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Artemis Monte Carlo Executive Roundtable 2016

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FOREWORD

Welcome to the first Artemis Monte Carlo Reinsurance Rendezvous Roundtable, in which participants discuss the potential for ILS to play a role in new and emerging business lines, such as cyber and terror, and explore what direction the marketplace could be heading.

Driven by its increased presence and scale within the overall reinsurance landscape, in more recent years, ILS has become a much more prominent topic of discussion at the annual meeting of the reinsurance industry in Monte Carlo, a trend that continued at this year's event.

With this in mind we thought that the 2016 Reinsurance Rendezvous would be the perfect time, and place to bring ILS and reinsurance market experts together to discuss both the challenges and opportunities facing the evolving ILS sector.

Participants were keen to discuss areas where ILS could play a greater role and explored potential features of the space that could facilitate increased influence across the risk transfer world, including weather risk, cyber, and terror.

With cyber and terror attacks being at the forefront of insurance and reinsurance industry discussions, roundtable participants shared their views and opinions on the scope for capital markets to really have a meaningful impact on two of the largest, and emerging risks.

A need to remove risk from government balance sheets and transfer this to the private sector was also debated, and participants shared thoughts on both the benefits and difficulties of working with the public sector, with a view of ILS capacity and features helping to narrow the global protection gap.

The ILS market continues to expand and further cement its position within the global risk transfer landscape. Investors in the space appear willing and able to provide the capacity to enable the ILS sector to continue down its impressive growth path, ultimately providing innovative solutions for a range of perils and regions.

Steve Evans
Owner and Editor in Chief, Artemis

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CLOCKWISE FROM LEFT, LEFT-HAND PAGE: Rick Welsh – *Sciemus*, Tom Johansmeyer – *PCS*, Quentin Perrot – *Willis Capital Markets & Advisory*, John McIlwaine – *AIR Worldwide*, Laura Taylor – *Nephila Capital*, Steve Evans – *Artemis*

CLOCKWISE FROM LEFT, RIGHT-HAND PAGE: Neil Strong – *Securis Investment Partners*, Niklaus Hilti – *Credit Suisse*, Gregory Richardson – *TransRe*, David Priebe – *Guy Carpenter*, Kurt Karl – *Swiss Re*, Julian Enoizi – *Pool Re*

PARTICIPANT INDEX

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STEVE EVANS

Let's begin today's discussion by considering the role capital markets has to play in the evolving risk landscape, in what direction do people feel the market is heading?

TOM JOHANSMEYER

So let me start by throwing a monkey wrench in. I am less interested in the market and more interested in what is not in it. We can talk about Florida. We can talk about our standard staples that we have been trying to squeeze every fraction of a basis point out of to try and fight the declining RoEs. But what is not there? What should we be doing?

DAVID PRIEBE

Just look at the initiatives we have made in transferring risk from the public to the private sector in areas like flood – a tremendous opportunity for the capital markets. Clearly, it is creating additional demand and there is sufficient capital interested in addressing that risk. This is quite an exciting opportunity for the future, given the early and ongoing work done in the United Kingdom and in the United States.

The recent earthquake in Italy, where only ten percent of the damaged area was insured, again highlights the gap between insured and uninsured risk. Currently, California stands at nine percent earthquake coverage. We need to work hard to grow that, even if we could grow that by just ten percent. This is a tremendous burden on the public balance sheet. There is a huge opportunity for the industry to do good for society and do well for our capital base if we could transfer that risk from the public balance sheet to private capital markets that are more than willing and interested in supporting that risk.

TOM JOHANSMEYER

California's interesting, too. American Canyon was only two/three years ago, the earthquake in Napa. And our number on that was $150 million. I mean, there is just nothing insured there, and seriously, we can't get that right as a society, as an advanced society in one of the coastal states that has got the brain trust in cat, and the tax base. We all just assumed that risk as citizens, it's crazy.

GREGORY RICHARDSON

I think the government is one element of under-insurance. There is also behavioural inertia. You can get a mortgage in California without earthquake insurance. Because Florida is such a peak risk, the reinsurance industry in the past couldn't efficiently diversify this risk. So, we had to charge very high rates, to the point it wasn't even rational for the buyer to buy it.

Florida recognized that they were not going to have enough highly rated capacity. They needed to allow companies that are less well capitalized to write business. Unfortunately, if there's a really big event, some of these companies may have a 1-in-10 chance of being bankrupt. That was the consequence of the inability to efficiently diversify that risk.

Let's say you are a reinsurer before ILS came along, and Florida was your peak risk. If you added another dollar to your PML and you wanted to get a 7% or 8% return on capital, then you'd have to charge about 8% or 9% on line for a 1-in-100 risk. That is seven or eight times EL, not a rational purchase. I wouldn't buy that, and neither did the state of Florida.

The great promise of cat securitization and capital markets innovation is to help solve this problem by diversifying these peak risks more efficiently. In any other area of economics, when the price goes down there should be an elastic demand response. We don't see that fully yet due to the inertia of government and social behaviour. It takes a long time to change these things.

TOM JOHANSMEYER

The economics are part of it but I think the real problem, is are you listening to your client? Are you bringing the solution? Part of this is a sales problem whether it is personal policies for California homeowners or it is the commercial side.

QUENTIN PERROT

Let's take the example of Italy for instance. In Italy a large proportion of the homeowners believe that if there is a big earthquake the state will pay for their house reconstruction costs. Most of the time, the state doesn't pay for them.

NIKLAUS HILTI

Look at Japan: they even have an official governmental scheme, and I think there are pros and cons for this concept. Take California, what is cheaper to pay 100 years 3%, and then you have a recovery, or you pay 99 years nothing and then the government issues bonds for close to nothing? The latter is probably cheaper these days.

TOM JOHANSMEYER

That worked well until New York went bankrupt in the '70s. We'd never let a major city go bankrupt, but we did. Things can get ugly to that point. But granted it is a remote risk.

JULIAN ENOIZI

But that surely is a failure on our part to communicate the value of our Industry? Because you are right, but it is our failing not to. Also, if we then add in the manner in which we can mitigate this risk and we can use modelling techniques and risk prevention.

GREGORY RICHARDSON

With ILS and capital markets innovation it is a different value proposition. Suppose we can protect extreme loss scenarios, say Florida only, in excess of $100bn, at two or three rate-on-line. That is a value proposition worth buying. It isn't by chance that the majority of all catastrophe bonds cover Florida in some way.

Greg Richardson – **With ILS and capital markets innovation it is a different value proposition**

The bottom line is that the price of peak cat risk is coming down and we should see both an elastic demand response over time and perhaps a tightening of solvency standards in affected peak zones. That will improve both insurance penetration and the actuarial soundness of the whole industry.

DAVID PRIEBE

We are confident that there is an opportunity for the broader capital markets to support that risk and to generate what I call "meaningful capacity." It allows the U.S. government to say, "Yes, this is a risk that needs to be transferred to the private markets," rather than maintaining it on the public balance sheet.

JULIAN ENOIZI

We, as an industry need to design the perfect model then get the government to say, "We will sit up here with the risk which are systemic and uninsurable and then we'll get you, the industry to do the rest and get ILS to come in and play a role as well." Now, that is an attractive proposition.

RICK WELSH

When you mentioned earlier in terms of take up rates or insured values, you said 9% in California for earthquake, so what would be the take up rate in Florida for wind risk? I assume it is much higher?

GREGORY RICHARDSON

It is very high because it is integrated; it is part of a normal standard policy. To get a mortgage you have to have wind coverage, but you don't have to have earthquake protection. You can get a mortgage in California without earthquake.

DAVID PRIEBE

I do not believe you can obtain a mortgage in Florida without wind/storm or a minimal amount of flood coverage.

NEIL STRONG

But also you run that through the value chain from the insurance buyer through to the insurer and through to the reinsurance market. Regulation is both our and the opportunities friend. I am not as au fait about Florida as I think Laura is but if you look at the regulator in Florida, a large number of Floridian companies have very little paid up capital and surplus and they rely on reinsurance as a form of capital to supplement their balance sheet and appease the regulator. Whereas the California insurance companies don't have that freedom.

DAVID PRIEBE

The primary insurers are not racing to embrace additional earthquake insurance. They are being very prudent about deploying their capacity and capital. This led to the creation of the California Earthquake Authority – a lot of the insurance carriers felt that a dedicated state entity is the right solution to manage this risk. It has been an effective entity but, unfortunately, as time passes, consumers forget about the risk.

The product has a very high deductible. Eventually, a consumer says, "Well, it is a ten percent deductible, which is more than the value of the equity in my home. Who am I protecting? I'm protecting the financial institution."

Consequently, consumers start dropping the coverage. That is why we have to come up with a new product and develop a better solution and, I believe, a parametric trigger of some sort is needed.

STEVE EVANS

Coming from the largest ILS manager in the world, Laura, are there any specific areas of the market that are of particular interest to you at the moment?

LAURA TAYLOR

One area we have been investing in is weather risk transfer, such as rainfall, snowfall coverage or renewable energies such as windfarms. In this market it could be as simple as protecting a retail shop whose sales could be impacted because roads are closed due to snowfall, to providing weather protection for a windfarm project so it can ensure it meets its financing requirements. Investors have shown real interest in this space.

GREGORY RICHARDSON

That would be always parametric then, I would have thought?

LAURA TAYLOR

Historically yes, the majority have been parametric but as the market matures we are seeing more and more indemnity. But yes, parametric to the region or peril but you can also have dual triggers. For example a hydroelectric power plant may wish to protect against both rainfall and oil prices.

Laura Taylor – **Investors have shown real interest in this space**

QUENTIN PERROT

Do you manage to get enough return? Because often time in the primary insurance space it is very difficult to get the return that are likely to meet your own target returns.

LAURA TAYLOR

There are opportunities that offer sufficient return but like any market there are opportunities that don't pay sufficiently. Weather is still a growing market and we are bullish on this growth.

RICK WELSH

But there is a lot of growth in renewables generally and what they are not looking for necessarily is risk transfer. But actually thinking, "Okay, I've got some pretty massive financing cost, how do I defray that? How can I pass that off?"

You throw that together with weather data that is out there and is vulnerable, clearly. Then on the insurance side you could package that up and make it look like an insurance backed warranty. You have got all that data sitting behind you and if you make that warranty, and defray their financing costs, well you have got something they would buy because you are helping with risk but actually you will bring the cost point down.

LAURA TAYLOR

It can also help the renewable energy firms secure financing. If the creditor does not want to run the wind or solar risk the firm can put in place weather protection that enables them to move forward with the project.

STEVE EVANS

Of course we actually saw a weather bond complete recently, the second in the market's history. Is this something that investors would like to see more of?

NIKLAUS HILTI

I think it is, yes. These are products where you see a clear financial need and demand and I'm sure that both will continue to grow steadily: specific offerings and the demand for them. It is an interesting area and most people realise that there is a big financial impact on almost every business.

I'm also convinced that with the technological advancements, these developments become much more quantifiable and hence will become an important part, even of a business plan, maybe in 10 or 20 years. I am very optimistic that if the demand is created and people buy these products, I think investors are generally very happy to invest because the products tend to be low correlated to the financial markets.

NEIL STRONG

I think it is awareness, isn't it? I mean you have got to get one out there to let people be aware. As an Industry we don't help ourselves with the opacity of our product offerings.

Neil Strong – **As an Industry we don't help ourselves with the opacity of our product offerings**

RICK WELSH

What I don't understand is why are we selling crop insurance and if there are weather bonds out there, for example, where is the insured risk? If you look at crop and agriculture in an Australian sense, it's the farmers. So, if we know what the weather patterns are, we know what the potential outcome is at the raw end of the bad cycle.

So if we have got the data and we can extrapolate that out, the people that it most affects are buying crop insurance on an annual basis. So what I don't understand is why we are doing that? Why don't we just throw what we know into one more homogenous pot, model that out, and get a better return. Give them more of what they want.

KURT KARL

With a parametric trigger on weather for a certain region, there will be basis risk obviously for the farmers. But of course the big farmers in Australia, they want indemnity coverage, that is my understanding of the crop insurance market. Large farmers don't want to take the basis risk.

They are so big; the region may not be covered accurately by the parametric trigger sufficiently for them to get a big enough pay-out.

DAVID PRIEBE

Yes, and it is often subsidised, too.

GREGORY RICHARDSON

We are talking about gaps where there is under insurance. If there is any area in the world that you could say is over-insured, that might be it.

NIKLAUS HILTI

I think with technology developing industries such as the tourism industry, there are further options how they can hedge themselves.

Take Switzerland, as an example. If FX rates are changing, the number of tourists from Europe or Eastern Europe might increase or decrease. Another factor is the weather. If tourists have booked their trip in 10 to 20 years, with big data they might buy a weather hedge. That is why I believe the weather market will grow.

GREGORY RICHARDSON

The interesting thing about weather risk is that it isn't like earthquake or wind, where everybody is naturally long on that risk. For the most part, with weather there are natural longs and natural shorts, and so I am not sure how big of a reinsurance opportunity it is. Overall, it is more of a swap market.

To make money in weather you need really good analytics. There ought to be companies to go in there and make these trades. If you can do that at a small spread, i.e. with a small margin, you ought to be able to make a nice business. I am surprised it hasn't grown more. Enron and others were trying to do that. Of course, they disappeared!

TOM JOHANSMEYER

There is always somebody who loses when the weather turns a certain way. The challenge is how do you package it up and distribute it? The biggest problem is bringing in an original risk, a new risk to the market, is how do you package it and move it?

We can be as smart as we want on the background. At the end of the day there is some agent or primary market broker out there who has got to figure out how to move a hundred of these. The product has got to be easy enough to understand for 'Joe Agent' to go up and down 'Main Street' and close some more deals.

DAVID PRIEBE

Well, it is getting easier to effect that through the Internet and electronic distribution. In the past, it was feet on the ground, which was inefficient.

STEVE EVANS

Another area that continues to be at the forefront of risk transfer market discussions is cyber and terror, two risks that are widely viewed as a massive challenge and opportunity for the space. What do people think about this, and the role ILS may or may not have in the cyber and terror industry now, and further down the line?

TOM JOHANSMEYER

Frankly, it is interesting terror and cyber. Bad people doing bad things are becoming more important to this market. But we are just at the tip of the iceberg.

RICK WELSH

It is one of my bugbears, that people are conflating cyber and terrorism. I think cyber is actually more contiguous to every other line of insurance and yet people are now talking about the market and saying, "How commoditised it is."

Actually, what people are forgetting is that with that conflation of terrorism and cyber, we have forgotten to ask the client. I was hearing how there's this bifurcation of the market between natural perils and manmade perils. Clients are the ones we have to source this risk from and clients don't conceptualise risk like that. If a client looks at their risk register they don't say, "It's manmade or it's natural perils."

I think why that is the case is that we have been able to more easily commoditise natural perils because of polarisation. With that there is all of this new capital coming in. But with that ease, if you like, that modelling has afforded, we have left all the bad stuff behind.

Rick Welsh – **I am excited because it is the alternative capital people who are the most embracing of that new way of thinking**

People are now talking about emerging risk but actually some of that risk isn't very emergent. What excites me about things like this is that we are not talking about risk that cannot be transferred, understood or underwritten. All we are trying to do with the help of alternative capital, because the less mobile reinsurance markets haven't yet twigged on to this, is that with the right approach to modelling and analytics, which is not to be confused with data, you can do some of this stuff.

People forgot to talk to the security experts, they can help with modelling this stuff. People talk about data and analytics but without, I think, a proper understanding of what's at play.

I am excited because it is the alternative capital people who are the most embracing of that new way of thinking and would say, "Okay, great, we can share that around and distribute this risk because you're talking about risk in a much more clear and concise, logical fashion."

DAVID PRIEBE

We as an industry need to embrace the risks that are out there and provide solutions for our primary clients. Cyber is a critical risk and its scope grows daily as people become more aware of it. We hope to see more insurance products in the market address the needs and provide solutions.

It has been really interesting to watch the evolution and development of cyber risk products. I think we are getting closer to actually being able to provide genuine capacity and solutions to our clients. There are increasing modeling capabilities that are helping people quantify that risk. The challenge we face from a reinsurance perspective is how do you define an event? How do you then manage that outcome?

RICK WELSH

If you just take cyber, and this is part of the problem, is that you have got property over here on one side but a much more amorphous mass of casualty over here.

Whilst the two talk, they are two separate towers of capital. So one deals in aggregates and events and the other doesn't. So, what we have had to do in cyber is to say, "Guys, if you understand how these things can aggregate, how are you going to do that?" You don't do that with data, you have to have an event methodology, not use a regression model to deterministically represent "loss data" that bears no relevance to the risk being considered. It is probabilistic modelling that is required.

But actually, do we know how a cyber-attack can happen? Did we ever talk to anyone else but an actuary? If we didn't, well we don't really understand cyber risk.

NEIL STRONG

From a capital management perspective, it is about the education on the subject and the opportunity. We all need to continue to adapt in order that we may increase the opportunity of understanding the new risks we face today. We have a limited number of resources, so we need to partner with the correct people and ascertain exactly what the opportunity set is. I can't speak for the other managers amongst the audience today but we obviously need to explain our investment decisions to our investors in a totally transparent way. As much as we have a team of people within Securis looking at cyber and indeed other potential new opportunities, currently we are not happy with the risk or opportunity and indeed our understanding thereof. In fact nobody has actually told us what is actually the cyber opportunity.

However, Lloyd's seems to have grasped and identified the opportunity set. Though, Lloyd's are probably the biggest cause for concern on that basis. We are continually hearing of new cyber hires and teams being established, in fact are there 57 odd cyber underwriters in Lloyd's? How many of those have actually got cyber expertise or a background in cyber? Many of them appear to be recycled D&F underwriters. So I think that causes us the biggest concern. Would you agree Niklaus? I mean both from understanding and identifying the risk.

NIKLAUS HILTI

Personally, I like the risk. I like the market and on one side I see a huge opportunity because I believe cyber risk is a risk that is not very diversifying for insurers and reinsurers. So, generally, you can talk about the huge accumulation of risk on the balance sheet of a reinsurer.

Niklaus Hilti – **I like the market and on one side I see a huge opportunity**

Therefore it must be very capital intense and I think that is why it is a great opportunity for reinsurance companies and the capital markets to play an important role. Personally I am excited about it.

Having said that, it seems that as an industry we are at a very critical point because the industry is not known to be very good in softening market environments, to bring innovation and to separate risk and to deal in a separated way with a new risk.

Looking ahead, the danger to me is that there will just be a lot of risk transfer, for example from the cyber risk into areas we are already covering today. That's why I think we should now take the opportunity and, as an industry, do something over the next two years. If not, I feel it could end up in the normal treaty book we already cover in one way or the other.

DAVID PRIEBE

There is a great opportunity to build and deliver a bona fide standalone product that actually will furnish confidence and cover our clients – the original consumer.

RICK WELSH

The problem is in sourcing these risks. Effectively, you have to be able to demonstrate to clients that we can do this with capital behind us and clients will come in. Because they say, "You know what? We've got a $500 million balance sheet exposure, how can you help us?"

KURT KARL

Speaking as a risk taker, if I could. Sometimes we do have to confine products. If you don't define the product, we know what happens in the liability areas of the United States, it can grow and grow and grow and your risk is unlimited, practically. Take asbestos as an example.

So we do need to have models that will give us a full understanding of the risk. We also need to have restraints to make it insurable. It is not insurable if there is plenty of demand and no supply. There must be a mutuality of interests on that

and sometimes insurance needs to be restrictive because of that, particularly in the litigation area of the U.S. You have got expanded accumulation risk as well as just that a cyber attack could happen to everybody at the same time, then you are in real trouble.

JOHN MCILWAINE

Models have been mentioned several times in this context. Fact is, if you can assess the risk, you go a long way to being able to price it. And if there is a model that can do that then there is a currency for understanding and trading that risk. In this sense, models can help make markets.

An important challenge in cyber risk, on a treaty or portfolio basis, is understanding the second-order dependencies and connections that link insureds. For example, knowing the common cloud providers, payment processors or even DNS providers must be understood in order to assess event loss implications across a set of risks.

There has been an amazing level of interest in the work we are doing to assess cyber risk. We have had hundreds of meetings across various regions and markets where the cyber underwriters, who are part of various specialty and liability groups, and CAT modelling groups, are coming together. It is good to see this from a group risk management standpoint where companies are putting emphasis on assessing their overall risk view. So that has been really exciting for us.

STEVE EVANS

The work that you have done on cyber, has this been a concerted effort amongst yourselves and other sectors?

JOHN MCILWAINE

In terms of the modelling concept, we couldn't do this alone. It is about using the best data assets possible and we have partnered with BitSight Technologies as well as Risk Based Security (RBS) as a result of their unique data assets. It is also about understanding and working with the exposure data that you have. This is an area where we expect better exposure data capture over time. While the full model release will be in 2018, early next year we are going to offer a deterministic tool, which will provide more deterministic scenarios using the model framework. We are releasing this ahead of the full model due to the massive demand from our clients to understand and assess cyber risk, which they don't have a good handle on. Our clients will be able to get their feet wet and see what it looks like very soon.

John McIlwaine – **Models can help make markets and we believe this is one where we can make a difference**

Already, today, we have created an open exposure data standard for cyber (Verisk cyber exposure data standard) and we are providing scenarios today against which you can run your book of business. There is flexibility around the scenarios that allow you to assess what-if's, such as what would happen if

Amazon Web Services goes down for five days, Microsoft Azure goes down for four days, or PayPal goes down for a specific period of time. You can start to assess the risk and make sense of it.

Like I said, models can help make markets and we believe this is one where we can make a difference in terms of creating a currency for cyber risk.

STEVE EVANS

How do people think investors feel about cyber, terror or similar exposures, comfortable enough to assume the risk?

QUENTIN PERROT

We have the example of Operational Re, which contained some form of cyber in there. We know that some ILS investors participated but our understanding is that most of the capacity was from outside the ILS investor base.

So, do you feel comfortable taking cyber or a version of the risk, terrorism risk, or liability risk?

You tell us that your end-investors want nat cat risk. But we anticipate that the nat cat ILS space is not going to grow as fast as in the past. So we have to find other areas of growth. Cyber is one of them but can you convince your end investors to go from what you are mandated to be doing, at least initially, which was nat cat, to much more than nat cat?

NEIL STRONG

It wasn't just nat cat was it? In many ways, I mean Securis started with life. There is another number of other opportunities for ILS managers to access risk and diversifying exposures. Maybe the U.S. earthquake, California earthquake, it creates an opportunity. We need to get better at promoting the value of our product offering. Far too much risk is currently held by governments and in the public sector. We have seen the gap between economic loss and insured loss.

LAURA TAYLOR

I wouldn't say that investors only have the appetite for natural catastrophe risk but the attractiveness of this asset class is that it is not correlated, the risk can be quantified and there is attractive pricing.

When considering cyber risk it currently doesn't meet these criteria. It is difficult to quantify the risk and the pricing doesn't sufficiently reward you for the non-modelled risk. There is also a risk of correlation to other assets. However if we could quantify the risk sufficiently and the pricing was attractive I'm sure investors would be interested, especially if they were compensated for the correlation.

JULIAN ENOIZI

Pool Re, as a public private partnership, is clearly the elephant in the room.

First of all, I am a free marketer and while Pool Re is effectively fulfilling a public policy obligation, it is a private company and we have done more to re-introduce private capital into the terrorism insurance market in the last two years than had been done in the previous 23 years. In that context, Pool Re is looking at the cyber terrorism gap.

Let me just quantify cyber terrorism for you. It is a very small section of the market covering property damage that ensues from a cyber trigger. It is really small in the context of everything that you are talking about.

If you can take the uninsurable off the table then it should leave you better able to have these kinds of conversations. What we are not trying to do is take on risks which can be insured in the private market.

The only other point I would make, is that there is a significant amount of risk on government balance sheets that probably shouldn't still be on government balance sheets. The London Market Group is looking at something called the Foreign Aid Bond. That is a classic example of a risk that sits on the government balance sheet which need not necessarily do so. This is an issue of government policy, whether it does or doesn't buy insurance because governments don't tend to buy insurance.

The Foreign Aid Bond is just one example that can have huge implications across all sorts of risks that currently sit on the government balance sheet. Strike, riot and civil commotion, cyber, climate change and mass migration in the future, these are all opportunities for the insurance industry.

But the problem is you have to work with the government. Because they are controlling, in a sense, that risk. You can't do it in isolation. A Mexican is not going to spend $1 of his $5 a month income on buying an insurance policy. You have got to work with the government to solve the problem at a macro level.

I don't want to give the impression that we are trying to stifle the market, we are not. We want to play our part in creating a market.

NIKLAUS HILTI

It is quite frequently and to me it seems like someone is tackling the problems from the wrong side or with the wrong arguments. Coming back to the operational risk policy: if you think, whether it is Credit Suisse or any other company, the normal investors, whether it is equity bonds or any other financial institutes, you already have it in there.

I don't know the answer but, generally, I feel there can be spots where we also need to think a bit outside of our common considerations. Maybe there is a completely different way of demonstrating the risks to investors.

To me the interesting thing is to bring it to different types of investors and advise them that they actually run that risk. But, sometimes, we also need to think about how we can break into new thought processes so we actually can create this link between investors and the underlying risk.

KURT KARL

The other issue we didn't bring up was diversification. That is one great thing about nat cat is it is uncorrelated with equity or bond market risks. If a company you are insuring has a cyber-attack on it and you are holding equity in the company, those are 100% correlated risks.

Likewise with a terrorism attack. It could be Ratheon and you are holding equity in Ratheon and that's still a cyber/terrorism attack.

TOM JOHANSMEYER

It is interesting that with cyber and terror, it is the shareholders who are providing the protection, unfortunately. You look at everything from Pulse nightclub to; you name it, a lot of this active assailant stuff, it is the company's balance sheet that is the ultimate form of protection.

> Tom Johansmeyer – **When I look at the terror market, I see nothing but opportunity here**

When I look at the terror market, I see nothing but opportunity here. Because if you are a soft target for a living, Hilton and Hyatt, a retailer, Simon Shopping Malls, if you are in the business of being an easy target, effectively, and all you are doing is carrying that risk on your balance sheet you are doing something wrong. There has got to be a better way. But what is the product you bring to Simon, to the Marriott? Is the product out there?

STEVE EVANS

Is that a little bit more like thinking about risk transfer as capital protection and balance sheet protection for the equity side rather than just as an insurance product? So hence parametric triggers for corporate risk managers, all of these things that are opportunities, potentially?

DAVID PRIEBE

I would think given the challenge of accurately quantifying it, a parametric approach is needed – either number of lives or certain monetary values around more discreet areas.

JULIAN ENOIZI

Yes, I think it comes down to product innovation. There are 16 terrorism pools meeting in Canberra next month, all grappling with these sorts of issues, mainly with what is being described as the terrorism insurance gap.

But right now planes aren't landing in Egypt, planes aren't landing in Tunisia. Turkey is under pressure, the French tourism industry is down 7%. So you have got huge gaps in terms of loss of attraction, contingent BI, non-damage BI, the fact that most travel accident policies exclude terrorism. How many more products do you need?

There is a huge issue in the terrorism space. You talked about lone shooters, the problem for me is, and I look at this from a public policy perspective, it is a great profit opportunity if one particular carrier can sell half a dozen lone shooter policies. However, it doesn't solve the problem of national resilience. To do that, there is an opportunity for ILS or for the market to produce something that fills this gap and then to sell it more broadly.

TOM JOHANSMEYER

Especially on a parametric basis. The resilience thing is something we have been thinking about a lot. We have worked on a municipality level then state level, right? But if you are a municipality or a nation, or Orlando, part of the problem is how long does it take the claim payment to get to you.

I mean the folks in this room generally think, big retro risks. Things that are far removed and if it triggers some reinsurer recovers, at the end of the day there is some original insured back there who may or may not stay in business, or a community that may or may not be able to support its citizens because the payment is not going to get there in time.

If you think about resilience, which is a parametric, where you have got a major terror event scenario, maybe small for the world as we see it now in terms of terror insurance risk, but it could cripple the whole community. Then you are going to wait, what? 18 months for grant money to get there. What are you going to do for a year and a half while you are waiting for that money to come in, hit the tax base? Borrow like crazy?

No, you need a solution that gets cash into the community, what 30 days, 60 days, 90 days, pick your number, about a year and a half isn't it, not even close.

QUENTIN PERROT

Yes, but you can't ask the ILS investors to do this. You need an objective third party to calculate whether a trigger is met.

TOM JOHANSMEYER

Well no, if it is quantifiable, it is parametric. It is easy to understand.

QUENTIN PERROT

I think it is easier to use Julian's expertise in terrorism risk underwriting and then you get that back from the ILS investors at a later stage until you know how much he has to pay. That creates more alignment of interest. It is more like a quota share or something like this.

TOM JOHANSMEYER

Is that the most efficient approach though? I think that is the most palatable approach, the easiest to execute in the near-term. But if we are looking blue sky at this market, is that how it should really work?

It is easier, yes. But I am curious. Do you think the world needs to be fronted by you, basically?

JULIAN ENOIZI

I do think you need an effective distribution method if you are to get broad coverage. I also think that these guys need expertise in understanding the risk.

But it is efficiency. Also for that kind of risk to me, forget four-on-line; I think you would be charging ten-on-line for this. That is not a cheap risk to insure, but that makes it more interesting. That is going to pique their interest more because now they are going to think, "Hang on a minute, ten-on-line?"

KURT KARL

There is also the issue of government participation. You may want it to step in and say, "Every municipality or every little company has to have terrorism insurance." If you don't have that, the one nightclub owner who has some real terrorism risk would need to be charged the full risk-based price and it would be such a high rate to protect himself, he is not going to be able to afford it and not going to buy it.

I think with terrorism, nuclear, cyber; there may be some reasons for bringing in the government on these risks.

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