FM Global - Senior Vice President, P&C R&D at Swiss Re

Interview conducted on April 19, 2023

Topics

Swiss Re, Flood Insurance, Catastrophe Insurance, Climate Change, Data Analytics, Concentration Risk, Insurtech, Regulatory Factors

Summary

A Tegus Client spoke with a Senior Vice President at Swiss Re about the underserved flood insurance market. Swiss Re evaluates different vendors and MGAs, but currently, they mostly provide flood coverage as part of the reinsurance package. The expert explains that flood is underinsured and poses a concentration risk, and that flood will become more insurable if regulators mandate that every home insurer in the United States needs to carry flood insurance. The expert also discusses the use of data to accurately price risk and the limitations of rate changes. The expert notes that the current business environment has decreased the appetite for excessive risk-taking among reinsurers and that the National Flood Insurance Program (NFIP) is government-funded and not concerned about profit-making.

Expert Details

Senior Vice President, P&C R&D at Swiss Re. Expert shared that CAT is the bread and butter of insurance and reinsurance companies, and that they handle all aspects within Swiss Re. The expert is responsible for a) examining tools and technologies to better assess and manage the risk whether it's technology tools, climate models, or data, and b) helping to build and underwrite models that are able to better do pricing of that risk.

Senior Vice President, P&C R&D at Swiss Re (SSREY). The expert is responsible for leading a team of applied researchers, conducting new product development, design, and engineering, and working with both senior executives at client companies and applied researchers at university partners, i.e. MIT, to conduct real-world testing. The expert also works with smaller startup in the reinsurance space.

Board Advisor at CoverTree, and Advisor, Blockchain & Smart Contracts at MyCrypto.

Tegus Client

Hello. Thanks for taking the time to speak with me today about the catastrophe insurance space and specifically around flood and thought you had experience in this space, so it would be great to start off with your background and particularly your experiences around life.

Senior Vice President, P&C R&D at Swiss Re

Yes. So I work for Swiss Re, which is a very large reinsurance company. We have both reinsurance and insurance. So we're also primary carriers, we're also reinsurers and obviously a very large asset manager. And my role at Swiss Re is R&D. So looking at our underwriting models, looking at our data, looking at new products or solutions catering to potential insurance gaps. So that's typically what my role is.

And now as regards flood insurance, this is an interesting market. We have been looking at it since Hurricane Harvey back in, I think it's 2017 and what it did to Texas. Flood insurance, by and large, is a very sort of underserved market so to speak, most insurance carriers have an exclusion. So this is a space we've been looking at for really long time. We have evaluated different vendors, we have evaluated different MGAs. So this is a space I continue to look at.

Tegus Client

That's awesome. Just so we understand kind of how Swiss Re is involved in flood, do you have your own flood products? Are you working with MGAs? And kind of how involved are you within the flood space and like.

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Senior Vice President, P&C R&D at Swiss Re

So in the flood space, we are not working with MGA. So we have explored MGAs like Neptune in the past. We have also looked at sort of granular data providers like ClimaCell. ClimaCell, I think they changed the name now. It was to be straight out of MIT gates. But mostly at the moment, what we do is we reinsure the flood risk of some of our coastal carriers who do provide flood insurance. So at the moment, we are mostly providing flood coverage as part of the reinsurance package as part of the treaty. So not quite a stand-alone product per se, but this is a market we continue to look at, especially given the risk post-flooding in coastal markets.

Tegus Client

Got it. I guess in your introduction, you mentioned that you guys got into the space a bit more after Hurricane Harvey. I guess what are some of the reasons why this space is interesting to you guys and more so kind of in recent years?

Senior Vice President, P&C R&D at Swiss Re

Because it's a growing risk. As a reinsurer, catastrophe risk is the biggest part of our portfolio. Flood risk, though currently a small part of the overall cat mix, mostly because flood is not really covered by proud carriers. It's mostly covered by the government. But given that there is a big gap between what the government provides in terms of availability, in terms of coverage and limits and what the needs are and also in terms of what the private players are providing, this is an area with a large production gap. So we continue to look at to see how can we address this risk. Clearly, there's a lot of adverse incentives and model hazard in this kind of a product.

Tegus Client

Got it. In your research, have you seen kind of the impact of climate change in the increased risk of flooding? And do you think about that? Or is that a factor in your underwriting of flood?

Senior Vice President, P&C R&D at Swiss Re

Yes. So when we look at flood, we look at flood from two different perspectives. One is wind-driven flood, which is by and large covered through existing policies. So a water damage happening as a result of hurricanes. And because that is classified as wind-driven flood, it is typically covered by typical home insurance policies unless it is some coastal property, let's say, in Florida, which is specifically excluded from that coverage.

The second thing where we see a gap and a bigger gap really is in non-wind-driven flood events. These could be, for example, here it could be things related to a king tide, it could be coastal surges and it could be more generic rise in sea levels due to a climate change. So the first area is, by and large, covered though it is becoming an increasingly bigger part of what we call silent coverage because of typically of the locations where this has the most impact.

But the second piece is where the biggest gap is because that's one area where a lot of coverage doesn't exist. The biggest player really is FM Global, which is right here in Massachusetts. And even that covers only like $0.25 billion worth of the total premium is like $0.25 billion, whereas losses are in excess of $2 billion or $3 billion, I believe.

Tegus Client

Got it. So just to confirm, you're saying with the wind-driven flood that's covered by typical home insurance policy?

Senior Vice President, P&C R&D at Swiss Re

That is correct. Wind-driven water damage. We won't call it flood, wind-driven water damage. So the water was driven into the building because of wind, not because of a typical flood. So for example, in a hurricane, high wind events, high rainfall and rainfall damages that's covered. In a hurricane, you're close to a water body and not because of rise in water levels, but because of high wind, the water was driven into a building that is covered.

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But if the flooding happens because of rise in water levels themselves, for example, be it a high tide, be it a river flood that is not covered. So I mean, if you look at the whole flood thing at least in '22, majority of the flood events really happened in Australia. So the flood market is also very geographically dispersed. So in the U.S., we saw big losses obviously in Louisiana, and we saw in Houston, but some of the recent losses also happened overseas as well.

Tegus Client

Got it. So I guess going back to kind of the kind of question, are you seeing higher frequency or severity of storms in recent years? Is that driving demand for flood policies or kind of furthering the gap you're talking about that's leading to like carriers like Swiss Re to enter the market? Like I'm just trying to understand if we're seeing higher flood risk in recent years compared to historically?

Senior Vice President, P&C R&D at Swiss Re

No. I mean, if you look at flood risk, they're actually below the 40-year average. So the flood risk, we saw higher flood risk in the decade of the ‘90s than we are seeing now. Though if you look at the last.

Tegus Client

So you're saying the flood risk was higher in the '90s, like there were more hurricanes?

Senior Vice President, P&C R&D at Swiss Re

I'm not saying flood risk, I'm saying the insured losses from new floods were higher in the '90s than they have been in the last two decades. I think part of it is there's less flood insurance now. To some extent maybe less people have flood insurance. So if you look at certain markets, for example, Florida, if you look at closer market in Massachusetts, there's no flood insurance provider. So unlike catastrophe, unlike other catastrophe, unlike other perils, the problem with flood is there's a lot of model hazard in flood. And here's what I mean by that. There's sort of a lot of adverse selection, and here's what I mean by that.

People who buy flood insurance are people who are in coastal communities by and large. They are the ones who seek out flood insurance, they get it. And they are the ones who are at higher risk. Insurance only works if both the high risk and low risk population participates. In flood, because the low-risk population doesn't participate, it creates a lot of adverse incentives. So it becomes really difficult for insurers, there's a whole lot of concentration risk.

So that's why if you look at most insurers, they will not cover flood in Florida. Florida is covered by the NFIP and the Florida State Insurance Program and all of those things. So it's mostly related to adverse selection that the flood coverage is less. Compared to hurricanes and all of those things, the lawsuits are not all that great. So it's the cyclones and convictive storms, which have the highest insured losses over the last 40 years. But flood, because of adverse incentives, it's difficult to insure.

Tegus Client

Got it. Going back to your point about you're saying flood insured losses were higher in the ‘90s than currently. I guess the simple question is, are we seeing more kind of flood-inducing events in recent years in terms of both like frequent everything more of them, are they getting worse? Like are we seeing more Category five hurricanes in recent years than historically?

Senior Vice President, P&C R&D at Swiss Re

So in the insurance industry, we will segregate Category five hurricane from floods. So like I said, Category five hurricane and flooding resulting from damage resulting from that is a different thing as opposed to flood. So for example, you could have a Category five hurricane and there could be a water surge. Let's say, you're in Florida and ocean surge and water surges into your basement.

And the wind also takes off pure roof because the water damage happened because of the surge itself, irrespective of the wind, that is not covered as part of the damage, but the roof is covered as part of the damage. So to answer your question, yes, we are seeing a higher frequency and severity of storms.

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So on an average, we are seeing 5% to 7% increase in increased losses year-on-year. So just to give you a perspective, the 10-year average of catastrophe losses, has been around $81 billion a year globally. But over the last two years, it's been upward of $120 billion. So we are running at more than 50% above 10-year average for the last two years.

Tegus Client

Got it. But I guess you're saying that higher frequency in storms or hurricanes in particular is not exactly correlated with flood losses. Because I guess that leads to a question like what are the biggest factors for kind of the non-wind-driven flood events? Like is it mostly having to do with like hurricanes? Or is it like coastal surges or like, I don't know, other flood events?

Senior Vice President, P&C R&D at Swiss Re

No. So what I'm saying is the reason it is not correlated with flood losses is because flood losses are not covered. So the economic loss to the owner, it's likely happening because of these hurricanes, but it is not covered. That's what I'm saying. So it's an uninsured loss, it's an economic loss. But other than floods or hurricanes, what are the causes of water damage? It could be a burst pipe, especially in cold areas like Boston, we have lots of those. It could be things of that nature. But if a water main breaks right next to your house and it floods your basement, that is not covered.

Tegus Client

Yes. I guess can we just kind of talk about underwriting flood risk. Have you seen that in recent years it's been easier to underwrite flood risk just given the kind of data that's been available? Is that a reason why there's more kind of entrants into the flood market?

Senior Vice President, P&C R&D at Swiss Re

I think there's some more in the flood market is because it is underinsured. I think that's the reason. There are companies like Neptune and others who will tell you, even FM Global. So FM Global is the biggest private writer of flood insurance. And they are a data-driven insurer, so they do everything based on data. So they do tell you that given more data that's available, be it IoT, be it geo data, be it weather data and all of those things, flood can be more insurable.

But the underlying problem with flood still remains, which is flood is a, a, it poses a concentration risk or aggregation risk, but flood will become insurable if, let's say, I think part of it is regulatory. If regulator say, every home insurer in the United States needs to carry flood insurance, that will be sort of the biggest driver of adoption of flood insurance because, a, it's mandatory, but, b, you will have people in Dallas, typically, it's not flood-prone, but this year we had floods there.

So typically, areas that are not flood-prone are also insured with the areas that are flood-prone, which makes as an insurable market. The fact that the only people who currently look for flood insurance are the people who are the most likely to get flooded, that's what makes it difficult. So we could have the most accurate data about what the flood levels are going to be in all of those. But unless there is a diversification of risk in the flood market, it becomes difficult.

So what companies, which are playing in the market, what they view is they try to use data as much as possible to accurately price risk. So in this case, because it's a home and insurance product, it's a personal lines product. When you present rates for a given peril, you have to file the rates with the state regulators. So it's not federal, it's state.

You have to go state by state by state, and you have to provide detailed models and the rationale behind why you're proposing certain rates. So let's say, you are a carrier and you're insuring Florida. I think besides Assurant, and Neptune, I don't think anyone is insuring. But let's say you're in Florida and you say we're going to insure Florida market. Chances are your flood endorsement is going to be super high. So if your total Schedule A coverage is, let's say, $1,000, chances are your flood coverage by itself will be $500, $600. So you need to have super good models with super good rationale to come to the regulators and say, this is the reason why blah, blah, blah.

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Tegus Client
Does that have to as being admitted.

Senior Vice President, P&C R&D at Swiss Re
It's admitted, exactly. That's exactly right. Because it's admitted products, then once you have filed the rate, it's not that easy to change the rates every year. So it's not like today it's $100 and tomorrow, it's going to be $200. So there are a lot of restrictions on that. So you have to be super-duper comfortable with your modeling, with your data in order to file this as an admitted product. There are companies such as ours, we are looking at some innovative ideas around that. If that happens, there might be some appetite, but we'll see.

Tegus Client
So you're saying that the current Swiss Re like flood product that's admitted or is that surplus?

Senior Vice President, P&C R&D at Swiss Re
We don't have a flood product. We are not direct-to-customer in the flood. We are a reinsurance company.

Tegus Client
Got it. So in that case like or like the private players like Neptune, that's not admitted. Like they can play around with their rate or they can raise their rates in order to like to manage their ratios.

Senior Vice President, P&C R&D at Swiss Re
So in order for it to be non-admitted, a specialty insurer would have to get three declinations. That is to say, we've tried 3x for three different insurers, and no one offers this product. So we're offering this as a specialty product, which is Florida with Neptune, it's fairly easy. I don't think they have three insurers in total. So yes, so they can do it as a specialty product if they meet that criteria.

The second piece then becomes how frequently as a non-admitted product, as a specialty product, can you make rate changes? The answer to that is it depends. A specialty insurer doesn't have to -- they have to file the rates, but the rates are filed, they don't have to be approved. They just have to be filed. You don't need to get approval and all of those things. So theoretically, you do have the ability to modify rates on a more frequent basis.

But remember, the rates are still filed. So you still run the risk where some regulators at some point of time come back and say, hey, you're running at 90% combined ratio, why? For a home insurance market, typically, that will kind of combined ratio vendors like to see. So yes, they do have more flexibility. But I would say, given it's a highly regulated market, the flexibility is still limited.

Tegus Client
Got it. Are you noticing that other carriers or reinsurers are becoming interested in flood? Like what would you say is the general like appetite for flood risk now compared to like five or 10 years ago?

Senior Vice President, P&C R&D at Swiss Re
I think this year it's a totally different business environment to be honest with you. So we have remained interested in flood since 2016, 2017. We have looked at flood. But now the market has totally changed, this year in particular, we've had two years of above-average loss event. Our cat losses have been 50% above average for the last two years. Typically, when you have large loss events, you will have private party, private capital through ILS, through other mechanisms come into the market and provide private capital.

This year, because of the rising interest rate environment, that has not happened. So we're looking at a situation where you have an increased appetite for insurance in terms of the insured or we have a decreased capital and decreased appetite for excessive risk-taking among the reinsurers. So in that kind of environment, I don't think this year or maybe even next year, we will see any insurer get into the front market in a substantial way without first getting their arms around the traditional net cat market.

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And just to give you a context the total global reinsurance market is about $120 billion. And over the last two years, we've been running at losses of like $125 billion, $130 billion in net cat. Now all of them was reinsured, but the reinsurance margins have been running basically almost a negative were it not for asset management business.

Tegus Client

Yes. Got it. Just on kind of long-term progress on flood like residential flood and the private market. Like what do you think is the likelihood or probability that the NFIP's pricing just doesn't keep pace with the risk profile on climate change such that they, again, kind of proud everyone in the private market out? Like even if like the private market guys are picking up policies, if NFIP continues to price or underprice for a period of time such that even they can no longer underprice the NFIP on any properties? Like is that a likely scenario or a corner case?

Senior Vice President, P&C R&D at Swiss Re

Yes, NFIP is government funded. And government, especially in the United States, they're not really concerned about the money they spend. So they don't have the same economic imperatives as private players do. So if you look at Florida, if you look at North Carolina, they want their residents to stay there. They want their residents to be protected. And if private players are unable to cover the properties in the Keys and the other areas, NFIP will continue to do that.

To the best of my knowledge, at least till now, no regulator who is involved with NFIP has come out and say, “Hey, we are losing a lot of money, we need to raise rate.” They don't think like that. In their mind, this is more of a public service or service to their residents as opposed to profit-making. So it's simply just like running your mass transit at a loss. They will keep running at a loss. I do not say the NFIP will raise rates too much. And what that does is it makes it less desirable for private players to come in.

That being said, the coverage provided by NFIP is very limited. So if you have a $1 million property on the Miami Beach area, then NFIP is only covering a very small portion of your potential risk. So there is a market for endorsement. where NFIP becomes the primary and the private payer policy becomes a contingent policy.

I think that's where Neptune is also looking at and it's also covering that piece. Because contingent policy has been added, it's a wrap or it's a difference, it could be a DIC, it could be any of those things. But I don't see the NFIP getting to market rates anytime soon. I haven't spoken with them. I don't think they have that mindset just yet. They would much rather to keep their residents safe as opposed to covering the losses.

Tegus Client

Got it. Thanks again for taking the time.

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