Gallagher Re

WHITEPAPER

Cyber in the 2020s: A question of capacity

Foreword

As we adapt to new ways of working around the world, whether driven by the pandemic or broader industrial advances, the global economy is undergoing a quiet technological and cultural revolution. This paper explores the response of the cyber (re)insurance market to those shifts – a market rife with opportunity based on its dynamic ability to react and adapt quickly to the changing threat landscape – and explains why this is such an exciting time for all those involved in the cyber insurance value chain.

Cyber as a class continues to perform profitably despite rising attritional losses, with demand for cover surging and significant rate increases being seen across the board. But capacity is under pressure and a classic supply and demand imbalance has arisen with uniquely positive consequences for those providers of capital.

While there is talk of a hard market in other classes, the cyber market is undeniably already in one with nothing to suggest the current status quo will be likely to change for quite some time.

We hope this paper provides interesting insights and Gallagher Re welcomes further discussion around the various opportunities such market conditions are creating.

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Executive Summary

Cyber insurance premium has been predicted to more than double globally within the next 5 years[1]. And yet with rate increases of 50% possible this year alone, cyber could hit that expectation far sooner than anticipated – subject to there being sufficient capacity to support it.

Carriers pushed risk-adjusted rate increases in 2020 largely instigated by rising attritional losses despite the class as a whole performing profitably. As rates continue to harden through 2021, the class is on track to beat premium growth expectations while remaining a very attractive place to deploy capital.

Why is the cyber market so attractive?

Fundamentally it comes down to the market's unique ability to quickly react to changes in the threat landscape. Other classes can take years to respond, delivering ultimately poor returns while the cyber market has the ability to adapt quickly and maintain strong levels of profitability. This is being demonstrated as we speak – through rate rises, improvements in coverage, terms & conditions, and increased deductibles leading to much higher than originally projected risk-adjusted rate increases.

What's so exciting is this isn't the first time we have seen this in cyber. In 2015 after a series of large privacy breaches including retail giant Target and healthcare provider Anthem[2], rates saw huge increases in an effort to compensate for the losses. However, the market also responded by raising minimum security standards required for cover[3], while also tightening coverage[4], raising deductibles and ensuring rate adequacy. As this cycle continues, cyber as a class is consistently proving its dynamism, standing out against its peers. This isn't unique to 2020/2021 and will continue to be demonstrated far into the future[5].

How is this possible?

Simply put, it hinges on a classic supply and demand dynamic which is what this paper primarily explores.

Despite increased rates being achieved, cyber insurance renewal retention levels are much higher than expected. Carriers are retaining business despite aggressive rate increases while both existing and new buyers are looking to purchase additional aggregate limit. However, as the underlying market continues to grow so does the demand for capital further up the value chain.

Our analysis shows that in excess of 45% of premium is ceded to reinsurers (up from circa 40% in 2020) meaning the level of reliance on the reinsurance market versus other classes is already extremely high and in turn creating its own unique environment. There is clear evidence of a capacity shortage throughout the value chain which is putting ever increasing pressure on underlying carriers to deploy capacity efficiently. Herein lies the unremitting cycle created by the increasing demand but limited supply, meaning we are unlikely to see another soft market in cyber again – or at least for the foreseeable future.

With limited new reinsurance markets entering the class and even fewer offering retro cover, the status quo is unlikely to change for quite some time. While positive for capacity providers, the biggest threat to the cyber (re)insurance market today is the insufficient supply of capacity.

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Cyber Growth

The growth in the cyber (re)insurance market has been well documented over recent years and while exact growth in demand on an annual basis is debated there is consistency around it being significant. With more buyers across a growing number of geographies and sub sectors of the market, demand for aggregate grows each year. This enduring increase in demand for cyber insurance is being driven by a number of factors, but in short:

- Heightened and growing awareness of cyber risk
- More geographies purchasing cyber (sometimes driven by regulatory requirements)
- Broader product range e.g. physical damage cyber or personal lines cyber
- COVID-19 and the realisation that individuals and businesses are more reliant than ever on their digital framework highlighting a huge protection gap relative to traditional market classes
- Existing and new original policyholders requesting larger limits
- Affirmation of cyber coverage in other lines and previously unrecognised premium

A number of years ago, Gallagher Re explored in detail how we are heading towards a PC&C market (Property, Casualty and Cyber) with cyber inevitably becoming as significant a sector of the market as any other. With the way the class is trending, cyber is definitely starting to earn the right to stake its claim sooner than predicted.

So what is the overall premium growth?

The majority of historical market analysis has focused on the premium growth during a period in which pricing in the market has been relatively flat. On that basis, we can therefore conclude that the growth in premium over the last few years has been equal to the growth in aggregate. There is little doubt that this same growth in demand for aggregate is likely to continue unabated this year.

But what we also need to account for is that, unlike in previous years, we are seeing significant and compounding rate rises. Presuming that this increase in rate will not result in a reduction in demand for limit, then to calculate the growth in the cyber premium we can simply consider the compounded impact of these two factors calculated as follows:

Premium growth in cyber market = % increase in aggregate x % increase in rate

While appreciating that we aren't considering risk adjustment factors at this stage, it is nonetheless perfectly conceivable that the increase in cyber premium for 2021 alone could be in excess of 50%. Crucially, however, this hinges on there also being adequate capital to support it.

Demand for reinsurance

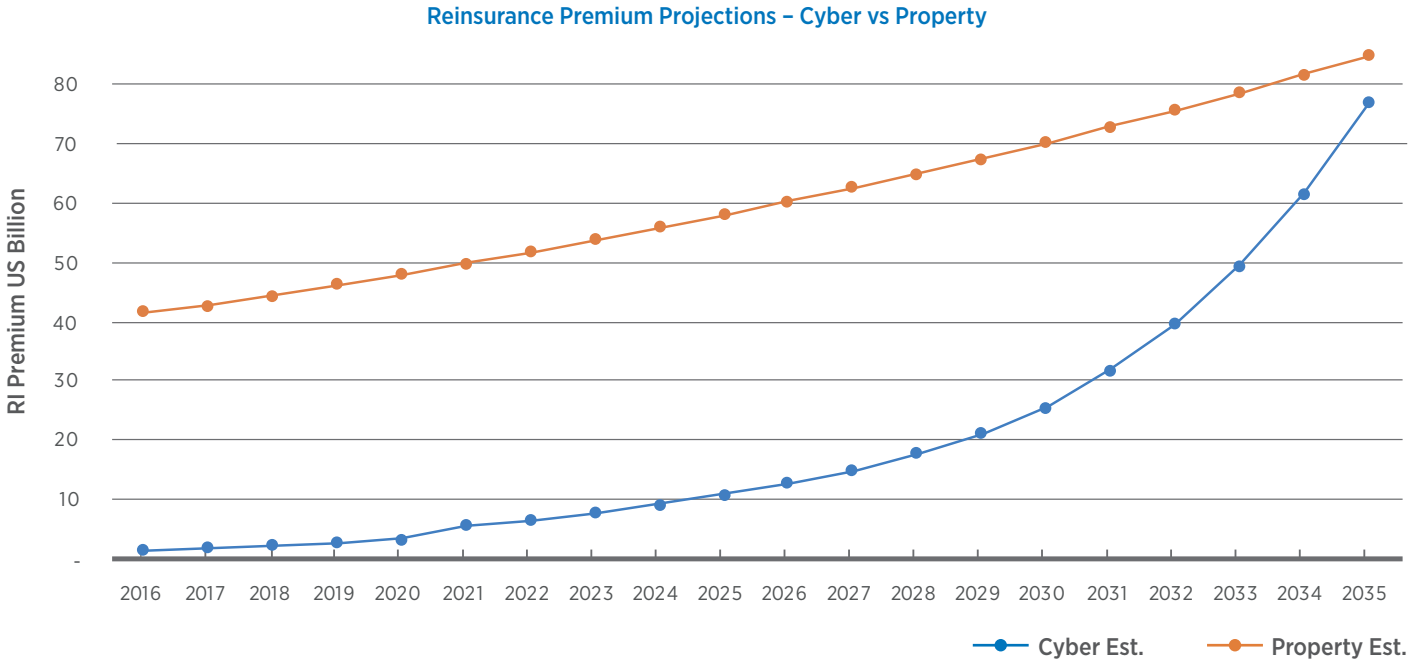
Cyber as a class is extremely reliant on reinsurance capacity. In 2020 we saw circa 40%[6] of cyber premium being ceded to reinsurers. Reviewing treaties at 1st January 2021, this number has risen and is now in excess of c.46%.

While the class has matured significantly, the known unknowns have continued to stimulate demand especially in an era where data capture has been difficult and thus modelling the risks challenging. However over the past few years significant improvements have been made in both respects.

Cyber underwriters are undeniably better equipped, more experienced and are running larger, more balanced portfolios. But they still require risk transfer solutions to help manage the volatility and systemic exposure. As the demand for the underlying cover continues to grow, so too will the demand for capital as the class evolves and understanding of the tail exposure develops.

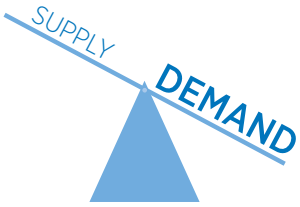
What does this mean in real terms?

A projected leap in cyber reinsurance premium further reinforcing the notion of the PC&C paradigm with cyber reinsurance premium reaching similar levels to the property market in 15 years.



Assumed 50% growth in Cyber premium in 2021 and 25% for all subsequent years
Assumed 46% premium being ceded to cyber reinsurance market in 2021 depreciating to 30% by 2030
Assumed a growth rate of 3.9% for property (this is ignoring cycles for simplicity as this will fluctuate)

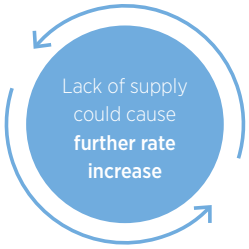
The supply demand dynamic



Given the recent underwriting changes, a large number of cyber insurers had expected non-renewal of accounts due to their more conservative approaches. However the market may not have accounted for how widespread this approach was being adopted[7].

Despite seeking higher premiums or possibly more restrictive terms on renewals, carriers are still seeing high retention rates. At the time most plans were being submitted in early Q4 2020, the rate increases in the market were still in single digits. With most now expecting rates to increase by at least 40% in 2021, carriers will have underestimated their annual premium income targets as they meet these much earlier than expected.

Carriers writing to premium income targets will either have to reduce their aggregate exposure or move business to alternative vehicles. This is especially true within Lloyd's as stamp capacity growth was on average limited to 8.5%[8]. Increased capital loading measures are also providing carriers with additional constraints leading them to review policy count and reduce aggregate exposure.



Reinsurers are in a similar boat. Grappling with internal cyber aggregation issues combined with expectations of more favourable market conditions in traditional lines, had led to limited growth plans in comparison to the demand. Senior stakeholders' cautious appetite for the class has made it difficult for supporters of the class to deploy more capital. With limited cyber retro options available, there is a bottlenecking effect leading to reinsurers being under increased pressure to deploy their constrained capacity as efficiently as possible, using levers such as acquisition costs, loss ratio aggregate caps and attachment points to increase margin.

Without sufficient reinsurance capacity in the market, the balance of the scales has naturally tipped in favour of the suppliers of capacity. Rates will undoubtedly continue to rise, which will likely lead to additional markets pushing similar rate increases to Chubb's headline 50% rate increase for 2021[9]. Given the scale of the imbalance, even with significant new capacity entering the market it is hard to see these dynamics changing as the demand and growth in the original market continues to outweigh supply. This is creating a natural cycle, with capacity providers able to more efficiently deploy capacity leading to carriers pushing for higher returns on capital by improving the underlying terms.

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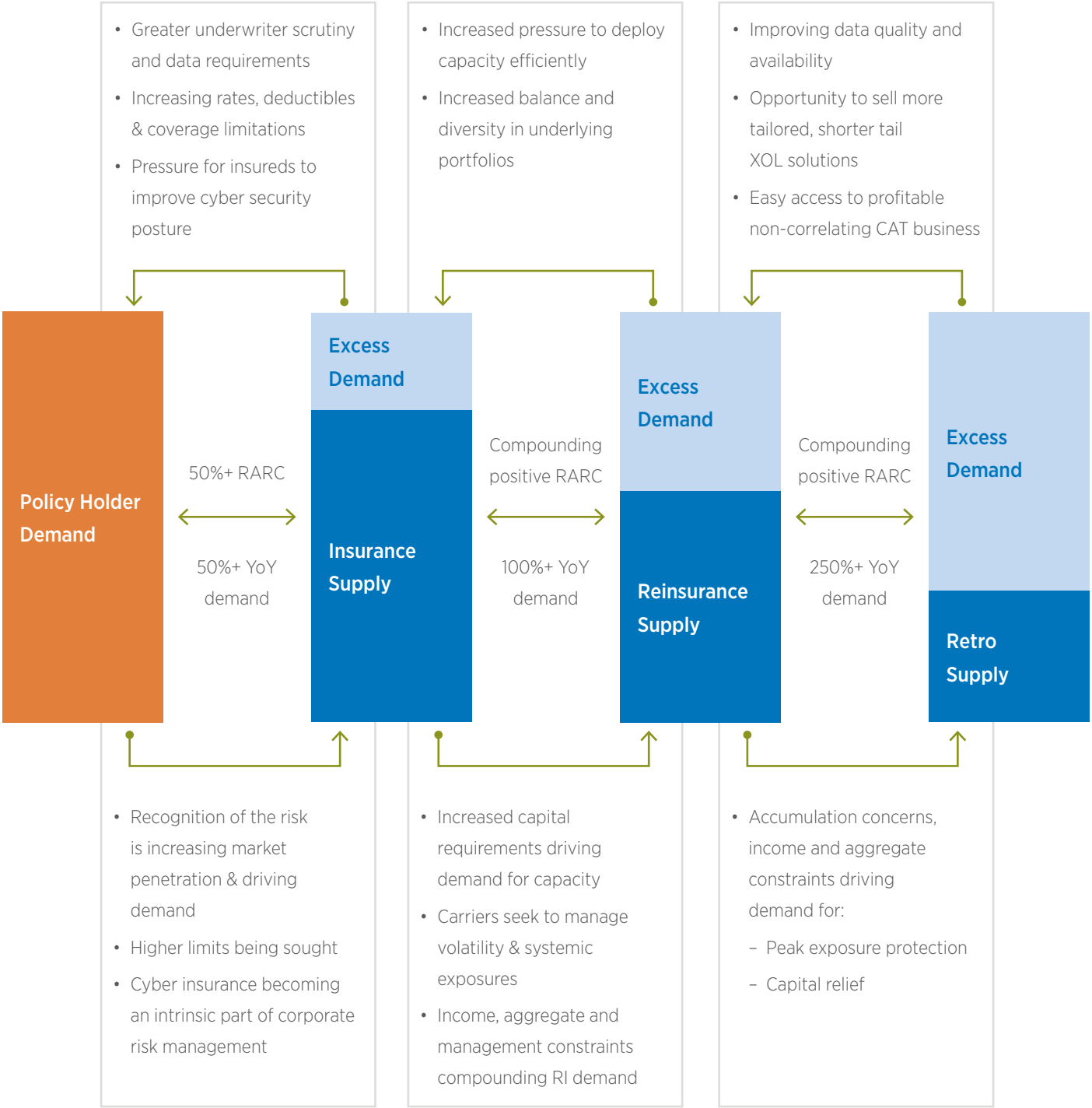
State of the Cyber Market



"While cyber insurers will have to continue adapting to the shifting threat landscape, the positive changes of improved risk quality, refined coverage, and rate adequacy are giving cyber insurers further support in becoming an intrinsic part of corporate risk management and the providers of true catastrophe cover."

Ability to pivot

The most distinctive and attractive trait of cyber is arguably the market's ability to adapt and react to new loss activity and performance data. Despite being an overall profitable class of business, losses are causing drastic remedial action in short timeframes. Cyber's unique ability to react means the payback for the class is proving to be far quicker than perhaps previously considered. Whereas catastrophic losses in the property market have limited impact on the market dynamics, we're witnessing huge changes in cyber in response to attritional losses. Consider, therefore, the impacts a true cyber cat event would have.

While highly publicised over the last 12 months, the rate increases and improvements are not unique to 2020/2021. After the privacy breaches of 2015 the market pricing hardened significantly[10] and the changes were also accompanied by huge improvements in the insureds' information security as insurers demanded drastic improvements in order to provide go-forward cover.

As these cyclical events impact certain industry sectors, the reaction remains the same. Insurers push immediate rate increases, while insureds adopt additional security controls enhancing their security posture.

Despite events such as NotPetya in 2016 & 2017[11], WannaCry in 2017[12] and the more recent SolarWinds[13], the insurance market has yet to be tested to the extreme, with insured losses typically remaining marginal compared to total economic losses. The impact of these events however continues to reinforce the determination to improve risk quality, refine coverage, and above all ensure rate adequacy. While cyber insurers will have to continue adapting to the shifting threat landscape, these positive changes are giving cyber insurers further support in becoming an intrinsic part of corporate risk management and the providers of true catastrophe cover.

With rate increases being implemented in response to deteriorations, the envisaged reaction to a truly catastrophic event, should it ever happen, would be far greater than what we witnessed in the terrorism insurance market post 9-11. This would result in almost immediate payback for those carriers choosing to write 'through' the cycle and makes cyber one of the most exciting classes in which to deploy capacity today.

Underlying risk

It's worth highlighting that while the cyber market has the ability to pivot, along with the regulators, the insurance market has also been extremely effective at stimulating insureds to enhance their cyber security health posture. As the market continues to evolve in tandem with the threat landscape, so too are the minimum requirements for obtaining cover, adding pressure on the insureds to continue improving their information security and therefore positively impacting the risk-adjusted rate changes further, albeit in less quantifiable means.

The opportunity

With the original market reducing overall aggregate exposure and pushing substantial rate increases will 2021 be the year we see new market entrants and alternative capacity?

1. Insurance

Open Market

Existing carriers' amended underwriting appetite has led to gaps in the direct market. Large limit programmes are struggling to renew their capacity despite being commercially attractive, while industry sectors that have performed worse than others struggle to obtain cover. With ILFs (increased limit factors) now far higher due to the increased cost of capital, attaching even in the highest excess layers is now proving an attractive place to participate.

While there may be new entrants entering the fold, conservative portfolio builds are key to their success and therefore unlikely to fill the gap created by the capacity shortage. As demand grows and supply remains insufficient, the gap will continue to widen, ensuring carriers are able to secure preferential rates in return for their services.

Delegated Authority

There are countless ways in which new entrants can deploy cyber capacity, however with the shortage of talent in the market, bringing teams in-house could prove to be difficult. While there has been a retraction in appetite for delegated authority following performance deterioration due to ransomware and historically high expenses, the capacity shortage has put pressure on profitability leading to reduced overall acquisition costs and improved operating efficiencies.

With the delegated authority space now offering opportunities for capacity providers to access SME to large corporate business across increasingly diverse territories and industry segments, supporting MGA, consortia or other facilities provides direct access to premium, distribution and most importantly cyber underwriting expertise.

As the market continues to harden – alongside profound improvements made on terms, risk selection criteria and aggregate deployment – delegated authority should be at the forefront of every carrier's 2021 business plans as the most cost effective way of delivering top quartile returns on capital. With established carriers and MGAs alike seeking capacity, the opportunity to enter cyber has never been easier nor better timed.

Despite the numerous opportunities in the underlying market, the key hurdle for new entrants starting afresh today is securing appropriate reinsurance capacity. With the demand increasing from carriers with mature portfolios and proven returns, reinsurers will likely support their existing partners over new markets simply due to the opportunity cost of deploying their capital.

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2. Reinsurance

Treaty

The timing could not be better for new and existing cyber reinsurers. On the whole reinsurance has performed well to date and confidence in the class is growing with the original market hardening and intensifying demand both playing into reinsurers' hands. Such is the opportunity that Munich Re has stated it will seek to double its cyber portfolio by the end of 2025[14]. While this sounds astronomical, even if every reinsurer followed suit demand would likely still outweigh supply.

Original market changes are also providing reinsurers with comfort through better portfolio balance and reducing aggregation issues as a result of:

- More conservative line size management
- Reduced aggregate exposure
- Rising and more diverse premium base

As insurers continue to optimise their books throughout the year and with the overall performance outlook more positive, reinsurers should have little to be unhappy about as we approach the renewal season at the end of 2021. While there are certainly aggregation issues to overcome and systemic risks to be considered, the improvements in data capture are helping reinsurers to better understand and, to a certain extent, model these risks.

Facultative Reinsurance (Fac)

Fac is increasingly being sought as large carriers seek to maintain client and broker relationships, and is becoming commonplace outside the US, which is creating further opportunities for new carriers to leverage existing market distribution and cemented relationships. That said, pressures are being felt as keenly here as anywhere else in the market. With only a handful of markets that have positioned themselves as specialist Fac reinsurers, there is an undersupply of capacity in this sector. This inevitably leads to huge shortfalls adding its own pressures on the underlying market, especially on larger programmes, where numerous cedants will have approached the Fac market already. However, with an increasing demand from carriers to manage their per policy exposures, there is a huge opportunity to provide capacity in this manner and benefit from their partners' underwriting expertise while diversifying their distribution model.

3. Retro

The benefit of a rising market and the supply and demand dynamic explored above is exacerbated further up the insurance chain, with the retro market benefiting most significantly.

While a cyber retro market exists, the members of this club are limited, bottlenecking the growth potential and perpetuating the market's need and desire for better returns on capital. However, as with the reinsurance market, there is arguably a huge opportunity to profitably diversify by entering cyber via retro in what is fast-proving to be a consistently hard market.

In the past the availability of more granular data this far removed from the original risk has proved problematic, but the wave of information now available to reinsurers has increased dramatically over the last 18 months. Data-rich reinsurance submission packs are finding favour where previous 2-pagers had not. As the quality and availability of original data improves exponentially reinsurers will benefit from a more in-depth understanding of their total cyber exposure across both their affirmative cyber and non-cyber lines portfolios.

While the "hard" retro market (excess of loss: 'XOL' on 'XOL' portfolios) is yet to be established, the shortage of capacity for "soft" retro (XOL on proportional portfolios or proportional on non-proportional portfolios) is very apparent. While there are a number of retro solutions available the greatest cedant appetite is for Aggregate Risk Attaching During (RAD) structures which reflect the underlying portfolios. There is therefore a huge opportunity for markets with an appetite to satisfy this demand. At the same time as original insurance carriers continue to try and manage cyber aggregations and mitigate systemic risk issues, demand for alternative solutions that provide both peak exposure protection and capital relief will undoubtedly rise.

Gallagher Re continues to innovate in this space and expects to see the number of occurrence / event and ILS friendly structures placed in the coming years to grow substantially as a way of bringing additional capacity to bear.

4. Alternative capacity

With the limited capacity available in the traditional reinsurance market and with a better understanding of their accumulations and modelling capabilities, (re)insurers are showing a growing interest in purchasing non-rated instruments to hedge their exposures and take advantage of more efficient forms of capital. The systemic nature of cyber and potential for losses that transcend geography, industry and class is leading to the rapid recognition that cyber will be one of the biggest drivers of volatility in the future.

The increased capital loading insurers are faced with is already creating interest in exploring new forms of capacity from collateralised reinsurance to cat bonds to separately capitalised vehicles.

While loss trigger and event definitions have not yet become standardised, precedent has been set in executed transactions with non-traditional capacity, and common footings have been found for collateral agreements in spite of cyber's duplicitous tail characteristics.

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"The question is not even when will capacity return, but rather: when will there realistically ever be an oversupply of cyber capacity?"

In the event of a catastrophic Loss

Catastrophic events and large risk losses, while regularly reported in cyber, have yet to have had an impact on a scale such as World Trade Center event in 2001. Few cyber stop-losses have been triggered despite headline events such as Marriott or NotPetya occurring. As explored in a previous whitepaper, "Going Viral – Lessons from one virus to another: ransomware and pandemics", this is perhaps due to the underinsured nature of many businesses at the time. Even the loss currently attributable to SolarWinds (which provides services to around 425[15] of the Fortune 500) is now being estimated at a relatively low insured loss of $90M[16]. Despite the much lower than expected potential loss, this latest event certainly draws light on the systemic nature of cyber risks and its potential impact on digital supply chains, which in turn have tangible effects on companies such as business interruption, data breach and ensuing regulatory action.

While the threat landscape is constantly evolving, the data still shows that even the largest events are yet to have material impact on the insurance market. Nonetheless, managing the potential exposure through novel instruments is certainly peaking carrier interest and demand for alternative capital is increasing in the class as it is in the rest of the market[17].

Conclusion

While the rest of the insurance market may be talking about a hard market, cyber is undoubtedly experiencing one. So for those toying with the idea of entering or growing into the cyber market, it would be natural to question when can we expect a return to soft market conditions and see the highly attractive market dynamic described above evaporate.

While the age-old insurance cycle continues to defy 'soft forever' theorists the principal ingredient required for softening a market is an oversupply of capacity. Cyber has to date not experienced an oversupply of capacity, if anything there has been a competitively priced shortage supporting a simply unrecognised demand. The question, therefore, is not even when will the capacity return but rather: will there ever realistically be an oversupply of cyber capacity?

Consider at the same time the ever increasing value of digital assets and network availability, the evolving risk proposed by cyber as a peril, and the subsequent tide of premium and demand entering the cyber market and the short answer is: not for a long time to come.

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Gallagher Re's Cyber team is wholly committed to working proactively with both clients and markets throughout the Cyber value chain and continues to develop solutions such as our "Gh0st" Ransomware model released in July 2020 and engage in initiatives such as our holistic Cyber collaboration with Swiss Re, Decrypt. If you would like to meet the team behind this paper or learn more about Gallagher Re's Cyber proposition please contact us.

Would you like to talk?

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