Benefit	Milliman Inc.	Indemnity
2017	Jul-17	IBRD Capital at Risk Notes 111 - 112	World Bank's Pandemic Emergency Financing Facility (PEF)	320.00		320.00	Pandemic	AIR	Non-Indemnity
2017	Jan-17	Vitality Re VIII Ltd.	Aetna Life Insurance Co.	200.00	200.00		Health - Medical Benefit	Milliman Inc.	Indemnity
2016	Jan-16	Vitality Re VII Ltd.	Aetna Life Insurance Co.	200.00	200.00		Health - Medical Benefit	Milliman Inc.	Indemnity
2015	Dec-15	Vita Capital VI Ltd.	Swiss Re	100.00	100.00		Extreme mortality	RMS	Non-Indemnity
2015	Apr-15	Benu Capital Ltd.	AXA Global Life	324.39 [2]	324.39		Excess mortality	RMS	Non-Indemnity
2015	Jan-15	Valins I Ltd.	Aurigen Reinsurance	175.00 [3]		175.00	Embedded Value - Mortality and lapse risk	Oliver Wyman	Indemnity
2015	Jan-15	Vitality Re VI Ltd.	Aetna Life Insurance Co.	200.00	200.00		Health - Medical Benefit	Milliman Inc.	Indemnity
2014	Dec-14	Chesterfield Financial Holdings	RGA	300.00	300.00		Embedded Value - Pandemic & Mortality Risks	Towers Watson	Indemnity
2014	Jan-14	Vitality Re V Ltd.	Aetna Life Insurance Co.	200.00	200.00		Health - Medical Benefit	Milliman Inc.	Indemnity
2013	Sep-13	Atlas IX Capital Ltd	SCOR Global Life SE	180.00	180.00		Extreme mortality	RMS	Non-Indemnity
2013	Jan-13	Vitality Re IV Ltd.	Aetna Life Insurance Co.	150.00	150.00		Health - Medical Benefit	Milliman Inc.	Indemnity
2012	Jul-12	Vita Capital V Ltd	Swiss Re	275.00	275.00		Extreme mortality	RMS	Non-Indemnity
2012	Jan-12	Vitality Re III Ltd.	Aetna Life Insurance Co.	150.00	150.00		Health - Medical Benefit	Milliman Inc.	Indemnity
2011	Dec-11	Vecta I Ltd.	Aurigen Reinsurance Ltd	117.10 [4]	117.10		Mortality Risk & Lapse Risk	Oliver Wyman	Indemnity
2011	Aug-11	Vita Capital IV Ltd	Swiss Re	180.00	180.00		Extreme mortality	RMS	Non-Indemnity
2011	Apr-11	Vitality Re II Ltd.	Aetna Life Insurance Co.	150.00	150.00		Health - Medical Benefit	Milliman Inc.	Indemnity
2010	Dec-10	Kortis Capital Ltd.	Swiss Re	50.00	50.00		Longevity Risk (UK-US)	RMS	Non-Indemnity
2010	Dec-10	Vitality Re Ltd.	Aetna Life Insurance Co.	150.00	150.00		Health - Medical Benefit	Milliman Inc.	Indemnity
2010	Oct-10	Vita Capital IV Ltd	Swiss Re	175.00	175.00		Extreme mortality	RMS	Non-Indemnity
2010	May-10	Vita Capital IV Ltd	Swiss Re	50.00	50.00		Extreme mortality	Milliman USA	Non-Indemnity
2009	Nov-09	Vita Capital IV Ltd	Swiss Re	75.00	75.00		Extreme mortality	Milliman USA	Non-Indemnity
2008	Feb-08	Nathan	Munich Re	100.00	100.00		Extreme mortality	Milliman USA	Non-Indemnity
2007	Jan-07	Vita Capital III Ltd	Swiss Re	520.95 [5]	520.95		Extreme mortality	Milliman USA	Non-Indemnity
2006	Dec-06	Vita Capital III Ltd	Swiss Re	179.39 [6]	179.39		Extreme mortality	Milliman USA	Non-Indemnity
2006	Nov-06	OSIRIS Capital PLC	AXA Cessions	446.95 [7]	446.95		Extreme mortality	Milliman Inc.	Non-Indemnity
2006	May-06	Tartan Capital Ltd.	Scottish Annuity & Life Co. (Cayman) Ltd	155.00	155.00		Extreme mortality	Milliman Ltd.	Non-Indemnity
2005	Dec-05	ALPS Capital II PLC	Swiss Re	370.00	370.00		Embedded value from closed block of life insurance and annuity business	Milliman Inc.	Indemnity
2005	Apr-05	Vita Capital II Ltd.	Swiss Re	362.00	362.00		Extreme mortality	Milliman USA	Non-Indemnity
2005	Jan-05	Queensgate Special Purpose Ltd.	Swiss Re	245.00	245.00		Embedded value from closed blocks of life insurance business/policies	Milliman Inc.	Indemnity
2003	Dec-03	Vita Capital Ltd.	Swiss Re	400.00	400.00		Extreme mortality	Milliman USA	Non-Indemnity
			TOTALS	**7,100.78**	**6,005.78**	**495.00**			

[1] Includes both rated and unrated amount.

[2] USD equivalent of EUR85 million at closing date (1 euro = 1.1382 USD).

[3] USD equivalent of CAD210 million at closing date.

[4] USD equivalent of CAD120 million at closing date.

[5] USD equivalent of EUR210 million at closing date, plus USD250 million (1 euro = 1.290238 USD).

[6] USD equivalent of EUR30 million at closing date, plus USD140 million (1 euro = 1.313018 USD).

[7] USD equivalent of EUR150 million at closing date, plus USD250 million (1 euro = 1.313018 USD).

Source: AM Best data and research

by Aetna for the first quarter of 2020 was well below levels that would trigger its Vitality Re Series cat bonds.

The 2015 $100 million Vita Capital VI Ltd. extreme mortality bond, sponsored by Swiss Re, may also be under duress. Noteholders will be at risk from an increase in age- and gender-weighted mortality rates that exceed a specified percentage of the reference mortality index value for Australia, Canada, and the UK. The bond, which has been placed on negative watch, has been removed and extension of the risk period beyond December 2020 is highly unlikely. However, the probability of triggering of the bond may have increased because of the pandemic.

Mortgage Insurance-Linked Securities (MILS)

MILS are mostly excess of loss structures, with the private mortgage insurers (PMIs) retaining a portion of the risk and ceding a segment to the capital markets. As **Exhibit 9** shows, $10.14 billion was ceded to the capital markets from 2015 through the first half of 2020. The MILS transactions, which are highly effective for reinsuring private mortgage insurers' books of business, are currently difficult to consummate due to capital market dislocation resulting from the pandemic.

Exhibit 9
MILS Issuance by PMIs, 2015-2Q2020
(USD millions)

PMI	# of Transactions	Initial Balance	Balance at 6/30/2020	% of Original Remaining
Arch	11	5,190	3,065	59.06
NMI	3	803	408	50.78
Essent	4	1,727	1,280	74.10
MGIC	2	634	426	67.23
Radian	3	1,484	1,149	77.38
Genworth	1	303	303	100.00
Total	**24**	**10,142**	**6,631**	**65.38**

Source: AM Best data and research

MILS Reportedly Triggered Events

Five of the six PMIs (Radian Guaranty, National Mortgage Insurance Corporation, MGIC Investment Corporation, Essent Guaranty, and Arch Mortgage) have all reported that their outstanding MILS transactions are now subject to trigger events after a sharp increase in mortgage delinquencies owing to COVID-19, and the amortization of principal of the notes has been suspended due to heightened delinquencies.

The following is the list of MILS reported to have triggered events:

- Radian Guaranty's $434 million Eagle Re 2018-1 Ltd., $562 million Eagle Re 2019-1 Ltd., and $488 million Eagle Re 2020-1 Ltd.
- MGIC Investment Corporation's $319 million Home Re 2018-1 Ltd. and $316 million Home Re 2019-1 Ltd.
- National Mortgage Insurance Corporation's ($211 million Oaktown Re Ltd. 2017, $265 million Oaktown Re II Ltd., and $372 million Oaktown III Ltd.)
- Essent Guaranty's $424 million Radnor Re 2018-1 Ltd., $473 million Radnor Re 2019-1 Ltd., $334 million Radnor 2019-2 Ltd., and $496 million Radnor Re 2020-1 Ltd.
- Arch Mortgage's $342 million Bellemeade Re 2019-1 Ltd. and $621 million Bellemeade Re 2019-2 Ltd.

However, no losses to note principal for these transactions have been reported or appear likely at this point, unless market conditions deteriorate significantly.

MILS Issuance During COVID-19

Two MILS transactions have been issued since the COVID-19 outbreak. One was Bellemeade Re 2020-1 Ltd sponsored by Arch Mortgage in June 2020 despite volatility in the capital markets;

the other was Oaktown Re IV Ltd. sponsored by NMI holdings, Inc. closed in July 2020. The structure of Bellemeade Re 2020-1 Ltd is quite different from a typical MILS transaction, as it was for rating agency capital relief. The attachment point was 7.5%, and the detachment point, 12.5%, which were increased from a respective 2.25% and 10.25% from the prior Bellemeade Re transaction. For the Oaktown Re IV Ltd. deal, the attachment point was 2.5% and the detachment point, 8.0%, which are more in line with a typical MILS transaction.

Singapore's Grant Scheme

Over the last few years, Singapore has attracted cat bond issuance owing to its grant scheme, which was due to expire at the end of 2020. The Monetary Authority of Singapore will extend its ILS grant scheme through the end of December 31, 2022. This scheme, which funds 100% of certain upfront costs for cat bonds up to SGD 2 million, is aimed at expanding the growth of the ILS market and boosting the number of cat bonds issued in Asia. The cat bonds provided coverage of perils for Australia, Japan, and North America. **Exhibit 10** lists the cat bonds issued through Singapore's ILS grant scheme.

Exhibit 10
Cat Bonds Issued In Singapore
(USD millions)

Issue Date	Vehicle	Sponsor	Amount	Peril Type
Jun-20	Alamo Re II Pte. Ltd. (Series 2020-1)	Texas Windstorm Insurance Assn. (TWIA)	400	Texas named storms and severe thunderstorms
May-20	Catahoula Re Pte. Ltd.	Louisiana Citizens Property Insurance Corp.	60	Louisiana named storm & severe thunderstorm
Mar-20	Akibare Re Pte Ltd.	Mitsui Sumitomo Insurance Co. Ltd	100	Japan Typhoon, Japan Flood
Mar-20	Integrity Re II Pte Ltd.	American Integrity Insurance Company of Florida, Inc. via Hannover Rück SE	150	Florida named storms
May-19	First Coast Re II Pte. Ltd. (Series 2019-1)	Security First Insurance	100	Florida named storm & severe thunderstorm
Feb-19	Orchard ILS Pte Ltd	Insurance Australia Group (IAG)	54	Australia and New Zealand catastrophe risks

Source: AM Best data and research

September 2, 2020

COVID-19 Presents New Challenges for Global Life Reinsurers

Reinsurers could benefit as active pipeline of legacy life/ annuity blocks of business comes to market

The global life reinsurance market entered 2020 much as it had in 2019. Reinsurers were well capitalized and both established market participants and new entrants were optimistic they would successfully execute their business plans. The global COVID-19 outbreak and resulting economic and financial market conditions that followed made it clear early on that 2020 would not go according to plan.

In many ways, global life reinsurers were better positioned than primary carriers to face the pandemic. From the start, COVID-19 disrupted financial markets and sources of liquidity. While there has certainly been an uptick in unexpected mortality due to COVID-19, the life primary carriers felt most of their financial pain in their asset-intensive business models. Life reinsurers tend to be less asset-intensive than their primary writer counterparts and typically have strong underwriting expertise built on analyzing massive data sets, supplemented by relying on medical experts. As such, AM Best revised the life and annuity sector outlook from Stable to Negative in March 2020 but did not take a similar action for the life reinsurance sector.

Impact of COVID-19 on Global Life Reinsurers

From the beginning, life reinsurers have seen COVID-19 as being less severe than the 1-in-200 year event described by their stress test scenarios. Based on these models, one would expect excess deaths to be upwards of ten million worldwide. While the current number of deaths due to COVID-19 is both alarming and rising, mortality is still expected to be below this potential level.

In April 2020, AM Best announced that the outlook for the global life reinsurance segment would remain at Stable. The primary factors driving this included the segment leaders being strongly capitalized and able to handle severe mortality events and financial market conditions. The life reinsurance market is dominated by large, well-known global players with advanced modeling capabilities that offer services beyond risk transfer. These dynamics create a high hurdle for competitors seeking to build scale or take market share in this disruptive and uncertain environment.

Mortality insurance products tend to focus on working age individuals as opposed to the retired elderly population that has represented a disproportionate number of COVID-19 fatalities. Nonetheless, the actual geographical coverage of each reinsurer's portfolio can make an important difference, given the variations in age distributions and other factors that have led to widely varying mortality rates by country. Regarding morbidity risk, reinsurers are expected to be less affected by COVID-19 than are primary writers. Life reinsurers have a relatively low—albeit increasing—exposure to the health segment, high attachment points, and business models focused on cash flow management and administration services.

Enhanced enterprise risk management (ERM) has also contributed to the life reinsurance industry's ability to understand and weather this pandemic. Many of the top global life reinsurers have ERM capabilities assessed at the Very Strong level by AM Best. Current ERM capabilities allow for best-in-class stress testing and reporting of results to key stakeholders,

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including senior management, regulators, company boards of directors, and the outside investor community. This is largely due to added emphasis on ERM since the 2008 financial crisis.

Global Life Reinsurer Market Dynamics

Almost all of the largest global reinsurers write both life and non-life business. Life reinsurance business accounts for at least 30% of gross premiums written, with the US representing the lion's share of global life reinsurance premiums. Five reinsurers—Swiss Re, Munich Re, SCOR, RGA, and Hannover Re—dominate the US life reinsurance market and account for over 90% of the total US individual life inforce that is reinsured (**Exhibit 1**). These top tier players have been able to defend their strong market positions by consistently providing innovative market solutions, maintaining strong relationships with existing customers that have resulted in significant recurring business over decades, and adhering to disciplined pricing and underwriting practices.

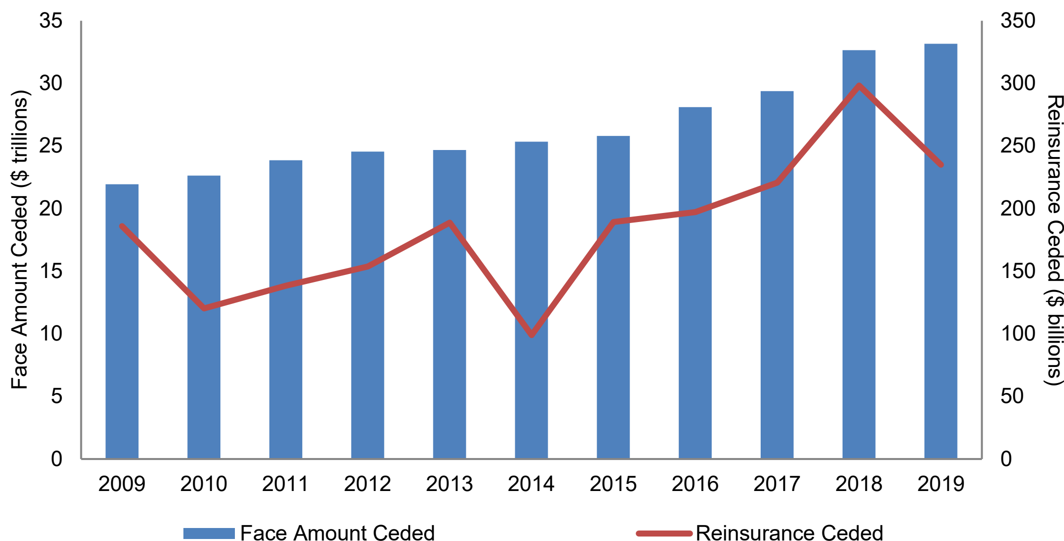
The US traditional life reinsurance market has been pressured by historically low cession rates for over a decade, although there has been a notable rise in business ceded over the past few years (**Exhibit 2**). Factors driving this trend include the introduction of principle-based reserving, the 2017 CSO mortality table, and the increasing use of automated

Exhibit 1
Top US Life Reinsurers by Individual Life Insurance in Force, 2019

Company Name	Total Individual Amount in Force ($000s)
SCOR Life US Group	1,812,035,002
RGA Reinsurance Company	1,792,183,058
Munich American Reassurance Company	1,350,313,605
Hannover Life Reassurance Co of America	1,276,370,135
Swiss Re Life & Health America Inc	1,051,715,422
Canada Life Assurance Company USB	264,764,274
London Life Reinsurance Company	174,857,538
Employers Reassurance Corporation	85,283,608
Optimum Re Insurance Company	75,170,133
Wilton Reassurance Company	71,304,080
PartnerRe Life Reinsurance Co of America	64,112,426
General Re Life Corporation	16,943,304

Source: AM Best data and research

Exhibit 2
Reinsurance Ceded



Source: AM Best data and research

underwriting, which includes the use of more sophisticated tools such as data analytics. The long-term trend, however, has been a decline in cession rates. Possible causes include an increased appetite from primary insurers to recapture ceded business due to rate increases by some reinsurers and the general lack of organic growth in the US life insurance industry.

To offset the relatively low cession rates, the largest life insurers pursued redundant reserve financing and have since been seeking new sources of revenue, including offering their clients underwriting services such as predictive modeling, E-underwriting, and other technology-driven initiatives. There has also been a trend toward reinsurers assuming flow business in the fixed annuity market. Likewise, new companies entering the market have been actively developing technology-based solutions. While established reinsurers tend to see fixed annuities as a growth opportunity and a way to diversify their books of business, the new participants have approached the market with strategies that are tied to expectations of better investment performance than their cedants.

Throughout the current COVID-19 crisis, there remains no shortage of existing players and hopeful new entrants into the block reinsurance/acquisition business. Market participants have been very active, often quite aggressively searching for growth in areas such as annuity reinsurance or other spread businesses. Typically, their focus is to out-earn the asset portfolios of cedants and they are less focused on the biometric component of risk which they may choose to hedge away.

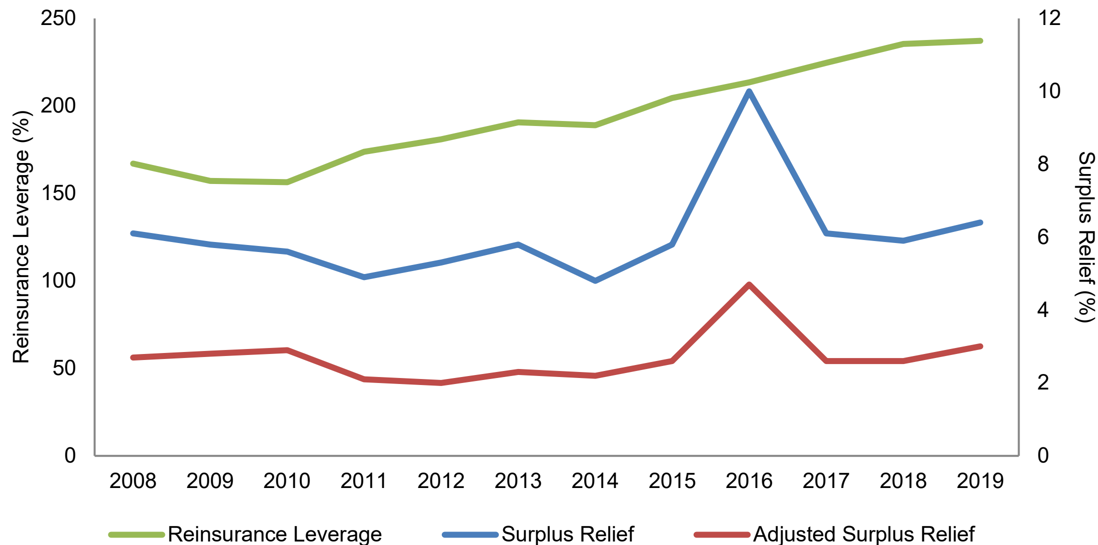
Several announced management teams looking to deploy the capital they have raised have yet to execute on their first transaction. The precipitous drop in interest rates has made deal execution difficult as the chasm between expectations of sellers/cedants and buyers/reinsurers has widened. This is largely due to differing pricing assumptions. Cedants tend to use mean reverting interest rate assumptions to discount reserves that suggest the low interest rate environment will reverse itself and return to historical norms over a long time horizon. Reinsurers, on the other hand, are likely to assume the current interest rate environment is here to stay when pricing a block transaction. Further compounding this is the secondary effect of mortality uncertainty surrounding the impact of COVID-19. With these widely differing assumptions, the likelihood of disciplined, patient reinsurers transacting in this market is reduced. On the other hand, newer reinsurers seeking to establish a track record are more likely to pursue block trades if they can reach agreement with cedants on the appropriate set of actuarial assumptions.

Given the capital-intensive nature of the life and annuity business, coupled with the competitive environment, direct writers will most likely continue to turn to the reinsurance community for its ability to provide capacity to absorb new business, regulatory capital relief, underwriting expertise, volatility management, tax strategies, and concentration risk mitigation. The ratios most often used to measure reliance on reinsurance to support capital needs are reinsurance leverage and surplus relief.

The reinsurance leverage ratio is defined as aggregate reserves ceded plus amounts recoverable and funds held, divided by surplus. The surplus relief ratio, defined as reinsurance commissions and expense allowances on reinsurance ceded (reported as income on the statutory statement) divided by statutory surplus, illustrates the degree to which a company depends on reinsurance to maintain its surplus ratios (e.g., NAIC RBC/AM Best's BCAR).

With the exception of 2016, the industry has maintained a surplus relief ratio in a narrow band of 4.5% to 6.5% (**Exhibit 3**). In 2016, several companies had some large cessions that resulted

Exhibit 3
L/A Industry – Reinsurance Leverage & Surplus Relief



Source: AM Best data and research

in elevated commissions and expenses on reinsurance ceded business, thus raising the surplus relief ratio to roughly twice the longer-term average. In 2019, both ratios increased, suggesting an increase in activity for reinsurers, consistent with the slight increase in the face amount ceded in 2019.

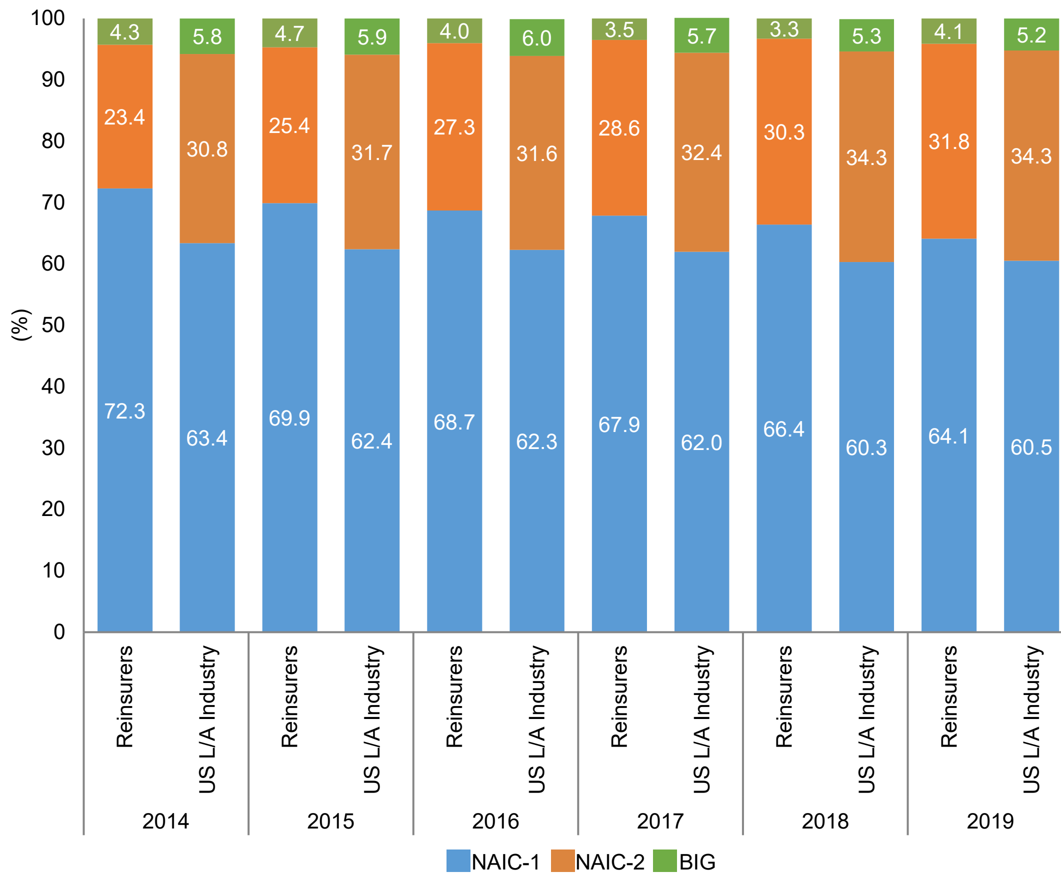
Adjusted surplus relief simply nets out expenses and commissions on reinsurance assumed (recorded as a statutory expense) before dividing by surplus. As a result, the adjusted ratio for the industry is less volatile and reports at an overall lower level. However, 2016 once again shows an elevated ratio reflecting some large ceded transactions without a corresponding large offset in business assumed.

Life Reinsurance in a Low-for-Long Rate Environment

Interest rates have generally been on a declining trend for the last four decades, which continues to impact direct writers and reinsurers, although the latter are generally affected to a lesser extent than the former. Reinsurers tend to focus more on underwriting/biometric risk and take less risk on the asset side of the balance sheet. As a result, the investment returns on their asset portfolios are less of a driver of earnings, while both direct writers and reinsurers chase similar pricing metrics and returns on capital. Reinsurers typically benefit from scale, in-depth expertise, and less pressure to meet sales targets, allowing them to generate higher profit margins on underwriting.

In addition to a more conservative investment portfolio through higher allocations to bonds and cash, the credit portfolios of the larger, established life reinsurers' bond portfolios are also of higher quality, with larger allocations to NAIC-1 bonds and smaller allocations to below-investment-grade bonds, consistent with prior years (**Exhibit 4**). Furthermore, reinsurers' exposure to mortgage loans—an asset class that particularly poses uncertainty in the current COVID-19 environment—is lower than that of direct writers (8.8% vs. 12.9%) (**Exhibit 5**). Despite the conservativeness of reinsurers' portfolios relative to direct writers, net yields do not differ greatly between the two groups. This can be explained by the higher duration of

Exhibit 4
Bond Portfolio Quality



Source: AM Best data and research

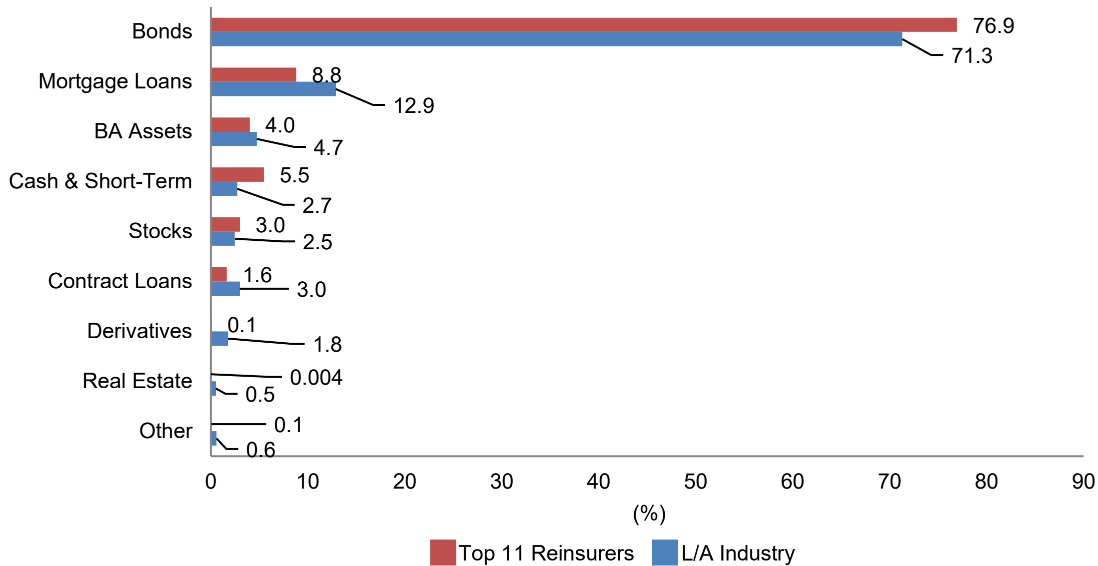
assets in reinsurers' portfolios, lower investment expenses incurred by reinsurers, and various reinsurance structures that can alter net yield calculations.

PRT as a Growth Area

AM Best sees Pension Risk Transfer (PRT) as an area of growth for reinsurers. Given their underwriting and biometric expertise that is utilized to assume mortality risk, it would be natural to use this same knowledge to underwrite longevity risk. Mortality and longevity risks are two natural offsetting risks, but they are not perfect counterweights, as the insured populations are different and potential shocking events may not emerge in the same way. Nevertheless, reinsurers have started to dip their toes in the PRT market and we expect this trend to continue. Given the current lack of popularity of single premium immediate annuities and deferred income annuities, coupled with the complexity of variable and fixed income annuities, PRT remains the main pure longevity risk opportunity for the segment. Various structures already exist, including coinsurance and longevity swaps, which have been popular in Europe for some time but are now starting to gain traction in the US.

There is uncertainty with regard to longevity risk charges in some capital models, which could trigger direct writers to seek additional capital relief. Furthermore, the recent swings in the equity markets may have provided a wakeup call to corporate plan sponsors that continue to back a large portion of pension liabilities with equities. This may serve as a catalyst to transact and increase overall PRT activity.

Exhibit 5
Distribution of Invested Assets - 2019



Source: AM Best data and research

Other Developments

In April 2020, Global Atlantic established the Ivy Co-Investment Vehicle LLC to provide financial flexibility by co-investing approximately $1 billion in qualifying reinsurance transactions. Opportunities that could take advantage of the Ivy vehicle would include the reinsurance of life and annuity blocks and PRT transactions. The creation of Ivy closely follows last year's establishment of the Athene Co-Invest Reinsurance Affiliate (ACRA), an insurance-linked sidecar vehicle that enables third-party investors to participate in private deals alongside Athene.

Also in 2020, Swiss Re exited its life capital business which was originally conceived as the reinsurer's gateway into the primary market. The group was created in 2016 and included the ReAssure business unit. With the announced sale of ReAssure to the Phoenix Group Holdings Plc—expected to close in the second half of 2020—Swiss Re has elected to disband its life capital group. This enterprise was positioned as a Business to Business to Consumer (B2B2C) market participant. This re-evaluation suggests that even for large, well established reinsurance brands such as Swiss Re, it remains a challenge to enter new markets.

September 2, 2020

Asia-Pacific Reinsurance: Will COVID-19 Catalyse Change in Underwriting Discipline?

Macroeconomic and investment impacts from the COVID-19 pandemic could place further pressure on the profitability of Asia-Pacific reinsurers

Asia-Pacific remains an important component of the diversification and growth strategies of many international reinsurers, resulting in a highly competitive operating environment for most reinsurers in the region. The entrance of new domestic participants and the increased capacity of international reinsurance players are among the key factors that have led to prolonged weak pricing trends in the reinsurance market. Compounding the challenge are the climbing retrocession costs from the rising frequency and severity of global natural catastrophes, and the as yet undetermined full impact of the COVID-19 outbreak (which has spiralled into the current pandemic for most of 2020). As such, AM Best is of the opinion that the outbreak of COVID-19 could be a trigger for reinsurance players in Asia to reassess their business strategies.

COVID-19 continues to be an evolving challenge for the Asia-Pacific reinsurance sector; beyond direct underwriting exposures, the pandemic has also had far-reaching effects on regional and global economies, as well as investment markets. In particular, many Asia-Pacific reinsurers' investment portfolios were impacted by the stock market shocks that were triggered by pandemic developments; in the case of some Southeast Asian reinsurers, the market volatility during the first half of 2020 created significant movements in reported shareholders' equity and consequently drove heightened variability in capital adequacy ratios.

However, aside from grappling with the volatility brought on by COVID-19 the issue of deteriorating underwriting profitability continues to be a challenge faced by reinsurers in Asia-Pacific. AM Best notes that the operating performances of Asia-Pacific non-life professional reinsurers (whose business is solely focused on reinsurance) have deteriorated over the last few years due to increasing underwriting losses, and this trend of declining technical results has accelerated in 2019 and 2020. Furthermore, with falling interest rates in many economies, reinsurers will need to refocus on underwriting discipline in order to meet their cost of capital.

Thus, with expectations of a challenging investment landscape and a prolonged low interest rate environment, AM Best is of the view that reinsurance companies in Asia-Pacific will likely have to accept lower and more volatile investment yields, or take on higher asset risks, at least over the near term. In light of this, reinsurers may choose to revisit the management of their core business to deliver more profitable technical results, which will serve to reduce the pressure on meeting investment return targets.

This report reviews the operating performance of rated and non-rated reinsurance legal entities domiciled in Asia-Pacific. Branches of reinsurers operating in the region were not included.

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Declining Performance

Based on AM Best's research, only a few non-life reinsurance companies in Asia-Pacific managed to achieve a combined ratio below 100% in fiscal year 2019, despite many smaller reinsurers in the region not being materially impacted by the Japan catastrophe losses in

2019 and loss creep from 2018 events. The average combined ratio of Asia-Pacific reinsurers exceeded 100%, due to a high frequency of large-scale natural disasters, heavy agricultural losses in China and India, as well as inadequate pricing as a result of intense competition due to abundant capacity. While the impacts of the ongoing COVID-19 pandemic on regional and global reinsurance markets are still uncertain, it is safe to assume that the final outcome is likely to put further pressure on Asian reinsurers' operating results.

Japan's insurance industry incurred a gross total of USD 25 billion in catastrophe losses during 2018 and 2019 (according to the General Insurance Association of Japan),–the costliest two years on record for the Japan market–in which a material portion of the losses was transferred to the global reinsurance market. This subsequently led to solid increases in rates for Japan loss-impacted reinsurance treaties in the 2019 and 2020 April renewals. However, relatively benign loss activity over the same period in other Asia-Pacific markets continued to favour risk-adjusted pricing pressure that generally hampered the hardening momentum of rates in the region.

AM Best notes from past observations of reinsurance renewals that any rate increase from large catastrophe losses was often a local effect and limited to loss-impacted accounts, and did not translate to an overall increase across the region. Non-affected markets or loss-free accounts were reluctant to share in the loss payback (and cedents and their brokers were usually successful in arguing the disconnection). Given the excess reinsurance capacity in the market, reinsurers' underwriting discipline is often undermined by a fear of losing business as cedents tend to be price sensitive in their reinsurance decisions. Brokers have also played an important role in leveraging that excess capacity to the benefit of the reinsurance buyer. But with the economic fallout from the pandemic potentially worsening, it begs the question of what may happen to the supply and allocation of capacity across market segments in Asia-Pacific if reinsurers are to face greater challenges in producing results that meet, or exceed, their cost of capital.

Against this backdrop, Asia-Pacific reinsurance market players must consider whether the positive rate momentum can be continued and extended to markets or lines of business that are inadequately priced. Alternatively, reinsurance companies will need to apply greater flexibility in their business strategies to respond nimbly toward market developments, as well as rationally plan and execute these strategies from a more holistic perspective.

High Retrocession Dependency to Pressure Reinsurers' Profitability

Small to medium-sized reinsurers in Asia-Pacific have high retrocession ratios (retroceded premium to inward reinsurance premiums)–averaging around 40%–relative to the average ratios (14%) of Asia-Pacific reinsurers on the list of global top 50 reinsurance companies. Due to their small capital bases and geographically concentrated business profiles–especially those subject to natural catastrophe accumulation risk in their domestic markets–these small to medium-sized players are highly dependent on retrocession to stabilise their bottom line.

However, the major catastrophe losses incurred by the global reinsurance market in 2019 exacerbated the prior accident year's loss creep from events such as Hurricanes Irma, Michael and Typhoon Jebi, which resulted in the erosion and trapping of ILS capital for a third year in a row. As such, traditional retrocession capacity (especially aggregate capacity) for the property catastrophe line, has been under pressure since the 2019 reinsurance renewal season. AM Best notes that many reinsurers have had to retain a greater portion of risks to manage retrocession costs, which rose materially during the last renewal season, while some have restructured their retrocession arrangements to achieve more economical retrocession protection.

AM Best expects that retrocession capacity will remain under pressure and rate increase momentum will continue in view of expected COVID-19 losses to the global non-life reinsurance industry. Smaller Asia-Pacific reinsurers that lack bargaining power in their retrocession negotiations, or which are unable to pass on the retrocession cost hikes to their cedents in the (re)insurance value chain, are likely to face a material squeeze on profitability.

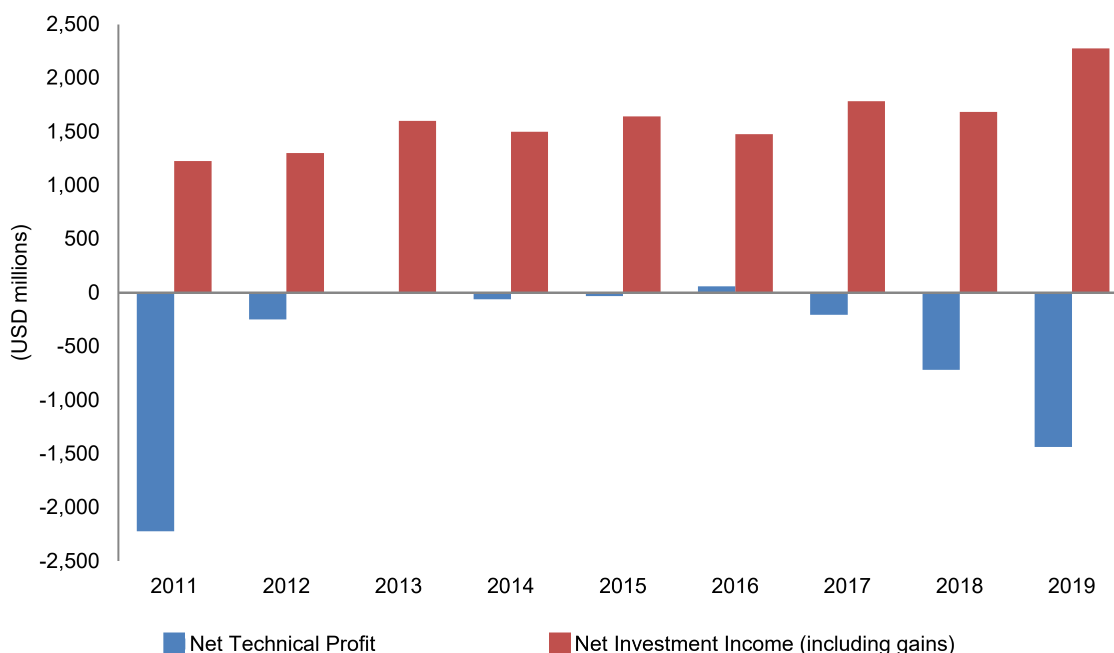
Lower Expected Investment Yields Pose Greater Challenge to Bottom Lines

Historically, AM Best notes that reinsurers in Asia-Pacific have largely banked on investment returns to prop up their operating results and deliver on bottom lines, given challenging underwriting conditions (**Exhibit 1**). However, reinsurance companies will increasingly face difficulty in sustaining this solution as quantitative easing measures in various economies are continuing to drive down interest rates, together with lower returns from other asset classes; consequently, non-life reinsurers in Asia-Pacific are likely to see lower expected total investment returns over the long term.

Given that a majority of the investment assets held by Asia-Pacific reinsurers are allocated to cash and deposits, as well as fixed income securities, a prolonged low interest rate environment in most Asia-Pacific markets will pose challenges to market players that may not be able to offset their underwriting losses of similar magnitude without taking on additional asset risk. AM Best notes that some reinsurers have already taken actions to increase their asset risk exposures over the past few years in response to decreasing interest rates in their home markets, such as raising their asset allocations in alternative investment instruments and loans and receivables (including unlisted trust plans, debt schemes, or infrastructure fund investments). Despite the higher expected returns, AM Best is of the view that companies that hold undiversified, illiquid, and/or speculative assets amid volatile capital market conditions

Exhibit 1

Asia-Pacific Reinsurers' Underwriting and Investment Returns



Note: The scope of study covers selected non-life reinsurers and non-life focused composite reinsurers domiciled in Asia-Pacific. Underwriting results include life underwriting profit/loss, which accounts for a relatively small proportion of the total underwriting results.
Source: AM Best data and research

and a competitive underwriting environment may expose their earnings and capital positions to increased volatility.

The balance sheets of the region's larger reinsurers (with conservative investment strategies and bond-heavy asset portfolios) are generally well-placed to absorb unrealised losses from investment market volatility. Some reinsurers have even enjoyed capital boosts from the unrealised capital gains on their highly-rated bond portfolios, driven by the decrease in bond yields that were exacerbated by the pandemic. However, the same may not be said of some of their smaller-sized counterparts. In particular, domestic reinsurers based in emerging Asia-Pacific markets–which mostly hold a greater composition of "growth" assets, such as equities, relative to their mature market counterparts–have seen significant volatility in their balance sheets and capital adequacy ratios as market values of their investment assets were jolted during the first quarter of 2020. A partial stock market recovery during the second quarter of the year provided some relief to market players and reduced the loss impacts on investment returns, albeit the potential for further volatility remains a very real threat.

It is also worth noting that fixed income instruments (whether issued by corporates or governments), continue to be subject to potential deterioration in credit quality. In some instances, sovereign ratings in the region have already experienced negative rating actions in response to recent economic and political challenges, while corporate debt in the travel, tourism, and energy sectors are particularly susceptible to an increased risk of default.

Capacity

Reinsurance capacity in Asia-Pacific is unlikely to shrink materially as long as there continues to be abundant capacity in the global reinsurance market. Within Asia-Pacific, the insurance markets of Japan, South Korea, Australia, New Zealand, and China consume the most reinsurance capacity.

Due to the large capacity required by a highly concentrated market, Japan's reinsurance needs have traditionally been supported by long-term partners, including national reinsurer Toa Re, global reinsurance players, as well as large regional reinsurers, while Korean Re provides capacity for over 50% of the reinsurance needs of its direct cedents in its home market.

For Australia and New Zealand, the degree to which these markets are exposed to catastrophe events, including flood, cyclone, earthquake, wildfire, and hailstorm, as well as the absolute size of insured risks emanating from these countries, result in the significant use of global reinsurance capacity to cater to these needs. While there is domestic and regional reinsurance capacity provided to these markets, this tends to be in a following capacity with international participants remaining the lead on key reinsurance placements.

The Chinese reinsurance market has also grown from having just one national reinsurer in 2015, to adding four more onshore reinsurers, which materially increased the aggregate supply of capacity despite reduced reinsurance demand since the implementation of the China Risk Oriented Solvency System (C-ROSS) in 2016. (The four additional reinsurers are Taiping Re, Qianhai Re, PICC Re, and AXA XL Re China, which was recently granted the mainland's first foreign reinsurer subsidiary licence.) For example, the non-life reinsurance capacity collectively offered by Taiping Re, Qianhai Re, and PICC Re already exceeds 40% of the non-life reinsurance portfolio of China Property & Casualty Reinsurance Company Ltd. Competition has further stiffened with domestic non-life direct insurers increasingly participating in facultative (and to a lesser extent, treaty) reinsurance business, and the entrance of Korean Re which received regulatory approval to establish a branch in December 2019. However, AM Best

notes that updated capital requirements from the expected introduction of C-ROSS Phase 2 will further alter reinsurance market dynamics.

There is also a large number of small to medium-sized reinsurers in the region that are focused on serving niche market segments, although their value propositions have begun to diminish with the influx of capacity from regional and global reinsurance players. But even as some reinsurers exit or reduce their capacity offering to Asia-Pacific, the gaps in capacity are easily filled by other market players if technical pricing and risk appetites are congruent. Given these circumstances, it might be unrealistic to expect a meaningful improvement from capacity reduction that will bring rates back to technically sound levels over the short term. As such, Asia-Pacific reinsurers may be better served in reconsidering their capital allocation by market segment and line of business from a capital consumption perspective, rather than chasing the already soft traditional market segments.

Impact of COVID-19

For reinsurers operating in Asia-Pacific, an early assessment of loss exposure from the pandemic indicates that the region may have fared well relative to other parts of the world. In particular, loss experience to date in Asia-Pacific has benefited from typically lower infection and death rates compared with many western countries, including the US and parts of Europe. In a number of instances, governments in the region have also assumed protectionist positions for their citizens and sought to undertake the costs of diagnosis, treatment, and rehabilitation related to COVID-19. As a result, health and medical coverages have typically not seen significant accumulation of losses to date. Furthermore, the prevalence and market penetration of corporate products that are susceptible to COVID-19 exposure, such as event cancellation, business interruption, D&O, and E&O, are generally low for emerging markets in Asia-Pacific. Where these coverages are more prevalent in mature Asia-Pacific markets, reinsurers will no doubt be monitoring exposures very closely, albeit given the nature of these products there is often a high level of cession to international reinsurers and Lloyd's of London, resulting in low regional retention.

Notwithstanding these points, given that the pandemic remains an ongoing event and is likely to persist for some time, the ultimate loss exposure to be borne by the Asia-Pacific reinsurance sector is far from final. The implications of this unprecedented event are also much broader for the region's reinsurers than simply underwriting loss exposure. As previously discussed, the impact of the pandemic on reinsurers' investment operations during the course of 2020 has been a key challenge for the sector and is expected to remain an area of ongoing volatility at least over the near term.

Economic headwinds in the region also cannot be overlooked as presenting an obstacle to both mature and emerging markets in Asia-Pacific. The region's economic growth fundamentals over the years have been a key area of attraction and development for the (re) insurance sector, as this has supported increased insurance penetration. Furthermore, a near-term challenge for reinsurers to contend with emanates from operational disruption. For the most part, Asia-Pacific (re)insurers have been able to continue their critical operations unencumbered during the COVID-19 pandemic; however, that is not to say that a level of disruption has not arisen. Reinsurers, like many businesses, have been disrupted by periods of lockdown in Asia-Pacific countries, as well as by wide-ranging travel restrictions. As reinsurance services have traditionally been transacted with a high degree of face-to-face interaction, the current environment has driven a need for this approach to shift, at least for the near term.

Asia-Pacific Headwinds

The Asia-Pacific reinsurance landscape continues to be subject to a number of evolving dynamics that will shape future pricing, terms, and capacity, which in turn affect the operating results of market players. Catastrophe activity and large losses will continue to be important drivers of underwriting performance. Although the frequency and severity of catastrophe losses for the region in the second half of 2020 are undetermined, economic and insured losses from the floods in China since June 2020–its worst flood disaster in 30 years–continue to climb. While the final loss amount will depend on the period of inundation and whether it has ultimately impacted the more urban areas of the country, insured losses are expected to be passed on to reinsurers, given that Chinese non-life insurers generally have very low retention levels in their catastrophe excess-of-loss programmes.

There is no doubt that a significant and sustained hardening of reinsurance rates is required in order to allow reinsurers to achieve better pricing adequacy (and, ultimately, profitability), although whether this will take place remains to be seen. In 2019, Asia Capital Re Group abruptly ceased writing new business as part of a transaction with an international run-off group as the company's founding investors sought to exit the market. This was a significant piece of news for the industry and demonstrated the severity of the prevailing market conditions for Asia-Pacific reinsurers.

Nonetheless, robust capitalisation remains a strength for most reinsurers in the region. Almost all AM Best rated reinsurers domiciled in Asia-Pacific have an assessment of "strongest", based on Best's Capital Adequacy Ratio, and are well-capitalised on a risk-adjusted basis.

Capital requirements are typically driven by underwriting risk, although some reinsurers in the region have opted for more aggressive investment strategies that can also be a significant driver of required capital. Counterparty credit risk emanating from retrocession is typically a small component of required capital, reflecting the use of well-rated retrocessionaires.

Southeast Asian Reinsurers Seek Growth in Health and Life

There has been a shift in the business mix of Southeast Asian domestic reinsurers over the past five years. The robust growth of the primary health insurance segment has created significant pressure on solvency margins for direct underwriters, which has subsequently led to a rising demand for reinsurance support as capital relief.

As such, AM Best notes that local reinsurers in a number of emerging markets in Southeast Asia have leveraged the significant increase in direct health insurance premiums to grow their business. This has helped them to counter the strong competition from global reinsurance peers that have a significant edge in the traditional businesses in terms of credit ratings, underwriting capacity, and pricing expertise. At the same time, the shift in local reinsurers' business focus to life and health segments has also allowed them to rebalance their underwriting portfolios, gradually reducing their exposure to complex catastrophe risks while growing the lower risk health business. However, it should be noted that even under favourable scenarios, the potential profitability of the health business is relatively modest.

To illustrate, the life and health premiums of National Reinsurance Corporation in the Philippines have more than trebled between 2015 and 2019, and now account for approximately 30% of the reinsurer's portfolio.

In Indonesia, despite a slowdown in its overall premium growth, PT Reasuransi Indonesia Utama recorded an average growth rate of 13% for its life and health business between 2016 and 2019; the segment is its largest line of business, and made up about 40% of the reinsurer's gross premium written (GPW) in 2019.

Although the health reinsurance pace of growth in Thailand lags behind its Southeast Asia peers, this line of business remains the largest share of local reinsurer Thai Reinsurance Public Co. Ltd.'s underwriting portfolio and accounted for approximately 60% of GPW over the past three years (2017-2019).

The demand for health products in Southeast Asia has risen further amid the COVID-19 pandemc as consumers become increasingly aware of the benefits of health insurance. As such, AM Best expects that the growth of health premiums will continue to outpace other classes of business in the region. Local reinsurers also plan to increase their collaboration with cedents by offering greater operational support, including underwriting and product innovation among others.

AM Best views these developments as positive for domestic and regional reinsurers' business profiles due to the lower product risk and growing premium volume. In addition, as reinsurers tend to retain a higher share of health premiums compared to other classes of business, the decline in levels of retrocession dependency may have a positive impact on the companies' balance sheet strength especially for those with a history of heavier reliance on lower quality counterparties. However, the health insurance segment generally has lower profitability and may potentially present a challenge for reinsurers to manage at robust profit margins over the long run.

September 2, 2020

Latin American Reinsurers Weathering Pandemic Stress

Latin America remains attractive to reinsurers even as conditions harden due to economic, political, and social vulnerabilities

The International Monetary Fund expects GDP for the Latin American region to contract by 9.4% as a result of the global economic crisis caused by the COVID-19 pandemic. Deteriorating economic, political, and social conditions affect the underlying industries that rely on insurance, which may lead to adjusted reinsurance treaty terms (including coverages, prices, and adjustments to overall programs) as the economies respond to the pandemic. Regional insurers, however, rely on reinsurance as a capacity provider, business partner, and safety net, particularly for participants with capital efficiency strategies and those exposed to catastrophic events.

AM Best estimates the Latin American reinsurance market at USD16.7 billion in ceded premium, or roughly 5% of global reinsurance premiums.[1] The countries most prone to natural catastrophes or with large GDPs—including Mexico, Brazil, and Chile—are the largest Latin American reinsurance markets. Results for Latin America's primary insurance market were mixed, with healthy real growth rates (in local currencies) in Peru (7.6%), Colombia (5.8%), Mexico (3.8%), Guatemala (3.6%), and Brazil (2.0%). Countries such as Panama (0.2%), Chile (-1.8%), and Argentina (-14.0%) continue to struggle with domestic economic, political, and social challenges. AM Best thinks that rising reinsurance growth opportunities will be centered in those countries expecting a sharp economic recovery or prone to natural catastrophes (**Exhibit 1**).

Some Latin American insurance markets may contract by as much as 25% in 2020, mostly reflecting a drop in premiums in the personal lines, which tends to be less reinsurance-intensive. A substantial part, however, also is expected to come from large risks and specialty, which are highly dependent on reinsurance capacity.

Key contributing factors currently challenging the Latin American reinsurance market include adjustments to the demand for reinsurance as a result of lower insurer cash flows, contracting economic activity in underlying industries, and declining infrastructure spending. Restrictions on industrial production and travel also have disrupted supply chains and economic flows, limiting the reinsurance acquiring capacities of some clients. Coverages for industries that have come to a virtual halt, including air travel and industrial production, have been particularly challenging during the pandemic. The Economic Commission for Latin America and the Caribbean (ECLAC) notes the severe impact that COVID-19 has had on tourism and the hospitality sector, as well as the significant effect on the mining, construction, and utility sectors. Many Latin American countries have redirected spending from infrastructure projects to tackle the effects of the pandemic.

Despite the current challenges facing Latin American reinsurers, there may be cause for optimism on the horizon, in the form of developing opportunities. Cuts in interest rates and depreciating local currencies could create conditions for repatriation of capital from foreign insurance subsidiaries in an effort to safeguard its value. This could increase demand for treaty

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[1] Does not include cost of excess of loss contracts excluded from ceded premium by local reporting standards for some countries.

programs to provide capital relief for selected insurers. Additionally, coverages for contingencies (business interruption), liabilities, and arising risks (such as cyber) could be in higher demand due to new working environment dynamics (remote and onsite), creating innovation opportunities. CAT coverage needs will persist to safeguard productive assets in the region, but could open opportunities for parametric alternatives (in which a triggering event occurs or a specified threshold is reached) as a cost-efficient strategy for insurers. The strengthening of solvency regulations and minimum ratings for foreign reinsurers will continue to provide local insurers with solid reinsurance providers to protect their balance sheets.

Exhibit 1
Ceded Premiums and GDP Expectations

Country	Ceded Premium 2019 (USD millions)	GDP Growth 2020 Forecast (%)	GDP Growth 2021 Forecast (%)
Mexico	5,865.4	-6.6	3.00
Brazil	2,756.8	-5.3	2.90
Chile	2,027.4	-4.5	5.30
Colombia	1,833.6	-2.4	3.70
Peru	990.1	-4.5	5.20
Panama	625.3	-2.1	4.00
Ecuador	617.1	-6.3	3.90
Argentina	423.3	-5.7	4.40
Guatemala	346.4	-2.0	5.50
Costa Rica	315.2	-3.3	3.00
Dominican Republic	300.9	-1.0	4.00
Bolivia	283.3	-2.9	2.90
El Salvador	259.5	-5.4	4.50
Honduras	229.0	-2.4	4.10
Uruguay	119.6	-3.0	5.00
Nicaragua	79.0	-6.0	0.00

Source: AM Best data and research; local regulators; National Association of Insurers Data

Latin America represents a small part of the global risk portfolio, but leading global reinsurers and brokers maintain both a presence and an interest in the region. Many reinsurers are proceeding cautiously in deploying their capacities and, in some specific cases, divesting from stakes in insurance companies. Willis Re reported that in the first four months of 2020, reinsurers in Latin America stood firm in maintaining capacity, neither expanding nor cutting it as rates adjusted. Lloyd's has maintained a steady presence in the Americas the last five years, accounting for 7% of its business on average.

Historically, reinsurers provided an alternative for better returns in comparison to other asset classes during bearish markets. Nevertheless, industry results in previous years have made investors wary of the risks, limiting additional capacity. Alternative risk capital in the region is still low, with very limited insurance-linked securities and CAT bonds used only by sovereigns. The effects of COVID-19 on income statements globally remain uncertain, although AM Best expects policy exclusions to be followed throughout Latin America.

Although Latin America is prone to natural catastrophes, no significant market-hardening events have occurred since 2013. The biggest insured loss—USD5.1 billion in 2017—was due mostly to Hurricanes Irma and Maria in Puerto Rico. Insured losses in 2019 for the region came to USD5.2 billion, representing 8.7% of global insured losses, according to Swiss Re. Up until the first half of 2020, we estimate the region's insured losses to be about USD1.25 billion based on AON's Global Catastrophe Recaps.

Latin American reinsurers may return to known turf

Over the past few years, some Latin American reinsurers that perceive themselves as having excess capital have diversified by expanding into Europe, the Middle East, North Africa, and Asia, through vehicles such as Lloyd's syndicates or by setting up their own operations. However, the experience has not been entirely positive, as implementation costs and loss

experience have not met participants' projections. AM Best expects these participants to return to familiar ground to stabilize results. Global development institutions have been active in terms of due diligence throughout Latin America and may constitute an extra resource to support the growth and expansion of Latin American companies worldwide.

Stable Outlook for Reinsurance in Latin America

Latin America remains attractive to reinsurers, although conditions are hardening. The economic, political, and social vulnerabilities of the region make it more susceptible to a deeper economic crisis than other regions, a factor weighed heavily by global reinsurers, as well as the usual risks in the region. AM Best expects primary companies to continue their profitable risk selection for future business, but the effects of claims from the pandemic on reinsurers portfolios remain to be seen. Although insured losses may have been low in recent years, market participants remain aware of the region's susceptibility to earthquakes and weather volatility.

September 2, 2020

MENA Reinsurers Strive to Adapt to Testing Conditions

In general, MENA regional reinsurers have demonstrated resilience in a difficult operating environment

Regional reinsurers operating in the Middle East and North Africa (MENA) are no strangers to challenging operating conditions. In recent years, the region's reinsurance market has been characterised by competitive pricing pressures, overcapacity and increased incidence of large losses. In 2020, the fallout from COVID-19 and a volatile oil price environment have added to the challenges faced by local reinsurers.

Market Landscape Stabilising

The composition of the region's reinsurance market is beginning to stabilise following turbulence in recent years. The renewal periods in 2019 and 2020 were the first to follow the high profile difficulties faced by Trust International Insurance and Reinsurance Co., and the exit of Arab Insurance Group from the market – formerly two of the region's largest players. Prior to this, the region saw the run-off of a number of local reinsurers, including Asia Capital Retakaful MEA (Bahrain), Emirates Retakaful, and Takaful Re.

Following this shift in regional capacity offerings, cedants reshuffled their reinsurance panels, which allowed existing participants to cement their positions and provided others with new opportunities to gain access to market premiums.

Unsurprisingly, given the regional footprint and diversification drive of many MENA reinsurers and international reinsurers' appetite to maintain a presence in the region, reinsurance capacity is plentiful and competition remains high.

Some MENA primary insurers also participate in the local reinsurance market, leveraging their balance sheets and rating levels to write inward facultative business. Despite losses incurred on inward facultative portfolios in recent years, capacity for this business appears readily available and primary carriers' appetite to write this business persists, adding to overall competition. Certain markets, such as Algeria, have structural features to prioritise, or mandate, local reinsurance placements, however, in general the region as a whole remains open, with few reinsurance regulatory restrictions.

Strain on Underwriting Performance Persists

In general, MENA regional reinsurers have demonstrated resilience in a difficult operating environment. Aside from strong competition, the region's reinsurers face performance challenges arising from a lack of both scale and diversification when compared with their international competitors. Additionally, they often participate as followers on reinsurance programmes, particularly those outside of their home market, which restricts their ability to dictate terms.

The strategies adopted by MENA reinsurers vary considerably. Certain reinsurers benefit from long-standing legal cessions in their domestic markets, while others focus on providing proportional capacity. Strategic shifts are ongoing, with some looking to increase non-proportional and facultative business, as well as improve regional and international diversification.

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Exhibit 1
MENA Reinsurers – Technical Performance, 2017-2019

			Loss Ratio - Non-Life (%)				Combined Ratio - Non-Life (%)			
AMB #	Company Name	Country	2019	2018	2017	3yr Avg	2019	2018	2017	3yr Avg
89190	Arab Reinsurance Co. SAL	Lebanon	71.1	69.6	76.7	72.4	105.7	105.4	107.4	106.1
85013	Arab Insurance Group (B.S.C.) *	Bahrain	59.5	84.0	69.0	70.9	96.4	118.3	103.8	106.2
90777	Compagnie Centrale de Réassurance	Algeria	59.4	52.7	51.3	54.4	84.3	83.3	82.3	83.3
78849	Hannover Re Takaful B.S.C. (c)	Bahrain	63.7	69.1	61.1	64.6	102.7	101.6	95.1	99.8
85585	Kuwait Reinsurance Co. K.S.C.P.	Kuwait	65.9	63.9	67.4	65.7	96.5	96.2	98.0	96.9
85454	Milli Reasurans Turk Anonim Sirketi	Turkey	89.2	93.9	75.8	86.3	122.4	128.9	110.8	120.7
93609	Oman Reinsurance Co. SAOC	Oman	66.5	55.2	62.3	61.3	106.6	93.7	105.6	102.0
90005	Saudi Reinsurance Co.	Saudi Arabia	63.6	63.2	67.2	64.7	95.4	98.1	100.4	98.0
84052	Société Centrale de Réassurance	Morocco	35.1	51.0	62.2	49.4	81.8	93.2	94.9	90.0
83349	Société Tunisienne de Réassurance	Tunisia	62.3	73.3	65.2	66.9	99.2	113.2	105.2	105.9
86326	Trust International Insur & Reins Co. BSC	Bahrain	NA	73.0	69.0	71.0	NA	102.9	101.7	102.3

Note: Excludes companies for whom financial data were not available
* Aug. 13, 2020: Arab Insurance Group (B.S.C.) announced that it would cease writing further reinsurance business and seek to carry out an orderly run-off of its existing portfolio
Source: Best's Financial Suite - Global, AM Best data and research

Exhibit 2
MENA Reinsurers – Investment Yield and Return on Equity, 2017-2019

			Investment Yield (%)				Return on Equity (%)			
AMB#	Company Name	Country	2019	2018	2017	3yr Avg	2019	2018	2017	3yr Avg
89190	Arab Reinsurance Co. SAL	Lebanon	7.4	5.9	5.6	6.3	-3.1	5.3	4.4	2.2
85013	Arab Insurance Group (B.S.C.) (C) *	Bahrain	3.4	1.3	2.8	2.5	8.7	-23.0	3.2	-3.7
90777	Compagnie Centrale de Réassurance	Algeria	4.6	4.2	3.5	4.1	8.3	9.0	9.2	8.8
78849	Hannover Re Takaful B.S.C. (c)	Bahrain	7.0	0.6	2.3	3.3	14.9	2.0	0.4	5.8
85585	Kuwait Reinsurance Co. K.S.C.P.	Kuwait	3.9	3.3	2.8	3.3	9.3	7.1	6.9	7.8
85454	Milli Reasurans Turk Anonim Sirketi	Turkey	16.2	15.7	12.1	14.6	10.5	13.1	12.1	11.9
93609	Oman Reinsurance Co. SAOC	Oman	4.0	1.5	2.4	2.6	3.6	3.0	0.4	2.3
90005	Saudi Reinsurance Co.	Saudi Arabia	2.4	0.7	3.9	2.3	5.3	0.1	3.1	2.8
84052	Société Centrale de Réassurance	Morocco	2.8	2.6	4.3	3.2	11.3	11.8	20.2	14.4
83349	Société Tunisienne de Réassurance	Tunisia	8.7	8.1	6.8	7.9	5.8	8.7	6.4	7.0
86326	Trust International Insur & Reins Co. BSC	Bahrain	NA	1.1	2.0	1.6	NA	-11.7	1.2	-5.2

Note: Excludes companies for whom financial data were not available
* Aug. 13, 2020: Arab Insurance Group (B.S.C.) announced that it would cease writing further reinsurance business and seek to carry out an orderly run-off of its existing portfolio
Source: Best's Financial Suite - Global, AM Best data and research

It is not uncommon for reinsurers to report comparatively strong performance in their local market, reaping the benefit of local expertise and long-standing relationships with market participants. In contrast, attempts to diversify geographically are often accompanied by thinner margins and increased volatility, a function of smaller participations, "follower" positions and varied risk exposures, which differ from those in their home markets.

Consistent, strong underwriting returns appear to be the exception rather than the rule. Of the regional reinsurers presented in **Exhibit 1**, all but three have seen their non-life combined ratios swing above 100% at least once in the past three years.

An increasing volume of natural catastrophe losses has affected performance in recent years. The frequency of flooding in the region is increasing. While notable flood events have occurred recently in the United Arab Emirates (UAE), Bahrain and Kuwait, the risk is still

not appropriately modelled and priced into policies despite recent improvements in regional catastrophe risk modelling. Oman has also seen several large cyclone losses, and the region is exposed to earthquake risk.

Despite general pressure on underwriting margins, overall returns have remained robust for MENA reinsurers, with returns on equity (ROE) largely sitting around the mid-single digits. Investment performance continues to be a core component of operating results. However, with the exception of Turkey and to a lesser extent Tunisia, interest rates across the region remain low, and volatility in the fair value of assets is prevalent. In the near-term, the economic fallout of the COVID-19 pandemic and low oil price environment are likely to add to the strain on investment returns and total operating earnings for regional reinsurers.

Firming Reinsurance Market

In line with the broader reinsurance market, there are signs and expectations of hardening reinsurance pricing across the MENA region. However, opinions diverge as to whether there will be material rate increases.

The extent and pace of rate increases – and the ability of regional reinsurers to benefit from them – will be dictated by a number of factors. With many MENA reinsurers typically acting as “followers” on programmes, this may inhibit their ability to drive extensive rate change, especially if lead markets are willing to accept only modest price increases.

Whether hardening or firming, the landscape appears to have shifted between the January 2020 renewals and the summer renewal period. This dynamic is perhaps best highlighted by the renewal experience of non-loss affected accounts. These saw discounts at the turn of the year, but rates appear to have stabilised, and in some cases increased, at the mid-year renewals.

COVID-19 and the Oil Price Environment

If firming reinsurance market conditions provide positive momentum for the MENA reinsurance sector, the COVID-19 pandemic and the current oil price environment provide fresh headwinds. A combination of these factors was instrumental in AM Best’s decision to revise its Market Segment Outlook for the Gulf Cooperation Council (GCC) – a significant, and largely oil-reliant, sub-section of the MENA region – to negative from stable in early June 2020.

In AM Best’s view, increased economic and investment risk pose a greater threat to MENA reinsurers than the expected underwriting hit from COVID-19. In many instances, state-led public health responses have borne the brunt of COVID-19 related medical costs. Additionally, mortality losses remain low – a function of life reinsurance being a small component of the market, coupled with strong virus containment measures in the region to date. Nonetheless, in recent months it has become standard to add explicit COVID-19 policy exclusions in primary and reinsurance contracts.

Many of the economies in the MENA region remain reliant on oil revenues. Oil prices took a steep negative turn in March 2020, given weakened demand due to the COVID-19-driven economic slowdowns and significant excess supply. Despite an agreement by OPEC+ to cut oil output in April 2020, prices have remained volatile and, although having recovered somewhat, oil prices at the time of writing remain below the fiscal break-even point of the region’s oil exporting nations. Oil price volatility has a direct impact on economic output and governments’ fiscal capacity across the region.

Port Explosion In Beirut

On 4 August, 2020, the port of Beirut, Lebanon, was hit by a devastating explosion, which resulted in many casualties and caused significant damage to large parts of the city. At the time of writing, ultimate loss estimates arising from the blast remain uncertain. Reports indicate insurance claims exceeding USD 400 million had been received by mid-August. AM Best notes that this figure has the potential to rise significantly.

Property classes - including business interruption - and marine exposures within the port are expected to drive insured losses from the blast. AM Best notes that insurance penetration in Lebanon is generally low. Property insurance represents only a small fraction of market premiums. However, the extent of the damage in one of the busiest and wealthiest areas of the country magnifies the insured loss potential.

While the impact on the region's (re)insurers remains to be fully quantified, AM Best expects MENA reinsurers to carry exposure to this event. The ceding of meaningful insured losses to regional reinsurance markets would be expected to strain technical performance margins over the near-term.

For MENA reinsurers, the economic fallout of COVID-19 and the challenging oil price environment is expected to lead to reduced premium volumes. AM Best expects a regional contraction of premium in the near-term in the primary market, partly reflecting delays in implementation of mandatory product coverages, as well as reduced demand for non-compulsory insurance products. This primary market premium reduction will have a knock on effect in the reinsurance segment. A reduction in public spending on infrastructure projects, given reduced oil revenues, is another area which may drive lower insurable risk opportunities for MENA reinsurers. These risks are typically heavily reinsured by the region's insurers, and have provided profitable opportunities for MENA reinsurers. Although regional reinsurers generally cede a large portion of these participations to international reinsurance partners, they benefit from the associated commissions.

A reduction in reinsurance opportunities as a result of the COVID-19 pandemic and weak oil price environment has the potential to exacerbate already significant competition across the region and may slow the positive reinsurance pricing momentum.

Exhibit 3

MENA Reinsurers – AM Best-Rated Companies

Ratings as of Aug. 05, 2020.

AMB #	Company Name		Best's Long-Term Issuer Credit Rating (ICR)	Best's Financial Strength Rating (FSR)	Best's ICR & FSR Action	Best's ICR & FSR Outlook	Rating Effective Date
89190	Arab Reinsurance Co. SAL	Lebanon	bbb- u	B+ u	Under Review	Negative	17-Apr-20
90777	Compagnie Centrale de Réassurance	Algeria	bbb-	B+	Affirmed	Stable	12-Sep-19
85585	Kuwait Reinsurance Co.K.S.C.P.	Kuwait	a-	A-	Affirmed	Stable	14-May-20
85454	Milli Reasurans Turk Anonim Sirketi	Turkey	bb+	B	Downgraded	Stable	18-Jun-20
84052	Société Centrale de Réassurance	Morocco	bbb	B++	Affirmed	Stable	27-Nov-19
83349	Société Tunisienne de Réassurance	Tunisia	bbb-	B+	Affirmed	Stable	15-Jul-20

Source: *Best's Financial Suite - Global* , AM Best data and research

Retakaful – Long-Term Growth Potential

Retakaful (Islamic reinsurance) operators have yet to achieve sustained traction in the MENA region, despite ample opportunities. Over the past two decades, there has been significant growth and interest in the MENA retakaful market. Many retakaful formations have been structured as greenfield investments, and others formed by large global reinsurers looking for additional distribution platforms. However, initial strong momentum has stalled due to inconsistent and underperforming technical results. In recent years, market contraction has occurred with "dedicated" retakaful operators such as Takaful Re and Emirates Retakaful (both from the UAE) exiting the market due to poor performance, driven in part by their inability to gain sufficient scale. The remaining retakaful operators in the region are now primarily branches or subsidiaries of conventional reinsurers, as opposed to standalone retakaful outfits.

In AM Best's opinion, several factors are constraining the success of retakaful in the region. These include the underachievement and small size of the region's direct takaful markets, and most notably competitive pressure from the conventional reinsurance market. Additionally, Shari'a boards of takaful operators are not taking a strict approach to retakaful enforcement, allowing contributions to seep into the conventional market, arguing the necessity of policyholder protection. Without tighter regulation and Shari'a control of ceded contributions, the retakaful market will continue to be overlooked in favour of conventional reinsurers, inhibiting sizeable growth potential.

Nevertheless, AM Best expects interest in retakaful to persist, particularly if the primary takaful market continues to improve its performance while successfully expanding its footprint, capitalising on a growing target market. AM Best notes renewed interest from conventional reinsurers to establish Shari'a compliant operations in the region, notably in North Africa, in response to development in the primary market. While the shape of retakaful capacity offerings remains to be seen, positive dynamics in the primary takaful market suggests the long-term potential of the region's retakaful segment is good.

COVID-19-driven investment volatility has been significant for the region during 2020 to date. Asset allocations vary among the region's reinsurers, with those holding elevated exposure to equities seeing the largest fair value impacts. Even for those with lower allocations to equities, the potential for volatility, and impairments – both to fixed income and real estate holdings – remains high.

Rating Considerations

The majority of AM Best-rated reinsurers domiciled in the MENA region have seen rating affirmations over the past 12 months, indicative of stable rating fundamentals despite difficult market conditions.

The range of credit ratings encompasses Financial Strength Ratings of "B" through to "A-". The wide-ranging scale partly reflects divergent assessments of country risk across the region. Despite the range in credit quality, MENA reinsurers tend to demonstrate strongest levels of risk-adjusted capitalisation, as measured by Best's Capital Adequacy Ratio, reflective of significant capital buffers relative to their operational exposures.

While operating performance is generally considered as "adequate" for MENA reinsurers, challenges persist in achieving sustainable underwriting profitability. COVID-19-driven pressures on current and prospective investment returns also present hurdles.

Regional reinsurers have demonstrated resilience over recent years to a range of market challenges. Despite green shoots as regards market conditions, AM Best expects the operating environment for MENA reinsurers to remain testing. Those reinsurers with robust capital buffers and good market positions are considered best placed to weather the storm.

September 2, 2020

Tough Operating Conditions Present Challenges for Sub-Saharan Reinsurance Markets

Rapid industrialisation and increasing investment in infrastructure have contributed to the expansion of SSA reinsurance markets over the past 10 years

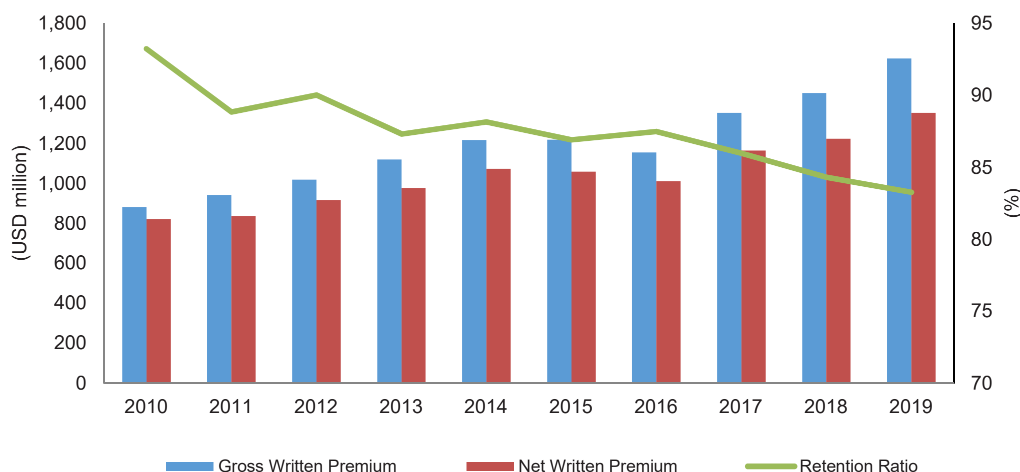
For many years, sub-Saharan Africa (SSA) reinsurance markets, though small by global standards, have provided global reinsurers with an opportunity for diversification and profitable revenue growth. However, competition and rising acquisition costs have led to a gradual deterioration in the performance of market participants, reducing the attractiveness of the region to potential new entrants.

Nigeria, South Africa and Kenya are the three largest economies in the region, as measured by gross domestic product (GDP), and as such generate the majority of its reinsurance revenue.

The operating environments across SSA remain difficult for both domestic and international companies, more recently exacerbated by the COVID-19 pandemic (albeit with varying severity). Many of the region's markets face double-digit inflation and local currency depreciation; and for some countries, government instability and corruption have contributed to social unrest and political uncertainty. Despite these challenges, there remains significant growth potential for the (re)insurance sectors due to the region's substantial natural resources, a young and growing population, and the gradual development of regulatory regimes.

Exhibit 1

Sub-Saharan Africa – Written Premiums and Retention Ratios for AM Best-Rated Reinsurers, 2010-2019



Sources: *Best's Financial Suite - Global*, AM Best data and research

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Growth Has Slowed, Profit Margins Have Narrowed

Rapid industrialisation and increasing investment in infrastructure in SSA, together with gradual increases in insurance penetration, have contributed to the expansion of the region's reinsurance markets over the past 10 years. AM Best expects that trend to continue.

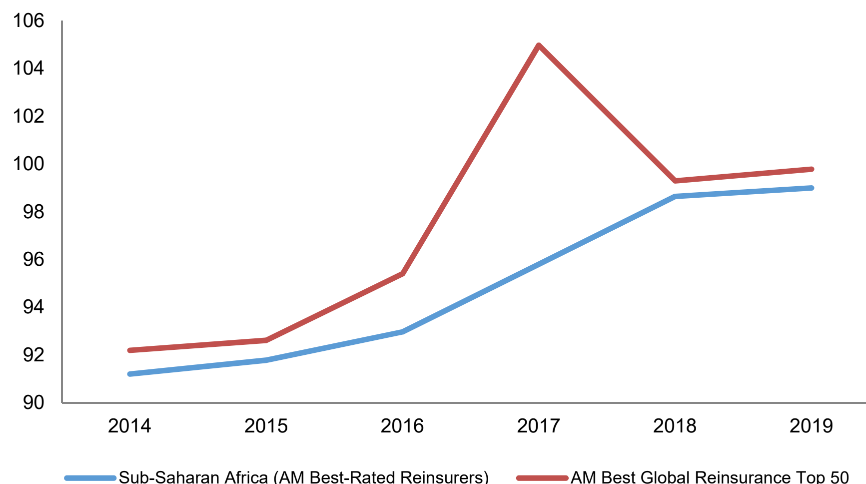
SSA reinsurers rated by AM Best have experienced good growth. Gross written premium (GWP) has grown at a 10-year compound annual growth rate (CAGR) of 6.3% (calculated in US dollars). GWP growth has been driven predominantly by the non-life insurance segment, as life business is at a nascent stage of development in many of the region's countries.

The steady growth in GWP (see **Exhibit 1**) was achieved over this period despite the significant depreciation of local currencies against the US dollar. The Nigerian naira and South African rand have depreciated by 61% and 56%, respectively, since 2010. Following the 2014-2016 oil price crash, the region demonstrated a modest economic recovery which bolstered the reinsurance market (seen as a four-year (2016-2019) GWP CAGR of 8.9%).

Over the short-to-medium term, growth of the SSA reinsurance market is expected to flatten, affected by a fall in economic activity and a drop in the value of local currencies as a consequence of the COVID-19 pandemic - the International Monetary Fund projects that SSA will experience a real GDP contraction of 1.8% in 2020, a 4.7 percentage-point reduction against 2019.

Traditionally, SSA reinsurers have focused largely on local African risks. As a result, the region's carriers were not exposed to the major catastrophe losses experienced by the global reinsurance market over the past three years. In 2019, the weighted average loss ratio for AM Best-rated reinsurers in the region was 58.8% (see **Exhibit 2**), compared with 69.4% for the 50 largest global reinsurers. However, performance is affected by increasing acquisition costs imposed by the domestic broker markets, and limited efficiency driven by a lack of economies of scale. Consequently, the weighted average expense ratio reported in 2019 for the region

Exhibit 2
Sub-Saharan Africa – Combined Ratios, 2014-2019
(%)



Sources: *Best's Financial Suite - Global*, AM Best data and research

compared unfavourably with the broader reinsurance market at 40.2%, versus 30.4% for the 50 largest global reinsurers.

In line with the global reinsurance top 50 composite, AM Best has observed a deterioration in underwriting performance for the reinsurers it rates in the SSA region, though for very different reasons. The weighted average combined ratio of SSA reinsurers has risen steadily since year-end 2014, when it was as low as 91.2%, to 99.0% in 2019. Over the period, the underwriting results of a number of mid-sized African reinsurers were negatively impacted by a combination of a higher frequency of mid-sized losses, with limited retrocession protection, as well as the poor performance of non-core overseas business, most notably in the Indian subcontinent. The aggressive expansion into the Indian agricultural segment by a number of SSA reinsurers in particular, has played a noteworthy role in the deterioration of the average loss ratio.

Furthermore, negative exchange rate movements, particularly between 2016 and 2018, generated claims inflation - especially on lines of business that rely on the importation of goods/spare parts - and an increase in foreign currency denominated technical provisions for non-US dollar reporting companies. This has contributed to the gradual deterioration of the loss ratio for several African reinsurers that report in local currency.

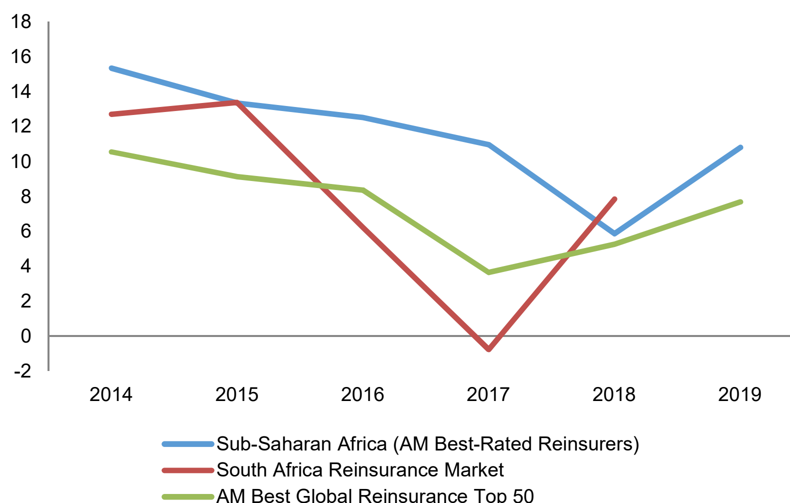
Despite the decline in underwriting results, the segment continues to return solid levels of profitability, demonstrated by a five-year (2015-2019) weighted average return on equity (ROE) of 10.7%, compared with 6.8% reported for the global reinsurance top 50 composite (see **Exhibit 3**). The region's weighted average ROE is largely driven by the performance of African Reinsurance Corporation (Africa Re) and ZEP-RE (PTA Reinsurance Co.) (ZEP Re), both of which report in US dollars, which, to some extent, limits the impact of high inflation in their core markets on their reported net income. The ROE for SSA reinsurers must be considered in conjunction with their high levels of risk-adjusted capitalisation, as measured by Best's Capital Adequacy Ratio (BCAR) (see **Exhibit 4**), which indicates solid capital buffers that temper this metric.

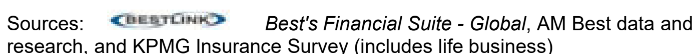
AM Best expects the fallout of the COVID-19 pandemic and subsequent economic downturn to impact the reinsurers that it rates in the SSA region. Elevated levels of inflation, local currency depreciation and a deterioration in the collectability of premiums are among some of the challenges that SSA reinsurers are expected to face.

Regional Capacity is Limited

The larger reinsurers in SSA (excluding South Africa) tend to be either national or supra-national entities, which often benefit from compulsory cessions and a mandate to develop local

Exhibit 3
Sub-Saharan Africa – Return on Equity, 2014-2019
(%)





Sources: *Best's Financial Suite - Global*, AM Best data and research, and KPMG Insurance Survey (includes life business)

Exhibit 4
Sub-Saharan Africa – Best's Capital Adequacy Ratio (BCAR) Scores – AM Best-Rated Reinsurers
(As at Aug. 5, 2020)

AMB#	Company Name	2019 Capital & Surplus including Minority Interests (USD 000s)	Best's Capital Adequacy Ratio (VaR %)* 95.0	99.0	99.5	99.6	Assessment Effective Date
83411	African Reinsurance Corporation	975,198	76.2	68.0	63.2	61.4	11-Dec-19
94974	Kenya Reinsurance Corporation Ltd.	318,549**	61.1	53.8	44.5	37.9	21-Apr-20
78388	ZEP-RE (PTA Reinsurance Co.)	262,320	68.7	63.4	60.9	60.2	11-Dec-19
93852	CICA Re	103,729	73.4	63.5	59.5	58.2	30-Jan-20
71675	WAICA Reinsurance Corporation PLC	89,370	82.0***	73.2***	69.1***	67.5***	1-Jul-20
93641	Continental Reinsurance Plc	83,847	74.0	62.1	56.2	53.8	12-Dec-19
71476	Ghana Reinsurance Co. Ltd.	64,213	73.7	66.1	62.9	62.0	19-Dec-19
77803	East Africa Reinsurance Co. Ltd.	50,611	56.3	50.2	47.6	46.8	13-Dec-19

Notes:

BCAR scores calculated at the consolidated group level.

* BCAR scores based on year-end 2018 data. ** Pre-Audit. *** BCAR scores based on year-end 2019 data.

Sources: *Best's Financial Suite - Global,* AM Best data and research

primary markets. Competition comes from a relatively small group of sophisticated large global reinsurers, and a number of smaller regional privately owned companies.

Despite the solid growth in capital demonstrated by the industry in recent years, the level of capacity offered by African reinsurers is still relatively low in the context of the global reinsurance market. The capital base of SSA reinsurers is typically too small to meet fully the needs of the local primary markets, where construction and energy risks often require significant capacity. Established and internationally experienced companies are able to contribute the know-how needed to manage complex risks and offer greater capacity than local market participants. With a few notable exceptions, local and regional reinsurers act as followers, subscribing to the terms and conditions arranged by the lead reinsurer.

Most local primary markets are characterised by low insurance penetration rates. Typically for each market, a moderately high number of small companies write concentrated insurance portfolios. Moreover, the ability of companies to access or attract a workforce with the talent and experience required to successfully innovate and grow profitably remains a challenge for the industry across the region. In some cases the quest for market share has led to companies aggressively pricing business at the cost of profitability.

The gradual strengthening of regulatory capital requirements for (re)insurers, particularly in Nigeria and Kenya, is expected to encourage some industry consolidation, which could create (re)insurers with greater capacities. However, this will not directly address the skills gap or the limited level of insurance penetration on the continent.

High Barriers to Entry

Barriers to entry remain high in many African reinsurance markets and include protectionist local regulations, as well as the presence of state-owned reinsurance companies or specialised pools (in which a state might have interests) in a handful of countries. The expansive geography of the continent but relatively small (re)insurance market size, coupled with

significant cultural and policy position differences, has limited the level of interest from global participants.

In recent times, authorities have become more aggressive in the protection of their national markets. Some countries limit the access of foreign companies to reinsurance in an effort to retain premiums domestically. This protectionist tendency often deprives these markets of the ability to diversify risks and gain access to international expertise and resources. This protectionism can also force primary market participants to cede risks to reinsurers of a generally weaker credit quality. Nevertheless, supra-national reinsurers such as Africa Re, CICA Re and ZEP Re play an important role in supporting the underlying insurance markets, maintaining a mandate that goes beyond a pure commercial existence.

Credit Quality Varies Among Participants

The credit quality of the reinsurance offerings on the African continent is wide-ranging and significantly impacted by each company's ability to operate in environments which generally present high political, economic, and financial system risks.

Historically, the rating fundamentals of AM Best-rated SSA reinsurers have been stable. However, in recent times, deteriorating operating conditions have weakened the credit quality of certain companies. For all rated entities, risk-adjusted capitalisation, as measured by BCAR, remains at the Strongest level (above 25% at the 99.6% confidence level), largely as a consequence of their often under-utilised capital bases due to a low exposure to underwriting risk. Nevertheless, the balance sheet strength assessments of almost all entities are assessed as Very Strong (see **Exhibit 5**), with high levels of asset risk associated with investing in domestic markets and elevated credit risk derived from high levels of aged receivables considered offsetting factors.

With the exception of three players, operating performance of AM Best-rated SSA reinsurers is assessed as Adequate, and is reflective of their typically volatile, yet solid, inflation-adjusted profitability.

The competitive position of SSA reinsurers varies greatly from company to company. Several rated reinsurers receive either a Neutral or a Favorable business profile assessment, which

Exhibit 5
Sub-Saharan Africa – Best's Credit Ratings – Assessment Descriptors
(As at Aug. 5, 2020)

AMB#	Company Name	Balance Sheet Strength Assessment	Operating Performance Assessment	Business Profile Assessment	Enterprise Risk Management Assessment	Assessment Effective Date
83411	African Reinsurance Corporation	Strongest	Strong (+1)	Favorable (+1)	Appropriate (0)	11-Dec-19
93852	CICA Re	Very Strong	Adequate (0)	Neutral (0)	Weak (-2)	30-Jan-20
93641	Continental Reinsurance Plc	Very Strong	Adequate (0)	Neutral (0)	Marginal (-1)	12-Dec-19
77803	East Africa Reinsurance Co. Ltd.	Very Strong	Adequate (0)	Limited (-1)	Marginal (-1)	13-Dec-19
71476	Ghana Reinsurance Co. Ltd.	Very Strong	Adequate (0)	Limited (-1)	Weak (-2)	19-Dec-19
94974	Kenya Reinsurance Corporation Ltd.	Very Strong	Adequate (0)	Neutral (0)	Weak (-2)	21-Apr-20
71675	WAICA Reinsurance Corporation PLC	Very Strong	Strong (+1)	Limited (-1)	Marginal (-1)	1-Jul-20
78388	ZEP-RE (PTA Reinsurance Co.)	Very Strong	Strong (+1)	Neutral (0)	Marginal (-1)	11-Dec-19

Sources: *Best's Financial Suite - Global*, AM Best data and research

reflects their privileged market access in the form of mandatory cessions, as well as their moderate geographical diversification.

Overall, the risk management capabilities of SSA reinsurers are not commensurate with their elevated risk profile. AM Best's enterprise risk management (ERM) assessment of individual reinsurers in the region is typically Marginal or Weak and takes into account the risk management requirements of companies operating in environments with high economic, political, and financial system risks. Moreover, the region's relatively basic catastrophe modelling capabilities, compounded by limited access to accurate data of underlying insured risks from cedants (for treaty business in particular), makes it extremely difficult for SSA reinsurers to manage their accumulations.

Exhibit 6

Sub-Saharan African Reinsurers – AM Best-Rated Companies

As at Aug. 05, 2020.

AMB #	Company Name		Best's Long-Term Issuer Credit Rating (ICR)	Best's Financial Strength Rating (FSR)	Best's ICR & FSR Action	Best's ICR & FSR Outlook	Rating Effective Date
83411	African Reinsurance Corporation	Nigeria	a	A	Affirmed	Stable	11-Dec-19
93852	CICA Re	Togo	bb+	B	Affirmed	Stable	30-Jan-20
78723	Continental Reinsurance Plc	Nigeria	bbb-	B+	Affirmed	Stable	12-Dec-19
77803	East Africa Reinsurance Co. Ltd.	Kenya	bb+	B	Affirmed	Stable	13-Dec-19
90035	Ghana Reinsurance Co. Ltd.	Ghana	bb	B	Affirmed	Stable	19-Dec-19
85416	Kenya Reinsurance Corporation Ltd.	Kenya	bb+	B	Affirmed	Negative*	21-Apr-20
94468	WAICA Reinsurance Corporation PLC	Sierra Leone	bbb-	B+	Assigned	Stable	1-Jul-20
78388	ZEP-RE (PTA Reinsurance Co.)	Kenya	bbb	B++	Affirmed	Stable	11-Dec-19

Notes: *FSR = Stable.

Sources:

Best's Financial Suite - Global , AM Best data and research

South Africa

South Africa, one of Africa's most industrialised economies, has been on one of the longest downward trends in decades, with business confidence and employment rates at their lowest level in years. In particular, the country's economic activity has been weighed down by power-supply constraints, with power blackouts a regular occurrence. More recently, the COVID-19 health crisis has created additional headwinds for the South African economy and its reinsurance market, owing to a strict government-mandated lockdown and weak outlook for global consumer demand.

South Africa is by far the largest single insurance market in SSA, with estimated GWP of USD 47 billion in 2019 (Kenya USD 2.2 billion and Nigeria USD 1.6 billion), according to Swiss Re Institute's sigma report, *"World Insurance: Riding out the 2020 Pandemic Storm"*. The country has a relatively mature insurance market with established life and non-life segments.

In recent years, the profitability of the South African reinsurance sector has seen a sharp downturn. The weighted average combined ratio for the market was 104.4% in 2018, up from 96.4% in 2013 (see **Exhibit 7**). Performance of the market's reinsurers was significantly impacted by soft pricing conditions in the corporate segments, as well as a spate of natural catastrophes in 2017 and 2018, including storms, flooding and a tornado in Vaal Marina. Meanwhile, severe flooding in Durban will impact 2019 results.

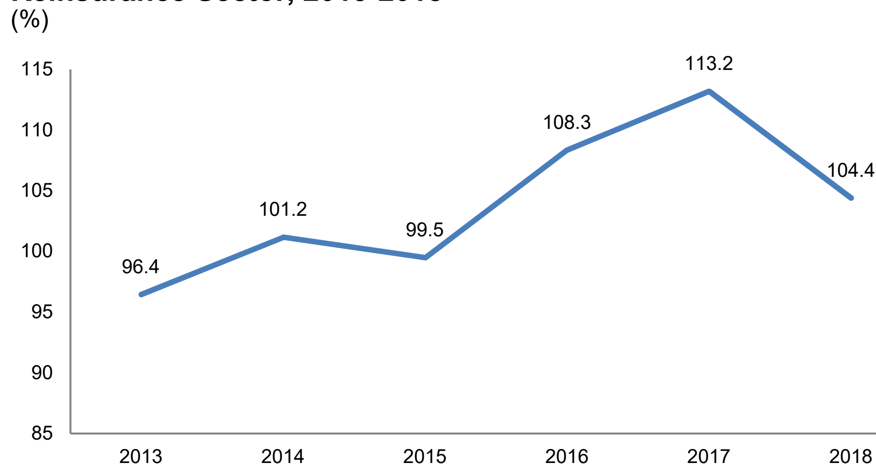
Over the short-to-medium term, the industry is facing further challenges. The fallout of the COVID-19 pandemic on the (re)insurance industry has already begun, with businesses in the hospitality and tourism sectors going to court in a bid to resolve the denial of business interruption (BI) claims.

Insurance Claims Africa (ICA), a loss adjusting firm that is representing numerous policyholders in potential lawsuits against the insurance sector, has estimated that ensuing claims as a result of COVID-19-related BI losses could amount to as much as USD 232 million for local primary insurers. In July 2020, a court decision ruled in favour of an insured in one particular case. Should there be further decisions in favour of claimants, AM Best expects reinsurers with policies written back-to-back will take a share of the costs borne by the primary market.

Exhibit 7

Sub-Saharan Africa – Combined Ratios for South African Reinsurance Sector, 2013-2018

(%)



Source: KPMG Insurance Survey (includes life business)

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Best's Issuer Credit Rating (ICR): an independent opinion of an entity's ability to meet its ongoing financial obligations and can be issued on either a long- or short-term basis.

Best's Issue Credit Rating (IR): an independent opinion of credit quality assigned to issues that gauges the ability to meet the terms of the obligation and can be issued on a long- or short-term basis (obligations with original maturities generally less than one year).

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