**Summer Workshop - Capital Management**

0:00  
Now, so welcome everyone to our summer workshop on Capital and risk management analytics.

0:06  
We're joined by Joseph Woo.

0:09  
Joseph Woo is proof that a career in analytics can take you to unexpected and exciting places.

0:15  
And as the head of state, Sure's Capital and Risk Management Analytics or Karma department in Seattle, WA, he's building a team that tackles some of the toughest challenges in insurance and risk management.

0:26  
Joseph's journey started at UC Berkeley, where he studied applied mathematics.

0:29  
He kicked off his career as an actuary focused on pricing, but soon realized his passion for solving big picture problems in catastrophic risk.

0:37  
Was it catastrophe risk?

0:38  
Catastrophe risk.

0:40  
That led him to Verisk, where he helped insurance companies and Wall Street funds trade risk through catastrophe bonds, essentially turning natural disasters into financial instruments.

0:50  
Along the way, he's worked with major companies like Farmers, Liberty Mutual, The Hartford, Berkshire Hathaway, even leading the development of a parametric insurance unit.

0:58  
So thank innovative insurance solutions that pay out instantly based on measurable events.

1:03  
For rising pioneers looking to break into analytics, finance or insurance, Joseph's career is a great example of how technical skills can open doors to unexpected opportunities.

1:13  
His advice is stay curious, embrace challenges and don't be afraid to pivot when you find something that excites you.

1:20  
I think it's great advice and a great way to kick this off.

1:23  
Joseph, thank you so much for joining us today.

1:26  
My pleasure and thanks for the intro live and happy to meet you all by New Year's class of 2025 here today.

1:34  
I'm going to be spending about an hour with you all to kind of walk through a little bit about what karma does for sage Sure.

1:42  
And I, you know, I'm going to try and ask some questions along the way and give you opportunities to to respond live and also welcome any questions as we go through the slides here.

1:52  
You know, really here the time here is for you, for you also happy to to take this in any direction, any kind of curiosity that you might have that's presented as I go through the slides here.

2:05  
And Joseph, I'll take, I'll keep an eye on the chat for you.

2:08  
OK.

2:08  
So you can just you can go and I'll let you know if anything comes up you should know about.

2:13  
Yeah.

2:13  
Great.

2:14  
Thanks, Bob.

2:18  
So just a brief outline of what I'm going to be going through today, kind of explain what the mission of Karma is here at stage Sure and kind of breaking that down into the following three areas.

2:29  
Once the first set is sort of the KPI and key performance indicators that stage sure is responsible for maintaining and reporting.

2:38  
And then kind of like the ecosystem of of you know, upstate, sure and all the different places and sort of the role that we have in the captive and also managing the rating agency and regulatory capital I think are the sort of two big areas that that that Karma has a big role in as well.

3:01  
So just trying to fly through a lot of things here, but these are all kind of important big areas that that Karma's involved in.

3:10  
He said.

3:10  
I thought it'd be good to to give you a sense of what that looks like because I think these are areas that are a little bit more unique to Karma.

3:17  
He may not hear about these.

3:18  
You know, some of the other training sessions, day-to-day working department, there's a mission.

3:28  
And so like to start off with just a couple quotes here.

3:31  
One of my favorite quotes, you know, was from a famous director, James Cameron talks about failure.

3:37  
And this quote really makes me think about insurance business and some unique aspects of insurance.

3:43  
You know, it kind of says that you have to be willing to take risks in whatever you're doing.

3:47  
Failure is an option, but fear is not.

3:50  
And so, you know, Cameron was talking about being daring in art.

3:55  
But I think it's applies very well to insurance because, you know, in that business, like insurance, we're always taking on risk.

4:05  
And so there's always this risk of loss.

4:07  
It's a very unique part of the insurance business.

4:09  
And so we have to be thoughtful and responsible about taking on that risk.

4:14  
But we can't do that in a fearful way.

4:17  
Yeah.

4:18  
This next quote here is from the standards of actual practice, which is sort of where I started my career.

4:23  
And, you know, they have a paper out that is, is, you know, very old, but it's they go into defining what is the risk of or what is the business of insurance.

4:33  
And one of the things that they use to define that is directly right in the in the opening statements is that you have to be reasonably possible that you may realize a significant loss.

4:43  
So one of the key ways that they define the insurance business is that you have to be exposed to loss, which is, you know, very kind of a very unique part of insurance business and what makes it stand apart from other industries.

4:58  
Yeah.

4:58  
And so, you know, when we're doing, when we're dealing with risk, we don't want to make decisions about how we manage that risk out of fear.

5:07  
And so this other quote here, not from what remember sin that you knowledge is really the antidote to fear.

5:13  
And so when I think of the mission of karma, I think of we have to deliver really key, important KPIs that are consistent and unbiased and they they are accurate measures of risk and the risk management decisions that we're making.

5:31  
And that's really going to help us to build better decisions, higher conviction decisions and our confidence in these decisions.

5:38  
You know, that's kind of like very high abstract kind of set of words that I've kind of just put in front of you.

5:46  
But the next couple of slides here to kind of break that down to something more tangible for y'all.

5:58  
And so this next slide here is a graph that I commonly deal with in the Karma group and a lot of the KPIs that we produce are based off of this graph.

6:08  
And like my understanding is y'all would have seen an EP curve, you know, maybe on Tuesday on the from the cat risk group.

6:16  
Yeah, this is a variation of that EP curve.

6:21  
And just to kind of breakdown what's what you're seeing on the on the slide here, that vertical axis is millions of dollars of income that is generated through the state curve sort of ecosystem.

6:34  
Yeah, on the horizontal axis, which is sort of in the middle here is the probabilities associated with those levels of income.

6:43  
And you know, in the cat risks area, you would have probably seen just measures of peer loss where you're trying to quantify probabilities associated with different levels of loss.

6:55  
And carbon uses that as a large input to drive its KPIs.

7:00  
But one of the things we do is incorporate with that all the different expenses and and premiums that we collect and how that relates to the losses that we're seeing out of the cap model for EP currency.

7:13  
So what we're seeing here is on two of these EP curves, this orange line is what we call the gross income curve.

7:20  
And so that if we didn't have any sort of reinsurance or ability to mitigate the risk that we're taking on by writing these insurance contracts, that's the sort of income that we would expect to see without any sort of decisions in place, without having made any decisions about how to control or manage that risk.

7:39  
And as you can see, let's say I'm very far right here, it's 21%.

7:45  
It's saying, you know, we're making, we have a roughly 21 percent chance of making $300 million or more and or less than less than $300 million, I should say.

8:01  
And as you go right, you can see there's very clearly a distinct possibility of loss or I'm sorry, the left of the screen here, the very distinct possibility of loss.

8:09  
And the, you know, there are smaller probabilities associated with that.

8:13  
And so, you know, these are this part of the tail, what we call the tail of the P curve is the thing that Karma's trying to quantify and build measures around and, and build how it helps make decisions around mitigating that risk.

8:29  
And so one of the key ways we do that is through purchasing reinsurance.

8:35  
I have another slide to kind of go through a little bit about what reinsurance looks like.

8:40  
But through the use of reinsurance, we're able to sell risk to investors and reduce the risk that we're left with.

8:49  
And when we apply that reinsurance contract and the risk that we no longer have to pay, it's a paying for that reinsurance contract, We are able to transform this EP curve of income into what we call this, this green line that you're showing, which is the net income curve.

9:10  
And that's directly quantifies the impact of, of reinsurance on our our income for the business.

9:17  
And So what you'll see is, you know, we give up these huge profits in the more likely areas, but in exchange for that we significantly decrease the amount of of potential losses we might see out in the tail.

9:31  
So that's the kind of trade off we're making and that's a huge decision for the company, right?

9:38  
The executives at State sure are making decisions where we're spending hundreds of millions of dollars to trade this risk.

9:47  
And so we want to make sure that we're making as efficient as possible trades for that risk when we make these decisions.

9:55  
And so some of the key points that we're looking at for this is I'll start with point A here and that's what to measure this point on the gross income curve, that's where it crosses the zero line where we start seeing probabilities loss.

10:09  
And you know, this is somewhere in the 6% range.

10:12  
So saying we didn't make any decisions, 94% of the time we expect our company to make money, but 6% of the time we expect to lose some, some form of money and it can be fairly extreme.

10:24  
And when we buy reinsurance, we're spending money.

10:28  
So we're exhibiting more cost and you know that produces less income for us.

10:35  
We're giving up, you know a huge amount of income here to to get that protection.

10:41  
It does make our typically make our probability of loss a little bit higher instead of that you see that point B here somewhere around the 8% range after of all those Rangers decisions have made that you know we're now more likely to see some level loss, but we're significantly less likely to see huge losses.

11:06  
And so the way we quantify that, we look at certain key points along this distribution and we measure that gap with point D here, yeah, we call that or this this distance here between the two curves as the capital that's been released.

11:25  
And so when I say capital released, you can maybe I should take a step back and then explain what capital is.

11:38  
So you know, say sure, obviously besides the premiums that go to offset these losses, the company also holds cash in reserve to make sure that if there are losses in excess of the the premiums that we collect for the insurance risk, we want to make sure that we're able to pay those claims.

12:00  
And so you know, the level of loss here that's beyond the premiums, there are all these points that are below the zero line of income.

12:09  
We have to make sure we have enough money in the bank to pay those claims.

12:13  
And so, you know, if we didn't have any reinsurance, we would have to hold, you know, $600 million in the bank to have less than say a 2% chance of not being able to pay our claims.

12:27  
And so when we buy reinsurance and we reduce this where I will say, OK, now we don't need $600 million, we need something more like $100 million in the bank.

12:39  
And so the way we measure the efficiency of our reinsurance purchasing decisions is how, how much of this capital is released and how much less money do we have to hold in the bank because we've purchased that reinsurance.

12:55  
Looking to kind of think of the cost of the reinsurance as being, you know, the numerator or the the cost of releasing this capital.

13:05  
And so that reinsurance, the cost of the reinsurance can kind of you can kind of think of it as like the interest on a loan and the loan that we're getting is this amount of capital that's, that means no longer have to hold due to that reinsurance contract.

13:27  
And we layer on top of that this framework that's called willing to lose.

13:33  
And that's the sort of the key KPI that Karma reports to the executives.

13:38  
And what that entails is we're looking at key percentages, key points along the CP curve.

13:46  
One of the key ones is this 99% of the what's marked as the 1% here.

13:52  
And you know, measuring this this number here.

13:55  
And it does that match the amount of capital that we're willing to lose in that extreme scenario.

14:03  
And so willing to lose is a somewhat simplistic measure of just this point, but it's really meant to encompass all the sort of stress scenario planning that goes on from, you know, are we going to be able to rely on our reinsurance partners?

14:19  
Are we going to be able to buy more reinsurance if we need it?

14:22  
Are we going to be able to tap our credit lines or sell our assets that, you know, our stocks and equities and things like that in order to meet that that requirements to pay all our claims?

14:35  
And so not willing to lose number exactly the sort of 225 million of dollars here.

14:42  
You know, we have to have a plan to be able to pay out that $225,000,000.

14:46  
And so that going to leaves a number is, you know, we're going to say we have a plan to in stress scenarios, how to raise this amount of money to pay these claims.

14:59  
So that's the number that we're willing to lose.

15:01  
And so we're always going to want to make sure that after we've done all these reinsurance decisions that are going to lose number is in line with their plan for for those disaster scenarios.

15:20  
So I'll stop there for a second if there's questions.

15:23  
I think there's a lot of jargon around this kind of equi curve that you'll might see around the organization.

15:30  
Some of the key ones, you know, you might hear AEP or OEP and some of the other work that you're doing and you might hear PMLS.

15:38  
There's a, there's a lot of different acronyms.

15:42  
And so you know, AEP stands for aggregate exceedance probability, OEP stands for recurrence exceedance probability, PNL stands for probable maximum loss.

15:53  
OEP and PML are kind of used interchangeably.

15:56  
You'll see a lot of different financial reports around the company.

15:59  
That's usually what's reported on, on those reports and the difference between what's shown there and what's shown on the Karma report is this, this aggregate number.

16:10  
And so a lot of the other parts of the organization are focused on what is the single maximum loss you can see from anyone event because that's what's going to drive a lot of planning for those scenarios.

16:23  
And whereas Karma's kind of concerned, OK, like what's the income for the total year?

16:29  
And so that aggregate, the difference, that acronym there, the aggregate is meant to note that we're looking at all possible sources of loss over an entire year from all of our policies, not just from anyone individual, but every year.

16:46  
Yeah.

16:46  
So that's sort of the high level of all the different measures that we're producing for for the company here.

16:53  
I think they've got a lot of intuition and sort of beneficial derive from this sort of graph here where it's I've tried to kind of summarize and standpoint it a little bit.

17:13  
Any questions for Joseph so far?

17:18  
OK, great.

17:21  
The next slide I'm going to go here is a little bit about the reinsurance and what that looks like and how those contracts are, are kind of laid out.

17:30  
This is just by way of example and what you'll see here is what this is called the reinsurance tower and reinsurance contracts that we purchase are stated as you know for this let's say this layer 1 here, this would be usually be described as a 30X eighty $30 million excess of $80 million.

17:59  
And So what that means is that if an event came like a hurricane that hit our book of business and it produced some amount of loss, we would be responsible for the 1st $80 million of that loss and then the next $30 million of that loss.

18:17  
The partner or account party that we trade that risk with that we paid the reinsurance premium to at the beginning of the hurricane season would then be responsible for paying that next $30 million of loss.

18:29  
And so they would provide that payment to us and say sure would then distribute that money to all people use.

18:36  
And that goes so on and so forth for all these different layers that you're seeing.

18:41  
And there are different, a lot of different ways that reinsurance is purchased, but this is the sort of primary way kind of layered and shared tower of risk here.

18:53  
And you can see that there are multiple different layers and that's due to different reinsurance companies have different levels of appetite for risk.

19:01  
And so they like to maybe one company might be more willing to sit in layer 6, but not so much in layer 4.

19:08  
And so we kind of tranche up the different layers of risk so that different reinsurance partners can come in and participate and help support the to the program in a way that most benefits their portfolios.

19:22  
And so a lot of the work here is how do you decide where to put the layer splits?

19:28  
How far high up do you want to buy and how much of of this protection do you want to buy?

19:34  
So this is a tower that's predicting coverage for just, you know, one large vertical event.

19:41  
But another big part of that is how many events do we want to cover throughout the year?

19:46  
And typically a stage where we buy 2 towers.

19:48  
And so and then you buy two complete full loss events to cover us through the hurricane season by all that advance the hurricane season And kind of like right in the midst of all that right now, because all of our programs are all purchased on 7/1 effective date.

20:09  
And so we're trying to finish all that up right now and how we how high far I.

20:15  
Up we go.

20:16  
There's also another part of the decision making, right, because we want to make sure that we're buying enough to to cover us for our worst kind of catastrophes.

20:27  
We don't want to be over buying, buying protection that's way so far out the tail.

20:31  
That's not going to make a difference for us.

20:33  
And so all those decisions are, you know, used to be modelled in that EP curve that we saw and wanted to get proposals for different reinsurance contracts.

20:46  
A big part of our job is to, you know, run that through the the EP curves that you saw to produce a new net curve and see, OK, what how are things changing?

20:56  
How are ours are willing to lose number of changing?

20:58  
How much is the cost of at least or how much is the release capital changing as we purchase that or we may purchase that that reinsurance.

21:08  
And the other part I want to bring up here is, you know, a lot of times our partners, our carrier partners can't buy all the reinsurance that they may want to or, or, or have access to.

21:21  
Because another big key service that saves your offers to our carrier partners is actually they take the part of that risk to a vehicle that we call captive.

21:29  
Captive is sort of a reinsurer that is affiliated with with the whole ecosystem here and, and the license to really offer reinsurance to to within the ecosystem.

21:41  
That's another way to manage risk.

21:42  
And so to protect our carrier partners balance sheet from these large catastrophes, if they can't buy all the reinsurance they want, we'll take a piece of it to help with that management of their risk through the captain.

21:58  
So, yeah, typically a reinsurance tower like this is composed of many different players, but the captive usually plays down here in the these lowest layers, layers which is the riskiest parts of the of the layer or the tower.

22:13  
And that really helps the program as a whole because, you know, our reinsurance partners know that we're also participating in the in the tower through the risk.

22:25  
So besides also just taking risk and helping directly through that, it also helps the rest of the tower be more comfortable that that the risk in there is.

22:35  
It's what I'm saying because we're also participating in program itself.

22:42  
Questions everybody and just answer in the chat from a scale of one to five, one being not familiar at all.

22:48  
5 being very familiar.

22:49  
How familiar are you with reinsurance right now like before this slide, The one being not familiar at all.

23:03  
5 very familiar.

23:04  
Go ahead and put it in the chat.

23:06  
And there's no shame in just.

23:08  
This is brand new information for many of you.

23:10  
Yeah.

23:11  
So we have a lot of folks who.

23:12  
All right.

23:15  
Some people had some background in it.

23:18  
And I'm.

23:18  
I'm not surprised to see Connecticut's small conference room coming in as a three.

23:21  
I would hope so.

23:23  
Nicely done.

23:28  
Yeah.

23:28  
So this is sort of like the big, big tool that that Satya uses to manage risk.

23:34  
And so we're, we're heavily reliant on on reinsurance to help manage our risk.

23:40  
And you know, we're one of the largest purchasers of reinsurance in the world globally at this point because of all of our massive growth and how much success we've had.

23:52  
And you know, with claims and distribution and all the other folks that you know, attract policyholders to our platform, you know, that kind of makes this a super important tool each year as we grow to make sure that we're being responsible about that growth and that we are going to be there for also to lose 1.

24:12  
They need us from that catastrophe.

24:16  
Yeah, we're, we're doing a huge program this year as well.

24:21  
And so I think, you know, we're not just in traditional reinsurance markets where we're, we know we're dealing with another sort of reinsurance company that's running insurance for us essentially, but we also deal with a lot of the other markets as well with on Wall Street, I think we're now the 5th or 4th largest sponsor of catastrophe bonds globally in the world.

24:44  
And that's kind of an amazing kind of statistic about our, our business because you know, we've just grown so fast to become such a big player in that space.

24:56  
This is really like a, a, a large effort from a lot of different folks to make this happen.

25:01  
Karma plays a small part in that, making sure that we're, we're being able to rank these decisions and have objective measures of, of how much impact these, these contracts are going to have for our business.

25:15  
And so there's a lot of complicated pieces, There's a lot of moving pieces.

25:20  
This is a very simplistic risk tower.

25:22  
Our actual risk tower is mind numbing, way more complex than this.

25:28  
To get into all the details of that would be a little overkill, but it is a a very large and complicated sort of structure.

25:37  
You know, you can imagine, you know, this is sort of like this most simplistic type of reinsurance where you're saying, OK, 30 million excess of 80 million, you're some part is going to cover that.

25:49  
But our actual structure is, you know, there's relationships, not just what part of the tower, but who pays 1st order of payments and things like that.

25:57  
So this is a very, very large deep kind of subject.

26:02  
But I, I was kind of hoping to give just kind of a flavour of of sort of body of work that that goes into making this happen for percent sure.

26:18  
But yeah, so it's, but that all that gets rolled up, all that complexity gets, gets modelled in these along with the catastrophe model to produce that those first curves there.

26:31  
And so, you know, I try to make it as a as a simple as possible to kind of be able to explain the the, the key concepts that are that we're working on here.

26:41  
But it it is kind of deceptively simple about how complicated this is.

26:45  
It probably spend, you know, we're wrapping this up for July 1, the purchase we've been working on this, this new tower.

26:53  
We have to do this every year, right?

26:54  
We have to renew these reinsurance policies every year.

26:56  
But we started working on this this year in November of last year.

27:01  
So seven months of work to to make this purchase all these purchases decisions in place by by 7/1.

27:10  
And it's always like a nail binder these last couple weeks in June to, to make sure we're getting everything in in order here to, to get everything done and continue.

27:19  
So, yeah, huge amount of work.

27:22  
There's all of this.

27:29  
So I'll kind of move on here to, to my next slide and talk a little bit about the NGU and sort of the care relationships we have right stage here as an NGU and, and a little bit more detail about how the Catholic plays into all that.

27:43  
Just curious if, if this is a slide or if folks have been explained what an NGU is or what any of that that term means.

27:58  
So NGU is, is a managing general underwriter and that's what we like to refer to ourselves as as say sure.

28:05  
And we have these carrier partnerships with all these different carriers right here on the right hand side of the box.

28:12  
Are any of these names familiar to any of The Pioneers shore elevating They should be so we could we did cover this in our new hire orientation.

28:21  
So some of these should be familiar.

28:23  
I'm I'm shocked that we didn't get MGUI know you all know that one being polite.

28:30  
OK, so maybe I won't spend a whole lot of time on each of these individual entities.

28:36  
But this, this big yellow buttons on the right here are what the carriers they're the licensed insurers, right?

28:44  
And they're the ones that go to Duis and do all the filings and paperwork and accounting for for all the insurance business.

28:51  
And we stay sure the NGU that we all work for is helping these carriers manage their business.

28:58  
And one of the pieces that we help them with is this captive, what I've mentioned earlier, ours is called anchor and that's a little bit the other entities that are also part of part of that whole, a group of what we call captive reinsurers and this these captive reinsurers, they're all writing reinsurance to each of these entities to help them manage their risk.

29:22  
And so it's kind of a, a unique type of reinsurance because we're sort of in a way trading with ourselves a little bit, right.

29:33  
So we're riding all the business on the, on the captive, on the carrier side.

29:39  
And then we're also trying to negotiate with, with anger what an appropriate prices for reinsurance and, and how we, how we should, what's the appropriate amount of premium to, to cover some of those reinsurance contents.

29:53  
And so, you know, for the third party type of reinsurance, where we're going to another reinsurer to, to get that protection, they, they just directly tell us what the price is.

30:03  
And so, you know, there's no need for, for us to worry or wonder what, what appropriate prices.

30:09  
The market panel just tells us that with the captive, you know, one of the key functions of the captive is to try and price that risk.

30:16  
And so that's another area where the they're willing to lose and common framework comes into play and helping price the, the, the appropriate amount of premium for the risk that the captive is riding for, for these carriers.

30:32  
And so when you think about that capital that's being released at each of the carriers as you write a reinsurance contract, and you can think of like an interest charge against that.

30:43  
That's that that is the we're solving for that interest charge that is in line with, you know, what it would cost these carriers to go and issue credit, credit line to, to raise that same similar amount of money.

31:00  
And so that's how that willing to lose kind of cost of the least capital is used to help prices for insurance and what we think is a fair price for for these insurers to pay for captive help for the for the capital to help them out in the the overall placement of their of the insurance.

31:22  
Hey, Joseph, I have a question if if the incur the the capital area is stood up by us and are we like truly transferring risk around or is it kind of just shifting it around the balance sheet?

31:34  
And if that's what we are doing, what's the benefit of that?

31:38  
Yeah, so we we are shifting risk around on different balance sheets that are kind of associated with us.

31:44  
And so it is a risk transfer, right, because each of these entities are their own sort of legal entities.

31:53  
You can't, you know, Forza can't just hand money off to the balance or any of these other entities that you see on this.

31:59  
That's that's strictly controlled and regulated.

32:02  
And so one of the ways that you're allowed to do that is through reinsurance.

32:06  
And so it helps us make sure that we're having the right amount of money and the right entities to pay for the liabilities that are in those entities.

32:16  
And so if it helps us make us, it helps us match those things a little bit better.

32:22  
And the other key part keeper for, you know, behind the captive, the captive itself also can buy reinsurance and that's a special kind of reinsurance.

32:32  
We call retro, retroactive reinsurance and or retro session on reinsurance.

32:37  
It's when a reinsurer itself buys reinsurance.

32:41  
So it's, there's a lot of work that we also do to make sure that we're buying reinsurance and the captive.

32:48  
And so, and typically, you know, traditional reinsurance that are writing those sort of excess of loss type of contracts that I went over in the previous slide.

32:59  
They've already kind of had a look at this and they don't necessarily want to look at, you know, just because we put it in another entity doesn't mean they're going to suddenly want to write that risk again.

33:09  
And so usually the, the retro type reinsurance is a lot more creative.

33:14  
There's the current sort of solutions that we have in that space is something called the ILW or industry loss warranty.

33:23  
Yeah.

33:23  
So that is a a type of reinsurance where instead of paying reinsurance dollars against our actual losses in a catastrophe, they actually base it off of the insurance or the industry's level of loss.

33:37  
And so instead of looking at statures loss in a particular hurricane, they're going to look at the loss of the entire industry and say, OK, based off that level of loss, we're going to make out payments to you.

33:50  
And so it's another way to to hedge risk to there's, there's large sort of pension funds and other large institutional investors that don't want to invest in anyone specific company, but they're willing to like say, OK, well, we're willing to invest in the industry as a whole.

34:08  
And one way to easily deploy that money is through these industry loss warranties.

34:12  
And so it's kind of another tool of reinsurance that that helps anchor the captive manage its risk that it's taken from all the all the carriers.

34:24  
And so, but excellent question, Cooper.

34:27  
I think it's, yeah, you're right.

34:30  
It's it's at first class, it looks like you're just moving money around from different, different buckets.

34:35  
But there is another kind of mechanism there that allows allows it to finally get off of all of our associated balance sheets.

34:47  
So, yeah, so that's, that's sort of another key application of, of Karma's outputs is, is setting that price because you can imagine the leaders of these carriers and leaders of an anchor, you know how the market hasn't provided a price.

35:02  
So how do we get to the price that that we can all agree that is objective and fair for, for both parties.

35:08  
And so, you know, this, this tool, the tools that we that Karma builds for that it really helps drive to, to make, get to a decision and make this happen.

35:20  
So it's another key area where what Carl was helping out, you know, so the last, last topic I wanted to cover here is with regulatory capital and rating rating agency capital.

35:39  
I think my slide is mislabeled here.

35:41  
It should be rating agency capital.

35:44  
Has anyone heard of what about a rating agency?

35:51  
OK, so you might, I mean the only financial crisis, you know, there's a lot of rating agencies to talk.

35:57  
But in the insurance industry, we also have our own sort of very specific rating agencies.

36:03  
And these are sort of third party, third party companies that are tasked with auditing and, and coming up with a more an indication of how strong or how well run a insurance company is.

36:19  
And so the two big, big players in the space, 1 is AM Best and the other is Demotech.

36:25  
And depending on different caring partners in our ecosystem, some of them are AM Best rated, some of them are only Demotech rated and there's different ratings for each of those and they have different ways of going about them.

36:37  
And AM Best is one of the, you know, that premier rating agencies in space and they have their own capital test that's called the car best capital adequacy ratio.

36:53  
And this is a, a model that they use.

36:55  
They're doing similar things that the Karma team is doing with the, with the net income and all all those things.

37:02  
But they have a, their own kind of proprietary model that they call the car and that's just what they use to measure capital accuracy.

37:08  
So we'll take our financial statements for our carriers financial statements and run it through the car model and it gives them a, an adequacy ratio, like how how much is the capital ratio to what they think the risk is for that that, that business.

37:26  
And so some of the things that they're trying to assess is, you know, how well the capital the company is set up to pay claims.

37:36  
They're taking a little bit more focus into things that are a little bit different than than What Car was focused on.

37:43  
And one of those examples is they like to look at investment risk and underwriting risk and other market risks.

37:49  
So, you know, a lot of the money that the carriers have for paying their claims, it's not held in just straight cash, right?

37:59  
It's held in stocks and bonds and other kinds of investments.

38:03  
And so, you know, when we're doing the our karma analysis, we're not taking into account all of the market volatility that might happen with with those investments.

38:13  
We're just saying, OK, we expect to have, you know, some, some modest growth of those assets throughout the year.

38:21  
But a investors they're, you know, they're kind of focuses more on that side of the balance sheet.

38:26  
So their model takes into a lot more complexity how those assets might be and can actually, they're also looking at different confidence several levels.

38:38  
So the EPS and, and across that range of of the EP curve, they're also doing the same sort of thing.

38:45  
They're looking at different points and all that is used in the rating process along with, along with interviews with management to come up with a regular.

38:55  
So if I think you might have heard of Geovera, I'm sorry.

39:01  
Well, I can't raise yet.

39:03  
I just have a question.

39:04  
How with the volume you're talking about, that huge volume of reinsurance, did that change the way that we talked to the rating?

39:13  
Like how did that change what we're presenting versus another company?

39:18  
Yeah, so that's a big part of what AMS is looking at as well.

39:22  
And like that, you know, input into their model as well.

39:25  
And so they have to have an understanding of what it is we're doing.

39:30  
And so a lot of the discussions that we do is walking around through like exactly how our program works and getting into all that complexity.

39:39  
They're not just looking at like the contract terms of, oh, how many contracts have you written and how much dollars are going to be available to you.

39:46  
But they're also going a step further and saying, who are you trading with and what does their balance sheet look like and how are they going to be able to pay claims when, when you need them?

39:57  
So they go very deep into those relationships and of course.

40:00  
Will you look at that too as we're making these decisions, but kind of another kind of dimension of of what they consider for the first part of the reading, they call that the the quality of the reinsurance panel, right?

40:15  
So if you're buying from a no name place that gets way less credit than if you're buying from like a Berkshire Hathaway or a, you know, one of the big names of the insurance, that's the quality knows it's going to be there for you.

40:27  
So that, that also plays into our, our decision making process as well with the credit rating of the reinsurance that was on.

40:41  
So these aim of us, they, they come out and they, they, they come out with a rating and they do this typically every on a 2 year cycle for every carrier.

40:51  
And the bigger you are, the more attention you get.

40:53  
So as we grow this, this relationship has gone more and more and more deeper and, and more scrutinized over time.

41:00  
And so, you know, recently at the end of last year made this acquisition of Geovera, which is a, a very large a invest rated organization.

41:11  
They're, they're an, A rated sort of one of the highest rated insurance carriers out there for on the invest system, particularly for one that's such exposed to to catastrophe risk.

41:23  
And any, any thoughts from the group here as to why, why this, this would be important to us, why it's important for us to maintain our aimless rating?

41:35  
All right.

41:36  
I can, I would, I would assume that brokers and any people that are looking to invest in our business or in our carriers would be it, it could be kind of a red flag if we didn't have the highest level of rating for a risk.

41:52  
But I, I also was just wondering like, are there contingency plans if our rating, if something caused our, our ratings to drop, like would they, would we cut like shift back in capacity or to just completely terminate the program?

42:05  
Like how like how would, what would happen if our if we came back and our reading wasn't what we expected to be?

42:12  
Yeah.

42:12  
So it's a huge risk, right?

42:15  
And so a lot of our, a lot of our financing agreements rating is a big thing in in the finance world.

42:23  
So a lot of our credit risk, a lot of our credit lines and and other things like that, other capital tools like that are tied directly to our invest rating, right.

42:32  
So if we, if we lose our rating or if we drop in a rating or our outlook becomes negative, there are contingencies in our capital tools like our credit lines and say, OK, you were A rated, we were going to charge you 6% interest for that, for that credit.

42:50  
But now you drop credit ratings, our, our interest rate is going to automatically reset to some higher level at 7 or 8%.

42:57  
So we need to make sure that we're, we're always maintaining our rating because there is a direct cost to a lot of our credit facilities as that, as that credit rating deteriorates.

43:12  
The other big part of that that rating is, is with our, our, our partners, right.

43:17  
And so our distribution channels, we want to show that we are a responsible company to our policyholders.

43:23  
And one of the ways to communicate that is to say, hey, you're to our agents, you're going to be riding on a rated and best paper that that gives agents the, the confidence to know that in a simple, very high level, simple 11 key metric rating that our, our insurance policy has a stronger policy when it comes to paying claims and then a lower rating.

43:54  
And so as we're doing all all of our karma work, one of the key things that we're we're looking at is we're also looking at the car to make sure that all of our risk metrics that we're managing also comply with the car metrics that to maintain our RA ratings as well.

44:14  
The other, the other big player in the space is demo tech and some of the outside of Geovera, a lot of our other carriers are Demotic rated and they take a little bit of different focus on how they come up with their ratings and they're actually a lot more prescriptive about reinsurance.

44:31  
They're not as in depth as a invest as to the quality of those reinsurance, but they have a very key or just very strong requirement about how much reinsurance into the buy.

44:42  
And so that's going to at the bottom slide here, the reinsurance purchases we have to buy out to the one in 130 and the one in 100.

44:51  
If you're not familiar with with that sort of phrasing, that's just the the kind of probability associated.

45:01  
So one out of 130 or one out of 100 times whatever that level of event is, you need to buy reinsurance out to that.

45:11  
So your first event tower, the very first tower you're buying for that first catastrophe you might have in a year, you have to have a less than one in 130 chance of exceeding that loss.

45:22  
And you have to purchase reinsurance all the way up to that level.

45:26  
And then staying with the second event segment, it has to be purchased all the way out to the to the one in 100 or the 1% chance of loss coverage for the full company.

45:36  
And then the total retention for those two events retention, meaning how much the carrier is going to have to pay those two catastrophes has to be less than 25% of their surplus or their, their claims payability or their cabinets, all this kind of a changeable words in this context.

45:55  
So, you know, that's another thing that we're looking at through karma as well, that we're making sure that we're buying at least that much and that that first and 2nd event retention is, is meeting that requirement.

46:08  
And so this is kind of a, another key way where where the captain comes into play because, you know, they've been, there's just a very strict rule here that the carriers have to follow to maintain their demo tech rating.

46:22  
And if they're not able to get all of that, all that purchase done in the, in the traditional open markets, the cap that comes in and fills in those gaps to make sure that they can comply with these rules.

46:41  
And so that's the, that's the rating agency capital.

46:45  
Apologies for the slide there again.

46:46  
And the last slide here is regulatory capital folks here about the NAIC or the National Association of Insurance Commissioners.

47:01  
This is the, the rating agency it's set up to, to maintain all, the, all the rules that insurance companies have to follow to maintain their insurance license for the different states.

47:13  
And so one of their key there, they also have a a risk based capital test that they call RBC risk based capital requirements.

47:22  
And the key metric that they're producing is what's called the RBC ratio.

47:27  
So they produce similar to the invest kind of measurement, a minimum level of capital that's required that's formulaically driven off your balance sheet.

47:35  
And then they compare what your actual capital is to that and they call that the RVC ratio.

47:43  
And yeah, it's, it's one of the more important things to us because, you know, if you don't need the RVC ratio tests, the regulators are allowed to make you stop writing business in different ways.

47:54  
And so by law, there's these things called the regulatory action levels.

47:59  
And so as you fall between these different ratios of the RBC, you'll be the regulator is legally allowed to start taking control of more parts of the insurance carrier.

48:13  
And so a large part of, of the work here is to make sure that we're never going to fall into these into these levels, even in the most dire of of catastrophe scenarios.

48:24  
And so that's what a lot of the the credit lines and other things that we put in place are to make sure that post a disaster, we're going to have enough money to continue funding the company at at a point to meet these RC requirements.

48:40  
And so that's a lot of the contingency planning, contingency capital that we talked about to make sure that post disaster the companies are still in a financial position to continue writing business without these sort of regulatory interventions.

48:58  
Now we see itself is, is a, you know, another large complicated calculation that that our statutory accountants handle for us, but it's it's kind of goes through all of our different parts of our balance sheet and the insurance carriers like there's a reserve component, there's a investment component, different asset components as well and also reinsurance component as well.

49:23  
So kind of very similar concepts as, as the rating agencies, but this is there's just no, there's no subjective sort of parts to this that sometimes the rating agencies allow you to pull a few levers to, to reflect management and, and their understanding of their business.

49:41  
But for the regulatory framework, it's very, very rigid.

49:44  
It's just very formally driven.

49:46  
And the point of that is to make sure that all the companies are been measured in the same way and that the regulators are are seeing the same statistics for a recovery.

49:55  
And then all of these sort of regulatory tools on top of it are just tied, tied there from formatically to to this one.

50:04  
So I have a question.

50:09  
Yeah, Yeah.

50:10  
So I believe that this is not the only governing body and insurance industry.

50:17  
We also have DOI and ISO, correct.

50:20  
So how do those two and this one work with each other because they still don't cover half of there's, there's still not much standardization in the way we do our rating.

50:36  
Yeah.

50:36  
So the, yeah, you're right.

50:37  
So this, the NIIC owns the statutory accounting rules and framework and they promulgate that to all the departments of insurance and to be an AIC certified means like the DUI are subscribing to this, this, this framework.

50:55  
And so I think all 50 States and the six US territories, they all are members of the city AIC.

51:01  
And so the NAIC is sort of the by the mechanism by which the different DUI's for each states are able to collaborate with each other and make sure there's some consistent level consistency across the regulation because insurance is regulated at the, at the state level for ISO.

51:18  
ISO is, is a for profit company, right?

51:21  
They're not necessarily a, a regulatory body.

51:25  
I want to necessarily consider them that ISO for folks that are maybe not have heard that before stands for the insurance service office.

51:35  
And they're more of a statistical agency.

51:37  
So a lot of insurance carriers, their business model is they wrote, they, they maintain and write all the policy forms that the insurance industry uses.

51:47  
And so like our HO3 policy form, that's kind of a standard contract for homeowners insurance across all carriers, not just state share carriers that was written and and maintained by ISO.

52:01  
And so to be able to use that HO3 policy, we have to license that that contract language from them.

52:07  
And part of that licensing agreement is that you have to do what's called reporting back-to-back to ISO.

52:16  
So we report a lot of our premiums and claims and information back to ISO and ISO aggregates that and then sells as as their part of their stat, what they call the stat plan aggregates statistics about the industry.

52:28  
So that insurance companies that are trying to start up don't necessarily have historical data or don't have enough data about different types of businesses that are trying to enter into the license, that ISO data, ISO stat plan data to help them come up with appropriate rates of business.

52:46  
Thank you.

52:51  
So, yeah, so the RBC part is, is, you know, obviously super important and we want to make sure that we're always above, above these sort of ratios so that the the willing to lose framework that we have is sensitive to, to making sure that we're we're going to stay above us in the worst scenarios.

53:16  
So we're running out of time.

53:19  
So I just want to make sure.

53:20  
Yeah, 4 minutes.

53:23  
But yeah, that's, this is my last slide.

53:25  
So I can use the last minute here to maybe answer any questions about information I presented here or about karma or about myself.

53:37  
I have a question.

53:39  
Is that OK?

53:40  
Yeah, yeah, Yeah.

53:42  
I heard Blake mentioned earlier in the presentation that you were originally an actuary and then you transition into this.

53:48  
So can we know how your career progression looks like till this point?

53:54  
Yeah.

53:54  
So I was an actuary.

53:56  
I made it through the 1st part.

53:59  
I, I, I'm 11 exam short of a associate.

54:02  
So I didn't quite make it to your credentials and I was working through traditional pricing, a lot of personal home and and small commercial type pricing work.

54:13  
And then I got an opportunity to work for AIR, which is now called Bear Risk.

54:18  
And they're one of the preeminent firms for catastrophe modeling.

54:20  
And I was working as a consultant for them doing catastrophe bonds and so helping write the disclosures and opinions that go into the bonds so that Wall Street can price them appropriately, sort of like almost like a rating agency for for bonds.

54:35  
So the work I was doing so and from there I just kind of built my career networking, meeting people through there and eventually going to make contacts with with Berkshire Hathaway, which is obviously a big kind of player in the space and, and ran some of their their insurance units for catastrophe specific insurance units, particularly around the paramedic space.

55:01  
And then now you're helping change your with your capital, making sure that, you know, we're we're being responsible and being able to pay their claims using a lot of the same kind of tools, a lot of those cadastral bonds, traditional reinsurance, you know, making sure we're we're being as efficient as we can with those purchases.

55:21  
And yeah, so that's kind of like been the arc of my career from pricing and sort of the frontline primary products and then now going all the way to the sort of the back of the house, imagine the financials.

55:37  
And So what I would call the back end is the of the insurance company.

55:43  
Joseph, we had our my first job panel yesterday where a lot of people talked about sort of their their way, their journey into their current role.

55:51  
And so it's really interesting to hear yours as well.

55:54  
I'll have time for one more question.

55:56  
Anyone has a good one?

56:05  
OK, so Joseph, can these can these lovely folks reach out to you if they have questions that come up later on?

56:11  
Yeah, absolutely.

56:12  
And I mean, happy to talk about pharma and the work that we do here, but also just happy to to offer myself, you're interested in my background and some of my career path.

56:23  
Feel free to reach out on that as well.

56:25  
Thank you so much for your time everyone.

56:27  
We will continue to bring you fascinating speakers and fascinating topics and our workshops throughout the summer.

56:32  
Thank you, Joseph.

56:34  
Thanks, Joseph.

56:36  
Thank you.

56:36  
Thank you.

56:38  
Thank you.