LaSalle Street: Financial Markets Insights
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Podcast 6 Transcript

Ketan Patel: It's been a little over a year since the Covid-related market stress rocked the global financial industry. The events of last March were a true test of the resilience of the financial institutions, as well as the plumbing that underpinned them.

Hi, I'm Ketan Patel. I'm a policy advisor at the Federal Reserve of Chicago. On this episode of *LaSalle Street*, we took the opportunity to speak with the associations representing exchanges, swap dealers, clearing houses, and asset managers in order to get their reflections on market events, as well as discuss some recent industry trends and potential changes that may be coming.

As a reminder to our audience, the views expressed on this podcast do not necessarily reflect the views of the Federal Reserve of Chicago or the Federal Reserve system.

I'd like to introduce our first guest -- joining me from London is Pedro Gurrola Perez. He is the Head of Research at the World Federation of Exchanges.

Welcome Pedro. It's great to have you on the podcast.

Pedro Gurrola Perez: Thank you very much Ketan. And thank you to the *LaSalle Street* podcast for this invitation. It's really a pleasure to be here.

Ketan Patel: The pleasure is all ours.

Uh, procyclicality has been a focus by many in the clearing industry, given some of the large funding demands. We've seen some white papers out by both the clearing and some of the members, and also the buy-side.

Given some of the .. um, insight and focus on procyclicality, I'd like to first discuss with you, your recent working paper on margin procyclicality -- could you tell us a bit about the background and inspiration behind the paper?

Um, based on my read, I noticed a lot of it contained some of the market stress events that we recently observed around Covid, so it'd be good to hear directly from you, Pedro.

Pedro Gurrola Perez: Sure Ketan. So let me begin by saying that my interest in risk modeling and the procyclicality predates my-, my time in alternative fields.

As you know, before coming to the WFE, I worked at the Bank of England and was involved in many of the risk modeling discussions there, including some related to the drafting of the VM new technical standards.

So for many years now, I have been .. I mean, I have seen the different efforts, not only to mitigate procyclicality, but more fundamentally to define it and to measure it.

Uh, I think that some of the misconceptions about procyclicality I've been .. perceiving arise from this fundamental problem of defining it and measuring it -- particularly because the concept was somehow imported from the banking sector, but the problem in banking is completely different.

On the other hand, I also had the impression that it was not always clear that this is a problem with constraints and because the constraints will not go away, there is a limit to what we can do.

In our case, in our concrete case of CCPs' margin models, the constraints are clear. Margin models need to be really sensitive so that the CCP remains adequately collateralized and-, and central clearing needs to be economically efficient. So .. that was another, uh, motivation for this research.

And finally, it was also a motivation -- the fact that I had the perception that it's not always clear that linear approaches to problems which are fundamentally non-linear tend to be inadequate. So for example, if you prescribe a longer historical window because you want to capture a wide variety of market conditions with the expectation of, you know, making margins more conservative, well, then you also have to take into account that by expanding the window of historical data, you're also diluting that information.

So at the end, you may end up in a different place also because .. depending on the circumstances -- and let's not forget that we are dealing with random processes -- you may end up with a higher or a lower margin number.

So in general, risk modeling is full of such non-linearities. And the randomness of the processes mean that different sets of conditions may lead to different outcomes.

So I-, I was trying to clarify these issues and I felt that showing, with a simple example, how --what are the basic mechanics of these models would be helpful to dissipate some of these misconceptions?

And as you say, Covid-19 also played a role in this because it offered the opportunity to use a real stress scenario to test some of these assumptions. So in such an extreme event, when you see volatility spiking six times its average value, you can naturally expect margin calls to increase.

And at the same time, there was a shortage of liquidity in the system, so I was puzzled when I saw that some analysts were too quick in pointing the finger to CCPs, and also that some market participants -- in particular the buy-side -- seemed to be caught by surprise by this increase in margin and, uh, liquidity management -- or liquidity preparedness -- that was implied.

And finally, I think the last element that motivated this paper was my interest in complex systems and the fact that financial system is a complex system. And one of the characteristics of these systems is that you have phenomena that generate simply because the structure or the interdependencies or the interaction between the different participants generate these effects.

But you cannot point down to a particular agent to a particular note as the [SIC] responsible for these feedback loops or what is called epiphenomenal, uh, that happens as a product of a complexity.

So .. this added a-, an additional dimension to the question, because even if CCPs are mitigating procyclicality to the largest extent possible, if some participants are not prepared then this will become weak points in the system that could lead to fragilities and to adverse feedback loops.

Ketan Patel: That's quite interesting -- you mentioned the word complexity, and, uh, one of the things I did like about your working paper was that you somewhat simplified the issue by looking at the equity benchmark returns of the S&P 500, which is a broadly tracked, uh, benchmark by asset managers and use it as a key risk factor to just kind of illustrate the various issues.

One thing I did notice was one of the areas you focused was the EMIR anti-procyclicality standards for the CCPs that came about around a decade ago. Could you dive into a bit of this on to what you tested and why?

Pedro Gurrola Perez: Yes. So as you say, the idea of choosing a simple example was to eliminate any confounding factors and focus on the performance of the models and the anti-procyclicality measures.

So the .. selection of the Standard & Poor's 500 was simply to make the message as clear as possible, taking a very simple portfolio and observing how this portfolio behaved during the events in March and how the margin models -- the typical margin models that CCPs use -- how did they perform under their .. these very extreme circumstances?

So it was, on one side, testing these models under different calibrations and on the other side testing also how the anti-procyclicality tools impacted the outcome during the worst days of-, of the crisis.

As you know, these .. essentially, these anti-procyclicality tools are the .. adding a floor to the calculation of the margin, adding a 25% buffer, or using a stress value at risk as the measure of-, of risk.

In these three cases, you have different effects, and I think what was interesting is to understand what was the actual behavior of these anti-procyclicality tools under a very .. a severe stress, but a-, a realistic stress.

And I think that the third thing that I was testing with-, with the paper was -- and I think that this is very important because it is sometimes ignored -- is the cost of further reducing procyclicality.

So, as I mentioned at the beginning, we have some constraints when we deal with this issue, we have .. one of the constraints is the fact that if we increase margins, that will increase the cost of clearing. So it was important to understand exactly when we say we want to reduce more procyclicality, what that means in terms of the costs of clearing.

The results were .. I-, I think very revealing in the sense that .. by --, using this very simple example, we showed that if you want to significantly reduce procyclicality, you would need to increase the floor by almost a factor of two, which is a very large number in terms of -- in economic terms.

Ketan Patel: Thanks for that, Pedro. Just to kind of wrap this up, I'd like to kind of dive into the differences between Initial Margin and Variation Margin.
I think you covered some of this in your paper, but just one thing I've noticed based on some of my experiences -- VM is essential to the CCPs; it helps them extinguish credit risk and .. inevitably it seems

cyclical because you're collecting gains and losses and obviously as market volatility increases, those numbers are going to increase.

Here are the differences of VM is a pass-through – so you could say liquidity is more redistributed in stark contrast to IM, where it's more of a one-way flow. So looking at these two differences, what were your thoughts on the distinctions between IM and VM? And did you cover some of this in your paper?

Pedro Gurrola Perez: Yeah, so, no, you're-, you're completely right in your characterization of IM and VM. I think that one of the .. important things to clarify is that when we talk about margin calls, and when participants refer to large margin calls, this includes both VM and IM.

But in reality, it is the Variation Margin which drives margin calls, so that the proportion of VM against IM is sometimes, uh, as large as, you know, 80% of the margin call corresponding to VM rather than IM -- and even more than that.

So this is an important thing to understand that when we're talking about these large margin calls, we're essentially referring to VM. And you can think of that also in terms of model risk. The Initial Margin is calculated looking at what happens at the tail of the distribution. So you really need to have very large movements in the price to actually affect the level of IM.

On the other hand, as you correctly point out, VM gets in some sense redistributed. So if you think of the overall liquidity in the system, impact of VM is much more smaller than the .. potentially, the impact of IM because IM is posted to the CCP and-, and it's not something that passes through to the rest of the system -- at least not immediately.

So this is clearly something that I'm not touching upon on the paper. So the paper wanted, I wanted to focus specifically on the problem of margin modeling and because VM is not subject to a model, but it's a .. has a direct pass-through, then the paper was, uh, limited to the impact of Initial Margin.

Now, if I think of the question more generally, I think that that's one of the .. points where you need to look from a wider perspective because, of course, the CCP is connected in terms of liquidity to a wider network. And it's not only looking at-, to the side of Initial Margin or Variation Margin being posted to the CCP, but you also have to think about how this- .. how the CCP plays -- interacts -- with-, with a wider system -- including the repo market -- where the CCP has to provide the money to repo and- .. I mean, to deposit the cash, or repo the cash every day.

So there's a .. there's a need of a more system-wide analysis of what is happening in terms of how liquidity and collateral flows through the system and through the CCP.

Ketan Patel: Yeah, a fair point. I think the FSB and a few other, uh, regulatory commissions may be looking into this. I think I recall the FSB had a .. broader review that they're doing on the back of some of the Treasury issues.

But just switching gears here a bit, looking at some of the industry trends, could you give us some .. insights on the developments on the Initial Margins? I recall that there was a recent panel discussion at your, uh, WFE conference, which was held last week. Is there anything you could glean for us from that panel discussion that you moderated?

Pedro Gurrola Perez: Yes. Yes, certainly. Um .. I think it was an interesting .. a very interesting panel because .. um, we-, we often forget that, I mean, margin models are not static, but they are evolving and they evolve for different reasons.

They .. one of the reasons is that when you have a-, a change in-, in-, in market conditions or the dynamics of some specific risk factor then you have to think about how to model that.

From .. my takeaway from that panel is that first there, there is, uh, -- clearly some of the events of the .. we saw during the last year, like negative prices or large spreads, require some additional thinking about how the model parameters need to be calibrated in some cases.

A particular challenge, I think -- and it was mentioned also – is, is the-, in general, the modeling of correlations, because when you see correlations decoupling in-, in ways that were not historically expected, then it's important to think about how you can model correlations in a more dynamic way.

I mean, there are some models there, like, you know, filter historical correlations, which are similar to the filter historical models that-, to model returns -- or prices. But these tend to be kind of unstable, so it's-, it’s really challenging to go into that direction.

Another topic that came out during the panel was how to incorporate non-market risks into the margin models and not only into the margin models, but also more widely as part of the- .. of the waterfall -- of the default waterfall of the CCP. In which place should those non-market risk be modeled -- as part-, either as part of the Initial Margin or as part of the default fund. And each one of these choices will have different implications.

So that was an interesting question that was raised during the panel. And then there was also the topic of model assessment. So as-, as we know, models are assessed basically using back-testing, but the PFMI, for example, also mentioned the use of sensitivity analysis as a model assessment too.

And, uh -- I'm going a little bit more into a forward-looking view -- maybe there are some interesting ideas out there about, uh, machine-learning techniques that could be used to strengthen the model assessment.

And finally, there was an interesting comment related to the capacity of CCPs to innovate being, in some sense, hampered by the regulatory burden. So one of the comments that I saw during the panel was that in many cases, the CCP refrained from- .. from, you know, innovating or making changes or improvements to the model simply because that would require a long kind of process with a regulator to approve those changes and therefore it was not straightforward; it was not optimal in terms of stimulating innovation.

Ketan Patel: Yeah, if I could just ask you one follow-up question on this topic. Uh, you talked about correlation and potentially, uh, the changes in them and assessing the impact in terms of profit and loss in the IM model.

Is that something that's more appropriate for stress testing? How does that balance come about? Because if you think about it, some of these are extreme scenarios. So how does a CCP or a risk manager of a CCP group .. What goes into extreme events and stress assessing, versus normal conditions on margins?

Pedro Gurrola Perez: Yeah, so, so it-, I mean, this, this was one of the questions that-, that we had, and it was interesting for example, that .. that we had, uh, some slides that were presented by LCH, where they showed, how-, where the Covid-19 stress sits within their whole set of stress testing scenarios.

So as-, as you know, I mean, the CCPs have hypothetical scenarios and historical scenarios that they use to size the default fund. So it was an interesting question to see where the Covid-19 stress sits within those sets of pre-defined scenarios.

And it turned out that the pre-defined scenarios, whether historical or hypothetical, were showing much more larger stresses than the one that was observed during Covid-19.

So it's an interesting question in terms of, when we look at modeling this type of very extreme events, when you see correlations and dislocating, would that be something that corresponds to the modeling of the default fund through the stress scenarios that has some implications, or is it something that we should incorporate into the Initial Margin model, which has a different kind of implications, for example, in terms of procyclicality?

So that's a balance that has to be analyzed, and it has different consequences in terms of both the modeling and, uh, default waterfall.

Ketan Patel: I'd like to close our session with getting into some of the broader insights in terms of the themes and the topics that are in focus in the industry.

We touched upon a few already, but I'm wondering if topics such as CCPs' skin in the game, as well as clear member concentration at CCPs. I recall some of these have been discussed at prior webinars that have been hosted. I'm just wondering if these are still front and center or if there's others that you're seeing from your vantage at WFE.

Pedro Gurrola Perez: Yes. Uh, I mean, so clearly skin the game is-, is part of a general discussion about aligning incentives, but from the various panel discussions at the conference, for example, it was clear that -- I mean, of course we are in the path of ensuring the financial stability goals that were set out in the G-20 agenda 11 years ago -- but we'll still need to reconcile some different and often conflicting interests derived from the clearing mandate.

So this .. in particular, this was the case for example, of the topic of CCP recovery and resolution. So this is one of the important topics that we're looking at.

And the big question there I think is how do we ensure that markets get as much certainty as possible, and that incentives are correctly aligned in a scenario in which resolution becomes plausible -- with the added complexity of having to anticipate potential conflicts of rights, and misaligning incentives that may manifest themselves just in the midst of an extremely uncertain scenario.

So in these discussions, for example, it was stressed the importance of the CCP rulebook to minimize or to provide as much certainty as possible.

Another topic that is, I think, important, is the topic of non-default losses. So CCPs that locate the losses -- these losses -- in ways that preserve the incentive structure of central clearing.

Ketan Patel: But, uh, Pedro, if I could just have you, um, elaborate maybe the dispute between default losses and non-default losses -- before you get into some of the-, the detail.

Pedro Gurrola Perez: So when we talk about non-default losses, we're talking about losses that are not a consequence of a member's default. So I mean, as we all know, default losses are already -- are the main reason for the default waterfall to exist. So that's why we have Initial Margin, that's why we have a default fund, to address, uh, the situation where one of the clearing members defaults on its portfolio.

There may be -- we can think of situations in which .. the CCP suffers losses which are not related to, or provoked by a default of the member. So for example, if there was a- .. a large cyber security attack, or if there was, you know, a large, uh, fraud event or, uh, losses that may arise from investment losses.

And so these losses .. there has been a question of how these losses should be addressed. And I think that, as I said before, so this .. the idea is that CCP should allocate the losses in-, in ways that preserve the incentive structure of central clearing for market participants to manage the risk in-, in an appropriate way.

It would be not prepared, for example, to transform CCPs into insurers with unlimited, or at a minimum significant liability, for third parties and for third party entities. So this is another topic where we have been focusing on the last months.

Ketan Patel: We could probably just do a podcast just on, uh, the non-default losses given how broad a subject it is. But, um, I'd like to just close our session here. I'd like to thank you, Pedro, for a thoughtful and engaging session that I'm sure our audience will appreciate. It’s great to have you on this episode of *Lasalle Street* podcasts.

Pedro Gurrola Perez: Thank you for the invitation Ketan. I have en-, enjoyed the conversations and it's been a real pleasure to discuss with you these topics, and, I’m – I look forward to continue the discussion in-, in the future.

Ketan Patel: I’d like to introduce our next guests. Joining me from London is Ulrich Karl, who is the Head of Claim Services at ISDA; and joining me from Shanghai, China is Teo Floor. He is the CEO of CCP 12.

Welcome gentlemen.

Teo Floor: Pleasure to be here.

Ulrich Karl: Likewise, thanks for inviting us.

Ketan Patel: Let’s kick off the discussion with, uh, observations from last year. Some people describe 2020 as .. the year of unprecedented events. We saw oil go below zero, the VIX eclipse 80, CDS spreads cranked up in a short time horizon -- with all this in mind, I'd like to hear from Teo first on how the clearing committee managed through <u>all</u> the market volatility <u>plus</u> the operational challenges of remote working. Teo?

Teo Floor: Yes, of course. I mean, it's-, it's been a- .. a large debate and there’s been much discussion across the industry of the myriad events that happened in 2020.

But as you said, I mean Covid, and the heightened volatility -- sometimes extreme volatility -- that-, that occurred as a consequence of this sort of exogenous shock, I think has captured much of-, much of the attention.

In terms of the pure operations, the cleared ecosystem did extremely well. So clearing members were able to continue to bring clients, and of course also, uh, their own activity, onto markets; price discovery continued, so you mentioned negative oil -- that's, uh, perhaps the most extreme example of that --but there was continuity of trading ..

There was also continuity in terms of performance on contracts, so CCPs enforced VM payments, uh, collecting from losers and paying out to winners. And .. although those numbers increased dramatically, especially in the first quarter of last year, the ecosystem was able to handle all of that.

So .. the clear members in particular, I think, did a fantastic job; CCPs themselves were also usually working remotely, uh, from home, from backup locations ..

In terms of that kind of operational resilience continuity, I would say that it's .. Something like a pandemic with a global lockdown is not typically the main operational continuity scenario that CCPs and their members planned for, but nonetheless, the existing -- given the system -- the preparedness of all participants, and the quick way in which everyone was able to continue to operate together -- meant that from a purely operational perspective, the year 2020 wasn't particularly remarkable for CCPs.

There were even defaults that were managed in a working-from-home environment, uh, so done over uh, various video conference systems. So in that way, I would say that 2020 was a .. was a great success for-, for the entire industry.

Ketan Patel: I have to say, I personally was surprised with how well remote working worked in the middle of a market stress event. I mean, you're talking about two tail events happening at the same time. It was quite commendable how the industry, uh, managed through all of this.

With that in mind, I'd like to now turn to Ulrich. What's-, what's the perspective you're getting from your members, and also, given your extensive experience, what-, what's your personal view on how-, how things went in 2020?

Ulrich Karl: Thanks Ketan. Uh, so you-, as you know, we have produced a white paper called COVID-19 and CCP Risk Management Frameworks. In that white paper we-, we looked, uh, kind of how the CCPs Risk Management Frameworks dealt-, uh, dealt with this, uh, unprecedented volatility during the crisis and for operation issues.

So what we did is, uh, we had calls with large CCPs. We sent questionnaires to-, to other CCPs .. We got about 97% of CCP risks accounted by, uh, default fund contributions. And what we-, what we saw, Teo already, uh, said for the free member defaults or close-outs, uh, mostly small, uh, none of them threatening financial stability.

There -- in our discussions with CCPs there were, uh, also no issues reported of clear members or clear participants not meeting margin calls in time, other than one or two, uh, operation issues. So overall, um, I would say the CCPs, the users and the overall ecosystem dealt very, very well with the record volume and volatility while everybody was working from home. I think that was really the-, the great thing -- how seamless it all worked, uh, as I said, Ketan.

And I think one of the reasons is that the financial institutions are much better capitalized and have high liquidity resources since the last crisis. Clearly intervention by central banks also mitigated some of the stress. So I think all in all the systems held -- uh, the system held up really well.

And in terms of what, uh, kind of, uh, experience or let's say, findings from a crisis, uh, I think they talk about procyclicality later, so I want to vet now another recommendation key members have is that we realized that the public quantitative disclosures could-, uh, could happen -- at least for partial, uh .. part of, uh, the data report is it could, uh, happen quicker, or could be done more often.

For instance, this was-, clearly everybody was interested in back-testing breaches, uh, happening in March, but given that public quantitative disclosure is done on a quarterly basis with three months delay, uh, for reporting, you actually only got information about, uh, March back-testing breaches end of June, early July.

So we-, we think that, uh, some of the data points should be reported for instance, monthly with one-week time lag. And we also think that maybe, um, back-testing results should be, uh, standardized a bit better.

But, uh, that shouldn't really, uh, distract from the overall finding that, uh, given what happened last year, kind of, uh, both, in financial markets and also the wider health situation -- lockdowns and so on -- I think the whole the market did really, really well.

Ketan Patel: Thanks Ulrich. I think that's a good segue. We talked about market volatility, some of the stress events and even margins.

Now I'd like to hear your guys' thoughts on margin procyclicality. There's been some focus from the industry -- Ulrich, you mentioned your survey; there's been some other industry papers that have been out there. There seems to be .. a decent amount of focus on this with varying points of view on if-and-how the IM models at the clearing houses were prepared for the IM change, reflecting the stark difference in the volatility regime between pre-Covid and post-Covid. You could just take the VIX as an example of how volatility cranked up pretty quickly.

So with that in mind, I'd like to hear how you both think the IM models performed at the CCPs. And are there any issues or potentially some tweaks that the CCPs are expected to do, or maybe have done?

I'll stick with Ulrich on this, and then I'll .. I’ll flip to Teo for his views. Ulrich?

Ulrich Karl: Yes, so -- and before I start, I really must highlight that I don’t blame CCPs or say, uh, the margin models were blindsided as read in the press or even in some, uh, academic papers.

I think the participants in CCPs knew exactly how much and whether this would work and would react to a volatility shock. I think the difference now is-, is just what we have seen, and have seen at very extreme volume and suggest, uh, what could be done and what would-, could maybe be reviewed. So please don't see anything I say, as, uh, actually blaming CCPs.

So I think overall, um, after the last crisis and the G-20 reforms, uh .. quite a lot of counterparty risk, uh, has been mitigated at the cost of higher liquidity in funding risk -- and not so much talking about Variation Margin. Obviously there have been large Variation Margin calls, but if you have a position that loses lots of money, then you have to pay that, uh, there's no way around that.

That essentially also moves liquidity, uh, within the market. But, the issue is really if Initial Margin is too procyclical, uh, that will actually drain liquidity from a market -- at least initially. And we have seen quite a lot of, uh, margin increases by products, as up to 300%.

What I found interesting in our discussions with CCPs was that nearly all CCPs globally aligned with anti-procyclicality tools with AMI requirements -- even though only, uh, applicable indirectly via the reco-, recognition regime, maybe. But I think nevertheless, these AMI anti-procyclicality tools were still insufficient to-, to mitigate procyclicality.

And I reckon, you know, uh, don't need to repeat it – too too much what these tools are .. There's a 10-year margin floor, which given that the last crisis is 12 years away -- or at least <u>was</u> 12 years away back then – the really stress period had already rolled off a lookback period for this 10-year floor.

So the floor needs to be maybe enlarged or some, um, recalculated differently, uh, as a 25% buffer -- which can be small, so if you see that, uh, with certain products margin increase was 300%, a 25% buffer might be a bit small.

So I think that should be, uh, if it's used, maybe, uh -- or it should be dynamically calibrated and based on a .. underlying contract, not, uh, not just with a number, which pretty much may be arbitrary .. and, uh, there should be more guidance when this buffer can be released, because we heard that there were some CCPs that actually didn't release a buffer.

And then, uh, there's a third tool where you have 25% stress scenarios in look-back period. I think that CCPs that used threat of that fared, uh, fared quite well, which is purely maths -- if 25% of your scenarios are stressed, it will affect your 99, uh, % [inaudible]. But, uh, [inaudible] impression might also, uh, be linked to transfer asset classes we use CCPs for clearing.

So, uh, in terms of how to go forward, I think actually it's not necessary to provide more prescriptive regulations. That was a preliminary idea should these anti-procyclicality tools being picked up by CPMI-IOSCO maybe.

But actually the important thing is that the market gets to an agreement of what an acceptable level of procyclicality is. That might be the same we currently have; it might be a different level. And once we have this agreement, if it's obviously not ready the market regulators will be involved as well. And that will be, uh, very tricky to find a-, find a good trade-off between the cost of clearing and, uh, anti-procyclicality or fund instability.

But once such a level of procyclicality has been agreed, then you could pretty much leave it to CCPs how to adapt their models, so that they, uh, that they work to this -- agree to this -- uh, level of procyclicality.

And so, there is -- I don't think there is a prescriptive regulation required, but there is a discussion required -- what kind of level of procyclicality the market actually wants.

Ketan Patel: I think those are good, but there's a couple of them I want to just, uh, pick up on. You mentioned the-, the stress scenarios as part of the margin framework as being a little bit more resilient in terms of being less procyclical. I think that's pretty interesting. I actually explored that topic.

There's been a paper by .. David Murphy and colleagues in the Bank of England. It looked at a varying amount of stress to be included. So the stress observations that are used during peace times to kind of act like a buffer, and then it could be reduced when, um, becomes less placid -- kind of a counter-cyclical measure within the margin framework.

But I think there's more research to do. I think your other point on balancing of market efficiency is pretty key, especially in the states where some of the ag and commodity products are pretty .. pretty paramount to the-, the economy here where you wouldn't want to punish farmers and suppliers.

On the other hand, you'd want to probably maintain a resilience for more of the financial institutions, so that's probably a trade-off -- and that goes to your point on the product level. So good points there ..

Teo, I would like to hear your thoughts and wonder if it's any different from more of the CCP vantage given your membership.

Teo Floor: So .. I mean, to a large degree, I think, uh, both of what-, what you have said -- and Ketan, I think if you're referring to-, to the paper that you wrote, in addition to that from the B of E, I mean it's essential to distinguish VM from -- or I should say VM and options premium -- from the forward-looking components.

If we're just focusing on IM, I suppose that last year there were some fundamental discussions of, you know, should CCPs really try to lean against cycle and-, and questions like that.

I sort of separate that from the normal discussion of market participants, sort of a mix of buyers and sellers trying to work out what they think is an appropriate level of coverage -- both in terms of volume and default fund. And there's obviously a balance to-, to be struck between how heavily one weights -- which side of that? And that's probably going to be very different in-, in different kinds of markets.

I say very different in a sort of CCP-nerd vary different. Uh, you know, the regulation already floors, uh, margins at relatively high levels across all asset classes and-, and that sort of thing.

I think that the conceptual difficulty is that you have a .. a floor for margin, a ceiling potentially for margin, and then a rate of change between the two. If setting the floor at an extremely high rate makes the markets unviable, uh, or uneconomic to-, to have as centrally traded or centrally cleared, um, then that of course is-, is a challenge.

And I don't think that there's any appetite generally across the market to suggest that margin should be floored at the kind of extreme volatility spikes that we saw during Covid.

On the other hand, the question of having a ceiling is rather difficult. And for the rate of change, that sort of plays interestingly into the back-testing point that-, that Ulrich made before.

So if .. one wants to have a very low number of, uh, exceedances to make sure that IM is covering moves, then the reactivity to a changed market environment has to be quite quick too. If there is a preference that margin rates move more slowly in sort of a more discussion-type agreement, uh, framework, then one would expect that if there's an unexpected event, like a global lockdown and-, and these sort of dramatic market moves, then you would have exceptions.

And there's a trade-off there and I think that that's a very interesting conversation for-, for the market to have of, what is the rate of change and its relation to a tolerance for exceedances?

For the reduction of buffers, this is very difficult because the CCP usually .. its role is to ensure that it's able to manage a potential default of a member, um, with the resources that it has at hand. Typically nearly all CCPs lean very heavily on the initial margin, uh, provided by the defaulter in question, uh, rather than assume that they would mutualize it.

So for these short timeframes, a CCP itself – as, uh, important as a risk management tool as it is --they don't typically think of themselves as being able to call the top or bottom of a price development. So it's a rather mechanistic machine, and the rather reactive sort of function in risk management.

I think it's an interesting question if CCP should be more proactive, that <u>would</u> indeed be a sort of conceptual shift in how CCPs think of markets.

I <u>would</u> say that changing IM rates to reflect current volatility levels, of course can -- uh, especially in markets where there's very active trading -- lead to changing positions. So it could very well be the case that one does not want to hold the same number of, let's say, oil contracts. If the price developments are as dramatic as they were, and IM can -- and <u>was</u>, of course -- historically often seen as a sort of interplay into those kinds of decisions.

Obviously for other markets, the portfolios that one holds are sort of expected to be a through-cycle. And there one would expect that you have a more defaulter-pays, more IM-heavy and a more robust model.

The one comment, if we're just talking about the Covid experience that I would say is that there <u>are</u> some different practices at different CCPs for how this was done. I think that they'll issue a short paper, and some of the other analyses of the events have highlighted that the ways that certain CCPs' models work -- as they're designed by the CCP in conjunction with their-, their participants and regulators -- um, have different ways of adjusting.

So from my perspective, I think that -- as Ulrich said -- I mean, the models worked exactly as expected. I think that those kinds of changes given the market moves would not have been unanticipated by clearing members. And I wonder whether it's really a Covid discussion or whether it's more a continuation of the usual discussion that we always have in the market of what's the right level of IM and how the models perform.

So I don't necessarily think that despite its dramatic price moves, the events last year have created a different conversation to-, to that which existed before.

Ketan Patel: Thanks, there are some good points. I do think that it was probably the, uh, the velocity of the changes that people were surprised by, so it probably just warrants some discussion by the market. But I do agree that there's trade-offs. I think both you and Ulrich mentioned that, between efficiency and, uh, managing procyclicality –

If I could just do one follow-up question on this, Teo -- you mentioned the difference between VM and IM and I-, I was referencing my-, my paper there. There is a difference between VM and IM. My views, based on running risk at clearinghouse, is that VM is inevitably cyclical because it's collecting a market to market, and it's fundamental. CCPs cannot extinguish credit risk without collecting that.

If they didn't collect VM in a .. in a mechanistic manner, you could have issues like what we saw in the last crisis where the classic example is AIG -- there was some cyclicality there as soon as their rating dropped, VM was collected.

CCPs, on the other hand, do not look at your credit risk -- rather they just collect VM every day to make sure they don't carry debits and credits on their balance sheet.

What's your view from .. from your side representing CCPs? Is it similar in terms of how paramount VM is?

Teo Floor: Yes, I think that there's also another aspect to it for <u>not</u> collecting VM. Um, you're of course issuing credit and that's a sort of general challenge if one is expecting the CCP to extinguish counterparty credit risk.

Of course, it also means that the other side isn't paid out, and the CCP is in the center of their markets, but its members will have other business and it's possible they're offsetting exposures elsewhere where they need that more.

So that's, I think, on a sort of important aspect to how CCPs think of it -- it's not that they're collecting VM for themselves, it's that they're collecting VM for other participants. And the .. who's collecting and who's paying, of course, depends on the type of move. And there's sort of neutrality-, extreme neutrality, and the CCP designed for that question.

For the other side, when you mentioned AIG, I mean, one challenge, of course, that very prompt -- at least daily VM creates -- is the requirement for members to hold liquidity to be able to meet those calls.

On the other hand, one aspect of clearing is that these are usually such short time cycles, that a problem doesn't develop into a much larger one. So if one says, for instance, that CCP should collect VM at a slower rate -- um, you know, once a week, once a month or something of that order -- then you can have problems which grow without being rectified.

So in some sense if a member is failing because of inability to pay VM, then this implies that there have been other problems too -- there have been other failures. One would not expect that a CCPs’ clearing member has a position where they don't expect to be able to cover, for instance, the day’s moves, even if those days are somewhat out of the ordinary.

Ulrich Karl: Two comments to Teo’s comments -- or not?

Ketan Patel: Go ahead.

Ulrich Karl: Okay. Uh, really just, uh, two comments to make, uh, to what, uh, Teo said earlier.

I think actually in terms of anti-procyclicality tools, I think nobody's asking for a ceiling and that just doesn't make sense. And so, as Teo, uh, said, a CCP has to be protected all the time. So ceilings just-, just wouldn't work. It's really a question of, uh, setting the anti-procyclicality to tools in a way that by back-testing that we do, uh, their job in a crisis.

We know that obviously it doesn't-, uh, doesn't mean that a margin will never go over a certain amount. So it's really just a -- it's, it's more of a floor, you know, you use as a lever.

In terms of Variation Margin, um, I think actually I kind of don't even see that really as a margin, it's really profit-loss that is exchanged. And-, and confu- .. why wouldn't you not do it?

I think the-, the question we ask really just, uh, practical questions. Uh, so to make -- especially Intraday Variation Margin calls -- very predictable, uh, for-, for key members and for clients who paid the earlier the better, but obviously that, uh, that's not always in the control of a CCP. And there-, there are even considerations like, uh, being able to pay, uh, in your currency late -- as, I think, uh, at the moment, for instance, there are questions for-, uh, for euros.

So essentially for target to be open, uh, longer so that clearing members actually can, uh -- can pay Variation Margin in euros instead of, uh, than having to pay in dollars.

Ketan Patel: Thanks for that Ulrich. I mean, we could keep talking about procyclicality probably for another hour. Let's, uh -- let's switch gears and maybe talk about market structure.

It's been over 10 years since Dodd-Frank was passed and the Pittsburgh G-20 summit. Clearing mandates have broadly come into existence across jurisdictions, they've been rolled out with <u>some</u> residual uncleared rules which will be implemented soon.

On the other hand, we have seen clearing volumes continue to grow globally, and there are still questions around client access models, making sure that clients have other ways to access CCPs from maybe the traditional mechanism of them accessing through a clearing member. And there's also some discussion of what other asset classes could be cleared by clearing houses.

Uh, starting with decline in access model topic, can you guys give your perspectives on some of the sponsor and hybrid models that are coming out? I'd like to hear what you guys think works, what potentially needs to be enhanced -- and on this topic, I'll start with Teo and then, uh, move on to Ulrich.

Teo?

Teo Floor: Yeah, sure. No -- pleasure to talk about it.

I think the-, the structural questions are very interesting. I mean, I think there's a .. humility in what CCPs can themselves do, except try to look for solutions within what's permitted by regulation and what their direct and indirect members want in terms of access models.

There has been a development to have sort of these hybrid models and these, on occasion, have rather different intentions. Some of them are to help, uh, with the capital treatment and sort of jurisdictions of client clearing; others are to bring more of the larger clients to be closer to being full members themselves; and in other places, I would think it's more a method of providing greater segregation of the margins of-, of the customers.

I think for all of these, I mean, my sort of take on a high level would be that .. of course, if somebody is interested in becoming a direct member of a CCP, then there should be -- outside of risk concerns -- as little to prevent that as possible.

So I think it's generally for many types of markets -- but obviously not <u>all</u> -- advantageous if, as the buyers and sellers are direct participants. For the other side of the coin, I think that it's essential that the clearing members have viable businesses, right?

So, they're -- this has often been discussed in the industry that the hybrid models for client clearing are part of a larger conversation of our clearing members -- for instance, charging enough for the services they provide; um, are they being compensated for the risk they take on?

So I think that those two questions are really kind of the-, the important ones. And if there's a challenge that sort of arises where it can be fixed by a different kind of model, then of course, uh, regulation and legal framework should-, should enable it -- for that's not currently the case.

Ketan Patel: That's really interesting. Ulrich, uh, can you give us your thoughts? I wonder if you agree, or if you have different views on client access models, or if there's more to evolve here.

Ulrich Karl: I do agree with Teo. So we hear that clients -- even very large ones – uh, complain occasionally about access to clearing and, uh, the fact it has to be by account, uh, uh, having innovations like, for instance, hybrid models, uh -- which might actually support more access to clearing for-, for clients.

And as Teo said, these models not necessarily have, uh, always been developed with, uh, client access in mind -- some of them are for capital requirements ..

As to segregation, I think the key issue is that to varying, uh, degrees in these models the clients will still need a sponsor or guarantor. So pretty much, uh, quite a lot of factors that restrict client clearing in the normal .. clear member client model will also restrict these models just for availability for instance of a clear member being able to put on a default management to support the client – thi-, this hybrid client -- in default mention and so on. Uh, also capital requirements, um ...

There's also the issue that depending on the model, there might be more risk for the CCP. So in the classic model, clients are guaranteed by a clear member, but now they – if they are conf-, have, uh, direct members, they might be aware -- creditors might be mutualized -- and there might be an issue of intraday margins, where at the moment for many clients, uh, intraday margins actually paid for, and sort of fronted by, clear members -- which not necessarily might be the same if they, uh, have been hybrid clients and are pretty much treated as normal clear members.

But overall I think it's innovation that, uh, has to be welcomed, um – and, uh, we will have to see how helpful these models will be. So we are certainly not solving all issues and they haven't been tested yet in a-, in a default, but, uh, it's certainly a-, a good thing that .. people think about them and to see -- yeah, see if it can be helpful to a market.

Ketan Patel: I think that's an interesting phrase you use – innovation -- given it's often called market plumbing. So it's nice to hear that-, the innovation word being used with clearing. At least-, at least based on my, uh, experience I've .. I do find that there are changes that continue to evolve, whether it's new asset classes or new ways to access clients or even collateral.

So it's .. it's an area where clearinghouses continue to innovate and improve. And thinking of improvements -- broader terms -- thinking of asset classes which could potentially be cleared beyond the ones that are existing <u>in</u> the clearing house ecosystem -- some asset classes have been mentioned in terms of the U.S. repo market.

Uh, there are repo clearing[houses] in other parts of the world, but there's been some recent academic papers in the past 12 months that have raised that question again -- some of this on the back of the issues in terms of liquidity during March 2020. Specifically, market participants have mentioned that there has been widening of bid-ask spreads, and also some encountered some issues around market depth -- particularly in the off-the-run Treasury market.

I'd like to hear from both of you again on this, starting with Ulrich, here -- I'd like to hear what your thoughts are of potential other asset classes that could be cleared.

Ulrich Karl: Okay, uh .. so, um, as you -- as linked to the-, to the, uh, March 20 [SIC] crisis as I see, I think the obvious one is repo clearing, which is already practiced, uh, both in Europe and U.S. and-, and our jurisdictions should be very helpful to a market if extended, both in terms of, uh, the usual CCP benefits like operations, streamlining, neutralization, multilateral netting.

I believe that this is also more capi-, capital efficient. It might also be helpful to provide access to cash for clients like pension funds, which at the moment in Europe, for instance, are exempt from clearing for, uh, for reasons that they might struggle to get cash. So that's repo clearing -- fairly supportive, or very supportive.

On Treasury clearing, I cannot really speak for-, for my members, so I'm a little bit off this here, .. given that it's, uh, not really derivative topic. Given it, um, kind of looking at clearing, it is the .. I'm very supportive clearing in general, but looking at the crisis, uh, and looking at Treasuries, I wonder that actually, uh, whether the more important thing for Treasuries would more be essential execution on trading facilities or exchanges. Uh, that might be more important than actually having clearing.

Ketan Patel: Uh, if- .. if I could just .. If I could just throw in a curve ball there -- what do you think about a clearing mandate? Should it be organically where the market decides where to clear, or should there be a mandate still for other asset classes?

Maybe you could reflect on that.

Ulrich Karl: Sure. So I think clear mandates were very useful and important to .. to get critical mass over last, uh, 10 years or whenever it came in. I think now, uh, especially, looking at, uh, at the big dealers and the big clients -- I think they are all very supportive of clearing because, uh .. I think the market has very much realized how, um, how efficient clearing actually is.

So .. so I mentioned it has operation benefits, it's, uh, it's less risky, it consumes less capital. I would even doubt if, uh, if a normal bank nowadays would even have, uh, bilateral lines do all the business we currently do .. without, uh, without clearing.

So my point really is I think having a clear mandate was, uh, was important to get the whole thing going, to get to critical mass; but by now, uh, clearing, um, is so much .. in the, let's say, standard operating protocol of a market, that I don't really think that clear mandates are necessary.

And you see that in-, in McKeon rates for the new risk-free rates on the swaps, which obviously can have not, uh, not huge liquidity. But -- I haven't-, haven't checked the-, the number, but I believe, uh -- I looked recently at SONIA swaps -- and I think, uh, more than 90 or 95% of notional fee swaps is actually cleared.

So I think that's a-, that's-, that's just an indication that the market actually believes in clearing. So I think if there wasn't a clear mandate anymore, uh, there wouldn't be a big difference in McKeon rates.

Ketan Patel: Fair enough. So thanks for your thoughts on that Ulrich. Uh, Teo, I'll turn to you on-, on the topic of potential asset classes as-, that could be clear -- whether it's U.S. Treasury repos or others.

Teo Floor: Yeah, sure! No, and also always happy to get curve balls too, if you want. I'd be tempted to add to Ulrich's comments on mandates if you want.

Ketan Patel: Yeah, please -- please do.

Teo Floor: Yeah, sure. I mean, I-, I think -- I agree with Ulrich; I think that there are other levers in the .. capital regulation of firms that, uh, makes clearing very attractive. And of course, uh, there are these operational reasons.

I would say, on the other hand though, that they were essential to get things going, not only because of adverse selection things, but also because this was an international agreement. So if, you know, a large number of countries all want to have a similar change and you have a very global financial industry with banks active in multiple jurisdictions, and you wanted to preserve that, I think it was important that there was great commonality in how the reforms were carried out.

I <u>would</u> say, without wanting to sound too controversial, that of course for some markets like the usual, uh, ETE business that's, uh, cleared through CCPs and on exchanges -- all of it is cleared.
So I think that there's .. a habit in some markets where no matter how small the, uh, end client is, it's not considered to be a question, but it still today is for some of the corners of OTC markets, a question of whether one wants to clear it at all or not.

So from that point of view, I think if there's a .. still a financial stability prerogative and this desire to make the markets benefit from these efficiencies, then the mandates are in general, uh, a good idea to maintain.

For the repo question, I think that, yes, I agree with Ulrich -- it does bring about, um, certain types of efficiencies, and I think Darrell Duffie has highlighted how multilateral netting in particular could be very powerful.

Conversely, of course, that does require that the CCP that has the liquidity to be able to manage that. In that respect, of course, not only for the default management, but also for covering large liquidity with needs that might arise out of repos, there will be lots of work for any potential CCP to do.
I think for the specific challenges that seem to have occurred last year in the treasury market -- while clearing will have lots of benefits and some of them might assuage them, it's not clear to me whether clearing would really deal with what I think are the primary challenges and the reasons why the markets behaved as they would.

So I take a sort of relatively neutral stance on whether it would really be the, uh, the single decisive addition to the market structure that would, uh, would rectify all ills.

And, um, to your other question on-, on what other asset classes could be cleared, obviously there is ongoing development at the different CCPs to stay abreast of our evolving world where Crypto and Certain types of ESG products are new emerging sort of market segments, or-, or reference benchmarks of interest. So there will be product development, I think, uh, naturally for both exchanges and CCPs to do that.

In terms of other asset classes, I mean, I think that there is still substantial portions of credit and rates markets that are not cleared. Often that's for very good reason, but that's of course one, uh, obvious question -- if there‘s a desire to sort of clear quote-unquote the complete market, FX is an extremely standardized markets in-, in some of its features.

I don't think that there is yet a clear drive for, for instance, the-, the market itself to try to move those into CCPs. I think there are other plumbing issues not related to CCPs that are our current sort of focus of work, but those would be the sort of typical candidates that one can't help but mention, um, if one wants to, uh, to try to give a comprehensive answer quickly.

Ketan Patel: Thanks, Teo. And I'd like to remind our listeners that on a prior episode of the *LaSalle Street* podcast, we actually had a, uh, a panel which was chaired by Darrell Duffie, which goes through some of the topics that Teo just referenced.

I'd like to close this session and now discuss the regulatory outlook. I'd like to hear both from your perspective again -- and your members -- what you're focused on for the upcoming year and the years beyond.

And do you specifically see any significant regulations that are coming up, or in-, what are the key issues being debated?

In tangent to that, I'm wondering if some of the focus you think will change given the recent unwind of leverage positions held by Archegos [?] Capital. Do you think that may influence the regulations?

The ones that come to mind on my side are potentially OTC equity risk management requirements, or potential disclosures around leverage for asset managers. The reason I mentioned leverage, as we all know, many of the market events we've had before that were stress come to mind -- I think of LTCM and Lehman as classic examples.

I'll start with Teo on this and then turn to Ulrich.

Teo?

Teo Floor: Yeah, absolutely. A pleasure.

So I-, I guess that, um, one interesting thing to watch, which is not really about CCPs, is we haven't talked, I think, broadly of the success, I would say, of the banking sector during Covid, right?

I mean, you have a situation where large portions of the major economies were all locked down, and it will be interesting to see if there's any evolution in what banking regulators think of as necessary adjustments.

I think we mentioned it before -- I think one interesting thing for CCPs is this -- what I sense is a growing preference -- that CCPs are more proactive, that they're less of a passive risk manager who handles defaults if and when they occur, to one who sort of tries to take a view on, for instance, procyclicality. So I think that will be an interesting conversation.

One obvious topic, I think, will be transparency. The recent events at a family office that you mentioned, of course, would probably have benefited from that. I think it's not, to me, as critical an event as sometimes it's outlined in the press from the perspective of risk management, because I think that losses should be possible.

So .. yes, one can debate the-, the scale and the nontransparency of the markets. And I sort of completely understand that firms cannot, of course, ask each other who their clients are and if they share them. But it might not be a bad idea if there was some kind of disclosure for major market participants that could at least sort of contour key aspects of their business to make these kinds of things easier for people to try to avoid.

And I think, on that note, it's also quite interesting that in this case, I mean, perhaps not that I would suggest that CCPs are appropriate for all asset classes and types of relations between firms, but a dispersion of risk in this case made the ultimate unwind worse.

So CCPs of course famously concentrate risks -- or concentrate risk management -- but in this case the dispersion of activity, um, actually made it worse. And we saw that there was also a very -- let me call it -- default management process, um, by the counterparts, uh, where they fared quite differently.

So I think those will be things that-, that keep us busy in, uh, in months and perhaps years to come.

Ketan Patel: That's an interesting take. It's kind of like the CCP would have had a bird's eye view across the multiple prime brokers had the-, had the positions been clear. That's a .. that's an interesting angle on it that I haven't heard before.

Ulrich, I'll close with you on this topic. What are your thoughts on the regulatory horizon?

Ulrich Karl: So maybe starting with what's happening this year is -- or kind of what I'm-, what I'm looking at at ISDA -- um, what is still CCP recovery resolution.

I thought it would be done a couple of years ago, but, uh, it's still going strong at the moment of European implementation and FSP work. But I think that will, over the next years, kind of move across the globe, uh, as one jurisdiction after the other, uh, implements recovery of these [inaudible] rules.

There's work on auctions, where we have a great cooperation with Teo's TCP-12, [inaudible], and FIA to respond to the request from CPMI-IOSCO to-, to move over work.

Obviously procyclicality is a big topic -- we talked about it enough. And, uh .. and our European topic is keen fragmentation and a potential occasion policy, uh, following, uh, following Brexit.

So overall looking forward, I have to say, uh, since I joined ISDA, pretty much every year was something new, sometimes surprising, like, uh, like the default of Nasdaq or Covid that's, uh, completely changed priorities. So I think for that's really difficult to look, uh, look kind of, uh, that much in the future to see what regulation actually will do.

In terms of [inaudible], uh, I pretty much agree with Teo. Uh, I don't think it's actually a systemic event, unless if it's maybe a symptomatic of a general increase in leverage. Uh, so I-, I would think there might be some tinkering with regulation going on, but I don't really think that wholesale changes are required, uh, to address specific issue.

As Teo said, uh, kind of market means that sometimes people lose money. If it's not effective for financial stability, then it shouldn't really be an issue.

Ketan Patel: I'd like to thank both of you for joining us today on the *LaSalle Street* podcast. I thought it was a great session and I'm sure our audience will appreciate the perspectives that both of you provide today.

Thank you Ulrich, thank you, Teo.

Teo Floor: Thank you Keten -- Wonderful to talk. Thanks so much. Ulrich, Keten -- speak to you soon, I hope. And, uh, have a wonderful weekend.

Ulrich Karl: Likewise, thanks both.

Ketan Patel: I'd like to introduce our next guest, Jason Silverstein. He is Managing Director and Associate General Counsel at SIFMA Asset Management Group, where he leads the derivatives advocacy practice.

Welcome Jason, glad to have you on the podcast.

Jason Silverstein: Thanks Ketan, it's an honor to be here.

Ketan Patel: Thanks Jason. I'd like to begin our discussion with looking back at the market stress of 2020 and get your thoughts on what happened.

And given your Association represents many firms that have traditionally [been] termed the buy-side, it would be good to hear your perspectives for the financial markets and the stress that was entailed.

Jason?

Jason Silverstein: Thanks Ketan. Speaking on behalf of .. the asset managers that, uh, I typically represent, I think there were a number of market events going on at the same time. Obviously we had the pandemic. Oil prices were going through unprecedented negative levels. We had certain products hitting trading limits. Some products were going through their seasonal role cycles, and all of that was colliding within a relatively tight timeframe.

I think the result of that, in one way, was that margins were increased for many products -- in particular, due to the volatility that we saw; and in particular, those that were cleared at CCPs.

I think we also saw a few areas of operational delays. One in particular, at least in the cleared universe, was on give-ups where certain give-up transactions were getting delayed late in the cycle and sometimes missing cutoffs.

I think you line those up with some of the existing time cutoffs that we see for cash movement, collateral settlement, et cetera, and what we clearly saw was increased pressure on the system.

Thankfully though, the event was mainly pandemic and product-driven, and we didn't also see a simultaneous credit event. So while I think there was quite a bit of stress on the system, we were able to get through it as an industry with some scars, but without any actual hardships.

Ketan Patel: Thanks Jason. As you said, with market volatility comes a margin, and in this case margin increasing, given the elevated market volatility levels. There's been a-, quite a bit of focus on this from varying angles, and there's been some thoughts on some of the margin regimes -- what worked well, what didn't -- and I'd like to hear your thoughts as well on this.

And, uh, some of our other guests have discussed procyclicality. I don't know if that's an avenue that you could discuss as well as potential thoughts on cleared versus uncleared markets.

Jason?

Jason Silverstein: Thanks Ketan. Uh, obviously margins are .. are a very important part of the conversation. Being a lawyer by training, I'm not sure I'm going to be the most qualified to opine on the discrete areas of margin performance, but in general, I'd like to know that we do hear a bit recently about procyclicality issues and margin floors.

One thing I'd like to point out is that, you know, whether it be procyclicality -- and maybe a solution for that being floors -- typically seems to be discussed in a vacuum and with a broad brush across products.

I think it would be important for us to consider these issues in a more holistic nature and in the greater context of margin model suitability, uh, where I think number one, we want to make sure that margin models -- and the regulations that apply to them -- are sufficiently flexible in order to be able to accommodate the various products which they're designed to risk-manage.

Additionally, I think that we also have to take into account collateral acceptance policies --whether it be eligibility on the one hand or haircuts on the other.

And then on top of that, I think we've got to consider portfolio construction and portfolio efficiencies in order to really start to round out ultimately what margin models should be doing.

One concern is that if you look too narrowly at one of these particular points of the broader issue, you find that you ultimately can pull on one lever too hard and make margin modeling in general, fairly painful to the broader market.

So what I think we want to do here is make sure that we have many professionals at the table, not just those that are focused on margin modeling alone, but those that are involved in collateral acceptance policies, as well as those that are portrayed in the products in general.

And the other thing that I like to think of when we're discussing margin model issues is that for the most part, there's a focus on initial margin. And whether it's there in sufficient, uh, amounts in order to cover their market movements.

Uh, frequently, you know, you'll hear MPoR -- margin period of risk -- as the number of days you're looking to protect. But I think that we have to start to talk about Initial Margin and Variation Margin both independently and together as we're thinking about any changes to, uh, margin modeling generally.

Uh, you know, one-, one area to focus on is, you know, what is the ultimate goal of a margin model itself as a stand-alone versus, you know, any types of add-ons -- whether they be concentration liquidity add-ons, uh, versus, uh, intraday slash ad hoc calls. I think all of which will – together -- start to, you know, round out the picture of what margin modeling is ultimately trying to do.

You know, one area in particular that, you know, I'm curious about where the market's going to go in the future, is the concept of intraday or ad hoc, uh, cycles, which, you know, today for the most part, when we've seen, you know, large volatile events -- whether it be Brexit, uh, or whether it be, uh, March of 2020 -- any additional charges for margin and any additional ad hoc calls typically are only in down to the CCP.

And, you know, one piece of this equation, I think we want to see -- and I think it's part of the broader liquidity conversation -- is that either we categorize these intraday calls as just, uh, Initial Margin top-offs -- or we allow for Variation Margin to be both collected and paid in order to, you know, increase liquidity or at least send liquidity through the market, uh, during that event.

Ketan Patel: That topic of, uh, ad hoc VM calls and potentially being only one way during extreme market events, that seems to be a phenomenon outside the U.S. -- at least in the derivatives market -- is-, do you think that's a fair assessment?

The reason I mentioned that is that at FIA expo last year, there was a panel discussion on this, and it seemed like the U.S. CCPs were saying that most of their calls are two-way, although they may hold some reserve back -- such as collecting a hundred percent of losses and paying out 95% of gains.

Is that a fair assessment?

Jason Silverstein: That's mainly, to my understanding, with respect to existing and, you know, business-as-usual intraday calls -- but I think we saw during some of these, you know, discreet days where there were high, you know, volatilities in certain markets that the CCPs actually had ad hoc, uh, margin calls.

And I-, I think generally speaking, what we want to do is level set that discussion as to, you know, both what is the expectation of the CCP to make those calls, against what is the market's expectation, uh, that the CCP will be calling it, and then how cash will flow through the CCP.

You know, I-, I think during Brexit there was a lot of pressure on clearing houses only, uh, collecting mar-, uh, Variation Margin based on their ad hocs and not paying it out, which I think naturally causes a liquidity strain where, you know, liquidity is only going to the CCP, and it's not being passed around the market.

I mean, I think we want to see that, and it's just one piece where CCPs can improve their margining during stressful periods.

Ketan Patel: Thanks for your thoughts on margins. I'll like to move on to our next topic and discuss a topic that, based on our prior discussions, Jason, that just must have been very focused on, and that's around CCP governance and disclosures.

I know some of the institutions that representatives may have also voiced directly that they wanted more visibility as stakeholders of the clearinghouses. The challenge, as I understand it is that sometimes they face is that they're typically not direct members or counterparties for the CCP. So in terms of governance, they may not have a seat at the table, as they say it.

Can you give us your thoughts on this, and maybe some examples of some of the chanes that your members would like to see?

Jason Silverstein: Thanks for that, Ketan. You know, I .. I-, I think you said something that was-, that was interesting, and it's that, you know, for the most part buy-side is not direct members, um, of the CCP, but you also [said] that they weren't counterparties.

And, you know, I-, I think we need to think about that, you know, more broadly. And many of the CCP rule books now contain provisions which imposed losses on end users, uh, at the end of the waterfall. So where CCP exhaust its financial safeguards, then they need to come up with some mechanisms in order to pass those losses, uh, across the market.

Now, I think we need to distinguish this from a time when, you know, clearinghouses have the concept of good-till-the-last-drop where clearing members were expected to continue to be assessed for any further losses by the clearinghouse until that loss was extinguished.

Today, that's pretty much not the case across the globe where CCPs are now subject to limits -- I'm sorry, where clearing members are-, are subject to limits on their liability to the CCP -- and that's why we have these end of waterfall loss allocation mechanisms.

So while I don't always see the-, the buy-side as a member, obviously, they are clearly a counterparty that they can be subject to counterparty risk of the CCP, should the CCP not be able to pay, uh, all of its amounts due at some point in the future -- and where the buy-side are subject to haircuts or tear-ups.

So as a result of that, we think that buy-side market participants -- in particular asset managers – should have a seat in CCP governing bodies.

Ketan Patel: As a follow-up to that -- the governance topic – is-, is a criticality for the buy-side or SIFMA more on what is traditionally called the tail of the waterfall? I-, where VM GH could be used for tear ups, or is it something broader than that?

Jason Silverstein: I would say that the .. the-, the buy-side typically has similar concerns as clearing members do, with-, with respect to their incentives from wanting to participate in the system. And for wanting to be on the, uh, on the-, on the governing committees.

You know, the buy-side's interests are, I .. I don't think are nominal in-, in the broader clearing landscape, where ultimately that tail risk -- as you point out -- will be allocated to asset managers' clients as well as other members of the buy-side -- and ultimately to end users.

I think that we see that their opinions, uh, need to be taken into account in order to ensure that that never in fact does occur. Um, I think as a starting point, we want to make sure that market participants have a seat on governing bodies. But more importantly, that CCPs are reaching out to asset managers and other end users about changes to their processes.

Now that can be done by the CCP setting up an advisory committee, uh, with a broad mix of market participants -- including end users -- where they can provide feedback on proposed changes to the rules, as well as new products or changes to existing products.

And, you know, one of the things that I think we should do in this conversation is distinguish participation in a governing body or an advisory committee from that which is, uh, one of the CCPs risk committees where to date, we've heard that market participants are providing feedback through the risk committees.

So the risk committees are composed typically of members of clearing members, there might be some end-users <u>on</u> there -- but all those members are subject to confidentiality provisions, they typically have a duty of loyalty to the clearing house itself, and in general, their participants are restricted from providing their firm's views on the-, on-, on-, on the risk associated with the various proposals.

You know, uh, Ketan, you pointed out that, you know, the-, the end of the waterfall and-, and those tail risks are what really brought, you know, the buy-sides -- or I should say, <u>increased</u> the buy-side's interest in participating in these governing committees. And-, and that's because the-, the ultimate goal here is to protect against those end of waterfall scenarios not occurring.

Now I think we saw a couple of examples that, you know, in somewhat recent history where the risk profiles of the clearinghouses were changed, um, and where broader consultation, I think, would have been quite useful. One example of that was the introduction of Bitcoin Futures, uh, back in, uh, 2018.

The other piece of this is not just on the governance side, but it's also the rule filing process. Uh, I'll speak domestically in the United States where the CFTC for the most part has at 40-dot-6 price ask, which allows for self-certification rule filings; and where, while the rule itself says that the CCPs need to provide in the filing a summary of substantive opposing views, uh, to the particular rulemaking.

What's most interesting is that there is no requirement that the CCPs actually solicit those views. So I think you see many rule filings being certified by DCOs that certify that there's been no substantive opposing view. And, you know, I, you-, you query whether any views were solicited for many of those changes.

Obviously, you know, one-, one way to fix that is to require CCPs to actually solicit the views of a broad set of market participants. Um, and I think that that would go a long way to providing market feedback of the changes that they're going to be making.

Additionally, I think it'd be very helpful to the regulators -- the CFTC in particular -- to receive a list of -- or summary -- of the types of opposition that they may have received in any particular proposal. Uh, I think it would help the-, the regulators in discharging their supervisory capacities. And I think it would also help the CCPs in getting a broader understanding of the types of changes that they're making and the impact that it would have on the broader market.

And Ketan, finally, I'd just like to note that another area of interest, and I think of assistance to the broader market, would be that of the disclosures that are currently out there. I think we'd like to see, uh, a change in the quantitative and the qualitative disclosures that market participants are currently receiving from the CCPs.

Right now, they're generally done on a quarterly basis, and then they're .. then they're provided to the market about 90 days later. Uh, which in many ways is too late to, you know, analyze and intervene should, uh, an associated issue be noticed at a particular CCP.

Now, one thing we'd like to see the regulators start to focus on is not just the, uh, the actual information that's in the quantitative and qualitative disclosures, but we'd also like to see the frequency and the timing of the disclosures, uh, shortened -- at least for certain critical information.

Ketan Patel: Thanks, Jason. I'd like to wrap up today and discuss a topic that you and I are fairly familiar with from our prior roles, and that's CCP default management.

Now there was a paper published by CPMI-IOSCO in June of 2020 highlighting some of the issues for consideration around default management. And one topic in particular was around client participation, auctions.

Based on the paper, as well as some of the views that have been expressed by both the CCPs and clearing members, the topic of client access in default action - -in terms of default auctions -- may not be clear cut.

In theory, I mean, more bidders should help CCPs arrive at a better price, due to the increased competition. And also from my own personal default management experience at a clearinghouse in 2008, it was quite evident to me that the client bidders were very useful in taking down some of the Lehman positions for the list of derivatives book.

But still there's some questions around confidentiality and how to ensure incentives for clients to bid competitively. And there's also this concept of a free look that members don't want non-members to have. Can I get your thoughts on some of these default management topics?

Jason Silverstein: Thanks for that Ketan, and I-, I couldn't agree more with what you said at the onset, and-, in that more bidders should lead to better prices. You know, I think that from a clearinghouse perspective, one would want to do what they could in order to ensure that they were getting, uh, a best price.

Number one, the greater the price that they received for the auction portfolio -- and by greater the price, I mean either what they would receive or, uh, the-, a minimal amount of what they would need to pay -- uh, would help preserve, uh, the financial safeguards that the clearinghouse has, including the CCPs' own contribution.

Additionally, I think that there would have -- I think that this would help the CCP in that, should the default and clearing member challenge the actions of the CCP, uh, they would be able to attest that they did what they could in order to achieve the maximum price.

Um, you know, I-, I think that there's been a little bit of work in this area-- in particular with, uh, CPMI-IOSCO's paper, uh, I think back in 2019, uh, that was looking at some of these questions. And, you know, one of the things that always struck me as interesting was the .. was the concept that .. was the concept of alignment of interests.

And, uh, I couldn't, uh, agree more that the client's incentives are completely aligned, uh, without declaring members and clearinghouses in discharging the defaulted portfolio. Although clients may be more removed in the CCP waterfall process as we discussed earlier, their interests are certainly not nominal -- as they are the ones that are gonna absorb that tail risk.

You know, I think that when CCPs are designing their processes, they should make sure to include a diverse set of market participants with sufficient knowledge and experience in order to ensure robust bids in an auction -- they should do that in advance to ensure that there's no learning curve during the default, which could very well be during a broader market crisis.

And, you know, I-, I think that when we look at this holistically -- and just through the basic concept of supply and demand, the more bidders, the more likely that the CCP will achieve a market clearing auction price in a successful auction.

One of the things that we hear about, um, is the concept of whether or not buy-side participants in an auction should be subject to some kind of contribution similar to the clearing members. And one of the concerns is the free look. And -, I think we just note that that's not any different -- whether it be the buy-side or the clearing members in that regard.

They are-, the clearing members too, could receive a free look, um, and ultimately front-run the portfolio. And we think that there's sufficient mark manipulation regulations, laws on the books in order to disincentivize that behavior.

We don't think that any contribution by buy-side participants would assist in alleviating any of tho-, any of those concerns -- nor do we think that they would be appropriate. To the contrary, we think that requiring those contributions could be an unnecessary part of the process, whereby the end user may not bid as all that is getting worked out.

And we agree with you, Ketan, uh, in particular with respect to the Lehman example, we-, we did look through the, uh, you know, the tru-, the trustees report, and while there weren't many auctions, a majority of them, uh, were ultimately won by non-clearing member participants.

And I think that, you know, those particular auctions were in the interest rate, FX and agricultural products -- obviously non-trivial products at the time -- and non-trivial products going forward, and we should expect that similar results would be yielded through broader buy-side participation in these options.

Ketan Patel: Just to wrap things up, I'd like to thank you again for coming on the podcast and joining the session of the *LaSalle Street* podcast. It was a great session today -- thanks, Jason.

Jason Silverstein: Thank you Ketan for having me. It's a-, it's a pleasure to see you at the Chicago Fed and look forward to doing more discussions with you in the future.

Ketan Patel: I want to take a few minutes here at the end of this episode, to just highlight some of the points that were brought up in all three sessions of today's podcast.

We started off with a discussion with Pedro of WFE, explaining some of the pitfalls of using bank regulatory framework to assess margin procyclicality at CCPs. He explained that by using simple examples with the S&P 500, one can test some of the common tools that CCPs use to reduce procyclicality in margins.

And he also explained some of the trade-offs among the choices, as well as liquidity comparisons between Initial Margin and Variation Margin in the clearing ecosystem.

We then finished the discussion with Pedro, with industry insights on margin model enhancements at CCPs, stress testing recovery resolution, as well as loss allocation.

We then had a joint discussion with Ulrich of ISDA and Teo Floor of CCP 12. They explained perspectives of the clearing community through March 2020 in terms of both financial and operational resilience, as well as lessons learned through the March 2020 market stress in relation to Covid.

The topic of IM procyclicality was a point that we discussed in this session and similar to Pedro, we reviewed some of the commonly used tools by CCPs to mitigate procyclicality.
Here, we got into some of the trade-offs around the various techniques, as well as the distinction between IM and VM at the CCPs.

We then discussed market structure topics and clearing. Here Teo and Ulrich provided insights into capital segregation and access drivers to newer hybrid client access models, as well as some of the challenges around client clearing.

Ulrich and Teo discussed the benefits of clearing, and the prospects of clearing other asset classes -- including potentially U.S. Treasury repos.

Then finally, we ended the session by discussing some of the key issues and regulatory changes that are front and center at both ISDA and CCP 12. Here, Teo provided an interesting view that CCPs may have a bird's eye view of risk in the financial markets in contrast to some of the unclear markets.

This was in connection with some of the recent issues around Archegos Capital. Ulrich then explained the focus around recovery resolution, default management auctions, and clearing fragmentation post Brexit.

Our third session was with Jason of SIFMA. He had good insights into some of the issues related to the Covid market stress, and provided some interesting points around margin policies at CCPs, and the fact that he believes they need to account for product nuances, offer portfolio diversifications in terms of margin calculations, as well as some of the concerns around ad hoc margin calls in relation to market liquidity.

We then discussed the topics around governance and transparencies at CCPs, where Jason provided some of their insights and some of their need for additional governance, and also increased disclosures by the CCPs.

We then concluded the session with a discussion on default management and why client bidding helps both CCPs as well as a broader clearing ecosystem. Moreover, we got into how credible participants that have tested default drills can lead to improved pricing, as well as discussing some of the complexities around mitigating concerns around confidentiality and the concept of a free look in an auction.

I hope you found this episode both informative and interesting. As a reminder, you can access other episodes of *LaSalle Street* wherever you download your podcasts.