UNITED STATES OF AMERICA

COMMODITY FUTURES TRADING COMMISSION

PUBLIC ROUNDTABLE:
RECOVERY AND ORDERLY WIND-DOWN OF
DERIVATIVES CLEARING ORGANIZATIONS

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P R O C E E D I N G S

(9:10 a.m.)

MR. WASSERMAN: So if I could thank everyone for coming. I guess to get us started if I could recognize Chairman Massad to give a couple of opening remarks.

MR. MASSAD: Well, good morning and thank you. I'm pleased we don't have snow today. I appreciate all of you for being here and particularly appreciate the panelists. We really are grateful to you for spending the time to discuss these very, very important issues with us. You know, this whole issue of CCP recovery, CCP resilience is obviously getting increased attention these days, and that's a very good thing. There have been a number of papers by various stakeholders, some of whom are here today. And this roundtable is a very good opportunity for us to exchange views. And I spoke about this in my speech at the FIA Conference last week. I spent a fair amount of time talking about this issue also. And I emphasized looking at issues in context, meaning instead of just focusing on one particular aspect of the overall framework, we've got to make sure we look at the overall framework and how each of these issues fits in because effective risk mitigation is obviously dependent on having a strong overall framework. And I talked a little bit about what we've done here in terms of updating our regulations post Dodd-Frank, in terms of developing specific regulations for the systemically important clearinghouses, the fact that those are consistent with the PFMIs and the importance of the PFMIs. And I also talked about the supervision that we do and the oversight that we do because again simply writing rules is not enough.

The goal of course of all of that is to never get to the issues we're going to talk about today. And we try very hard of course to have a strong risk mitigation framework, to be proactive in our oversight, so that we don't ever get to those issues. To my knowledge no U.S. CCP has ever had to use resources beyond a defaulting member's resources to deal with a problem. But that doesn't mean we shouldn't talk about it which is why we're here. It doesn't mean we shouldn't plan for it, and in fact our rules require us to plan for it because we know that no matter how good a regulatory regime is, in extraordinary circumstances something could happen. So that's why we're here; that's why the staff is reviewing the recovery plans of the systemically important CCPs. So we're again very grateful to all of you for being here for this very important conversation, and I think it will help us very much to be informed in our thinking about these issues, and I look forward to a very productive discussion. And I don't know if my fellow Commissioners, if Commissioner Bowen would like to say something.

MS. BOWEN: Good morning, everyone; I'll be really brief. I also would like to thank the staff for setting up today's roundtable. We've seen a lot of analysis recently considering whether we should support a recovery resolution or recapitalization regime for CCPs. So I'm really looking forward to today's discussion because it tackles many of the key issues concerning a CCP's default waterfall, including the auction process, variation margin haircutting, and wind-down.

I also look forward to this conversation because it is critically important that our CCPs have a well considered, data driven approach to their overall risk management process. I'm confident that in looking at this today that an ounce of prevention will be a lot safer than a pound of cure if heaven forbid we were ever to face such a bad day.

So I look forward to hearing your recommendations and I'm sure they will be beneficial to the Market Risk Advisory Committee which I sponsor, and I hope to see many of you at our first meeting on April 2.

Thank you.

MR. WASSERMAN: Commissioner Giancarlo?

MR. GIANCARLO: Thanks, Bob. I'm pleased to participate and welcome everybody to today's staff roundtable on Recovery and Orderly Wind-Down of DCOs. As advertised the purpose is to gather the views and information from critical stakeholders. And I echo the Chairman's emphasis on seeing the whole framework, and that is exactly why we're here today.

But just very briefly but importantly what I wanted to say is to commend the leadership on these issues by the staff of the CFTC including its Division of Clearing and Risk. One of the most satisfying elements that I've experienced from coming the private sector into the public sector is to really see the extraordinary expertise and competency of agency personnel and their clear dedication to public service, and that's nowhere more evident than in the Division of Clearing and Risk that are mostly responsible for today's events.

When it comes to regulation and oversight of the derivatives clearinghouses DCR's extensive and long-standing expertise is likely second to none amongst global regulators. And as we move more derivative products to central counterparty clearing as part of the global regulatory reform effort and in accordance with Dodd-Frank, the CFTC's DCR capabilities are both critically essential and very reassuring.

So with that I think you for coming today and I look forward to the program.

MR. WASSERMAN: I'd like to thank Chairman Massad and Commissioners Bowen and Giancarlo for those remarks.

I guess I would first like to introduce my colleagues here who are with me. Immediately to my right is Phyllis Dietz who is my boss, the Director of the Division of Clearing and Risk. And to her right is my colleague Julie Mohr, who is Deputy Director in charge of Examinations in Clearing and Risk. And to my left, someone to whom I owe a great deal of gratitude, the person who actually bore the laboring role in getting this thing set up, Associate Chief Counsel Kirsten Robbins.

And I would also like to thank everyone

here for coming today, in particular the panelists, happily doing so was significantly easier when we first tried to do this two weeks ago. We have an extremely talented group of panelists here representing a broad array of interests and I expect that today's discussions will be both lively and of considerable assistance to staff as we work to understand these extraordinarily complex and difficult issues.

CCP recovery issues have been the subject of intense interest, not only here at the CFTC, but also among CCPs, their members, and buy side firms. As the Chairman mentioned, over the past year or so we've seen a number of very helpful position papers written by these stakeholders, including a number of the institutions who are represented here today. These issues have attracted also the interest of regulators of clearing members, both here in the U.S. and in the international sphere, including but definitely not limited to the CPMI and IOSCO groups that were responsible for the PFMIs.

Today's roundtable is likely to feed into these larger discussions. Last year CPMI and IOSCO published a report on recovery of financial market infrastructures and is likely to look at these issues some more in coming months.

When I use the term "recovery" I'm using it as defined in that report. The actions of a CCP consistent with its rules, procedures, and other ex ante contractual arrangements to address any uncovered loss, liquidity, shortfall, or capital inadequacy, including actions to replenish depleted prefunded financial resources and liquidity arrangements as necessary to maintain the CCP's viability as a growing concern, and the continued provision of critical services. This is distinguished from resolution which involves the actions of a governmental resolution authority.

The report sets forth some important criteria for recovery tools. The set of recovery tools considered as a whole should be comprehensive and effective in allowing the CCP to fulfill its responsibilities under the PFMIs to allocate fully any uncovered losses and cover any liquidity shortfalls. The set of tools should also include plausible means of addressing unbalanced positions and replenishing financial resources. Each tool should be effective in the sense of being timely, reliable, and having a strong legal basis. Critically the tools should be transparent and designed to allow those who would bear losses and liquidity shortfalls to measure, manage, and control their potential exposure. The tools should feed appropriate incentives for the FMI's owners, participants, and other relevant stakeholders to control the amount of risk that they bring to or incur in the system, monitor the CCP's risk taking and risk management activities, and to assist in the CCP's default management process. The tools should also be designed to minimize the negative impact on direct and indirect participants and the financial system more broadly.

Today we will have four panels, each of which will discuss one of the very complex issues that have arisen pertaining to DCO recovery. First, the use of variation margin gains haircutting. Our second panel will be on reestablishing a matched book. After lunch our third panel will be on wind-down, and our last panel will be on liquidity risk management. There are many other issues related to recovery, but those will need to wait until another day. Our goals of the discussion today will aid DCOs in the formulation of their recovery and orderly wind-down plans, ensure that the marketplace as a whole is engaged with DCOs in the development of these plans, and assist staff with the review of such plans.

I'd like to make some important administrative announcements. As a public service we have wifi available. Instructions are in the written agendas that are on the table near the door as you came in. Restrooms are outside this room. Go to you right as you leave, dog leg right, then at the end of the space it will be on your left. We have some coffee and tea in the back as well as some bottled water. Panelists, please press the button to activate your microphone when you speak. This roundtable is being audio cast to folks calling and they can only hear you if the microphone is on. If you forget to turn it on, if you're speaking too far from the microphone, you may see me pointing to my ear. On the other hand, please turn your microphone off when you stop speaking as we only can have only a limited number of them on at a time. If you use abbreviations or technical terms please explain them the first time they are used. I should note that while I and some of my colleagues may be asking questions and may express tentative views, anything we say represents at most our personal views and does not represent the view of the Commission or the staff as a whole. We will be making a transcript of this roundtable which will be posted on the CFTC website. And, finally, we will also be making the video available eventually on YouTube. Previous videos of CFTC staff roundtables have accumulated hundreds of views. (Laughter) So our first session then will be on variation margin gains haircutting and just a brief introduction there. So in haircutting variation margin gains a DCO -- and I am using interchangeably DCO, which is of course the CCPs that are regulated here by the CFTC and CCP -- a DCO may reduce pro rata the amount it is due to pay participants with in-the-money net positions while continuing to collect in full from those participations with out-of-the-money net positions. As a recovery tool variation margin gains haircutting has several advantages. First, it may be analogous to the pro rata distribution in insolvency. It could be expected to cover comprehensively, reliably, and promptly all losses caused by a participant default on any given day. And in comparison to cash calls, that is assessment, variation margin gains haircutting carries less performance risk because the activity is within the control of the DCO. Nevertheless there are a number of concerns regarding the use of this tool on multiple days. The analogy to insolvency breaks down when the tool is used more than once. Moreover there is concern that when faced with the prospect of not receiving future variation margin gains participants will eventually refuse to pay variation margin losses when due. The incentive to refuse to pay variation margin losses may well increase each time the tool is used.

And so I would like now to ask the panelists for our first session to introduce themselves by name and title and organization. And, Sunil, if we could start with you.

MR. CUTINHO: Hi, I'm Sunil Cutinho. I'm the President of CME Clearing.

MR. WHITEHURST: Good morning, my name is Philip Whitehurst. I'm with LCH.Clearnet Limited on product development area.

MR. MCCLEAR: Good morning; I'm Kevin McClear. I'm ICE's Corporate Risk Officer.

MS. HOPKINS: Lindsay Hopkins; I'm Clearinghouse Counsel to the Minneapolis Grain Exchange.

MR. KAMNIK: Good morning. Joe Kamnik; Chief Regulatory Counsel at the Options Clearing Corporation.

MS. WALTERS: Kristen Walters. I'm with BlackRock's Risk and Quantitative Analysis Group. I'm their Global Chief Operating Officer.

MS. JORDAL: Tracey Jordal; Executive Vice President, Senior Counsel, Pacific Investment Managing Company.

MS. RAMANATH: Raj Ramanath; I manage clearinghouse risk at JP Morgan.

MR. DION: Jean-Phillipe Dion; I'm the Director of Market Infrastructure for RBC Capital Markets and I'm representing ISDA here today.

MR. FRANKEL: Oliver Frankel, Goldman Sachs, representing FIA.

MR. NEWELL: Jeremy Newell; General Counsel and Head of Regulatory Affairs of the Clearinghouse Association.

MR. HORGAN: Rich Horgan; Chief Financial Officer for Rosenthal Collins Group.

MR. KADLEC: Tom Kadlec; President of

ADM Investor Services and I'm representing the firm and Commodity Markets Council.

MR. PRIOLO: Phil Priolo; I'm the Director of Credit for the Exelon Corporation.

MR. WASSERMAN: Thanks very much. So, folks, we'll need to speak fairly close to the microphone. And so the first question, would folks like to address the advantages and disadvantages of using variation margin gains haircutting?

Sunil?

MR. CUTINHO: So, Bob, if you would allow me I think it's important to actually set some context before we talk, otherwise we will just focus on -- we won't have a good representation of the environment within which we are considering these options. I think one of the most important things to think about is that the -- you know, variation gains haircutting is a recovery tool it's one of the last recovery tools. But before we get to this point we have to understand that the financial safeguards package that we have is exhausted. So what does that really mean? It means that more than five of the largest firms have failed and all the safeguards package that has meant to withstand the losses of the global financial crisis, the 1987 crash, the FDCM, and all these stresses, simultaneous stresses have all been exhausted. So we are facing a stress situation that is far in excess of what we've seen.

So under these circumstances and as was pointed out previously, and by yourselves when you presented the option, variation gains haircutting as a limited purpose recovery tool is attractive because of certainty. If laid out ex ante, if it works transparently, then it has the benefit of expediency in the way it works, far better than insolvency where there is a lot of uncertainty. The other benefit of variation gains haircutting if presented as an ex ante recovery tool way at the end in such situations is it encourages participants' behavior to participate in the recovery before we get to that point because gainers will know that there is no windfall profits and those profits are going to be haircutted. So participation in auction is incented, participation in recovery ahead of time is incented. So we believe that that's one of the great benefits of it.

One of the other things that we can look at which people most -- some of them consider as negatives of variation gains haircutting is it's not a perfect tool. I think in such circumstances perfection is not very to achieve. If we were to look at it from a net equity perspective -- you know, CCPs don't have a view into net equity of a client because net equity of a client at a clearing firm is across multiple CCPs and clients can have assets that clearing them was -- that are not passed onto a CCP as well.

So given the information that a CCP has and under such circumstances I think it presents as a very good option.

MR. KADLEC: I think context is incredibly important and I echo Sunil's comments.

I also agree wholeheartedly with Commissioner Bowen that prevention has to be emphasized. It's been emphasized to our community, the FCM community, and in recent rules that the Commission has passed, increased capital, increased timing of meeting margin calls, et cetera. That clearly should be addressed at the exchange -- well, I hope it has.

Regarding the variation margins from a commercial standpoint it's only accepting if there are limitations and it's quantified from my perspective. For example, is it all commodities, or it just the commodities in question and the failures of the large five firms? Is it agriculture, which is so dear to my heart that most likely does not have the depth and breadth to cause a CCP failure? So I think I am -- with certain limitations we would be supportive of variation margin haircuts, but it would really need to be vetted out in a full discussion, and limited to in buckets if you will.

MR. WASSERMAN: So are you suggesting --

I mean of course many of the CCPs already have articulated services and different waterfalls, but are you saying that you would be looking for this or something at a level more limited than a particular waterfall?

MR. KADLEC: We are through the waterfall. So post waterfall what I'm saying if small commercial hedgers are not part of the problem why would they share in the variation margin haircut? If they're not part of whatever the financial problem is do they get some kind of protection or do they have to -- just because they have money at an exchange do they have to -- are they part of the bank?

MR. WASSERMAN: Folks?

MR. FRANKEL: I think, Bobby, you provided the answer to that concern which is if the agricultural products were siloed in their own clearing service with their own default fund it would make the clearing slightly more expensive, but it would protect them from any contagion from a disaster in rates or some other macro product.

So it's achievable to do that.

I was going to say in answering more closely Bob's question about whether VM gain haircutting could be exercised more than once, I think the question I ask back is what's the alternative if the clearing service has yet to be able to transfer the defaulter's positions to another clearing member or to the market as a whole? It seems like the only alternative would be to wind-down and I think that's not an option for clearing services who will be considered critical to the function of markets. And so I think the choice is always to continue. And to continue means to continue to haircut gains until we have closed down the positions and transferred them to another participant away from the CCP.

MR. CUTINHO: I just want to respond to a few things that Oliver pointed out. You know, of course if you want to keep limiting and limiting, limiting the impact you can keep granularly breaking up the waterfall and separating out products, but I don't think that is often a solution. That's because, you know, it becomes impractical at some point in time. Clearing as a service, even the waterfall on the products that you put in a risk pool offers benefits. This is why context is very important. In terms of limiting its impact of variation gains haircutting we have already spoken about blowing through the safeguards package that's a shared pool of resources. So in effect you have shared in protecting the entire market that is a part of that risk pool. So I don't think the solution is siloing. If we get too impractical because you will always end up in a situation where some market participants would say that why are we impacted, we were not the defaulter. So variation gains haircutting by definition is impacting non defaulting clients irrespective of the product. But to Oliver's point we have true separation. Certain products such as credit default swaps, they have a separate risk profile, they are part of a separate safeguards package. There is limited recourse and it has no impact on the transparent, liquid, systemically important markets in our case.

MR. WASSERMAN: Raj?

MS. RAMANATH: I think Sunil raises a very valid point in terms of segregating or siloing certain products to limit the impact, but I think to Tom's point there is also concern that the end users whose gains have been haircut had a certain expectation in terms of cash flows that they are suddenly not going to be getting. And putting it in the context that Sunil raised in terms of a market environment where you already loan through the guaranty fund which is sized to cover two with extreme but plausible scenario. Almost all the CCPs that I'm a part of have unfunded assessments, at least one times equal to the guaranty fund. So you're potentially looking at exhausting resources which cover like four or five largest member defaults. And in such a scenario if you are looking at variation margin haircut the rest is potential fear of the kind of distress it would lead in the market, and the kind of impact it would have on market confidence.

And I hear what Tom says in terms of limiting the impact, but that's possibly not -- to the extent that the silos have been designed up front you would expect the impact to be limited to those silos, but you can't limit it to specific products within those silos. It's going to be very challenging to implement something of that nature. But, again, within the silo it impacts participants who are possibly not the ones who would need to provide the CCP with hedges. So variation margin haircut as a tool has the potential to further exacerbate market stress if it is not implemented in a manner which is well thought out or limited and subject to appropriate controls. And therefore as a firm we feel that if variation margin gain haircut is implemented, and against the recovery tools it's probably the most effective of recover tools, it needs to be implemented under some sort of supervision which ensures that to the extent that variation margin gain haircut is implemented the CCP will necessarily return to a balanced book, and that people who have taken those losses have not take those losses in vain. You want to avoid a scenario where you implement variation margin gain haircut, but nevertheless eventually realize you can't get to a balanced book and have to wind-down the CCP. And therefore you need to (1) ensure there are sufficient controls that would make sure that when implemented it would return the CCP to a balanced book. And just to give members and participants predictability it cannot be implemented indefinitely. There has to be a certain limit either by way of time or in terms of resources on the extent to which variation margin gains haircut is implemented so that participants can plan for it and it does not impact the confidence of the market. And to the extent that they are suffering losses it's important that -- and this is in line with the CPMI IOSCO report on recovery -- in terms of compensation for any loss allocation and recovery to the extent that variation margin gain haircut is implemented, participants should be compensated for the losses that they suffer, either through any recoveries that are made from the defaulted member's estate, or even beyond that from the future earning of the CCP which is primarily standing at that point in time because participants have taken that hit.

MR. FRANKEL: Agreeing with all your points there. A question, when you reach the prescribed limits for use of gains haircutting what actions should be taken then?

MS. RAMANATH: I'm sure you've seen the white paper that JP Morgan as a firm has released. We strongly believe that along with the recovery plan there also needs to be a clear resolution plan supported by prefunded resources that could give confidence to the system. And therefore if you see that the recovery tools are not working, or if they are impacting system stability, then the resolution authorities step in.

MR. FRANKEL: But still what can the resolution authority do to (a) cut the losses, and (b) cover the source of those losses? What are the extra tools the resolution authority has that are not prescribed already in recovery?

MS. RAMANATH: The resolution authority would have access to these prefunded resources which they can use to recapitalize the CCP. And the way we end this -- and this probably goes to strengthening the front point and --

MR. FRANKEL: Just a point, if it's for recapitalizing the CCP it's not for absorbing the current set of losses, so how do we cover the current set of losses without gains haircutting?

MS. RAMANATH: It would recapitalize the CCP and help manage -- to silo out the trades and help manage any issues with the bad trades as well. Although I think you raise a very good point in terms of how are the resources sufficient. And I think that goes back to a very fundamental point which needs to come up front which was that you need to strengthen the front end of the system to ensure we don't get to such a point, which means (1) you need to ensure that the total loss absorbency resources are sized to be such that they are sufficient to withstand a very large stress. It's probably something that's transparent, mandated by some kind of regulator to ensure that it's going to be sufficient at all points in time. And then of course to the extent that you're also aligning incentives by ensuring appropriate structure from a governance and waterfall structure perspective, ensuring that you're only introducing appropriate products for clearing, which is liquid products which have a very strong risk and default management framework. I think you go a long way in terms of avoiding the problem the first instance.

MR. WASSERMAN: So I mean to that last point, in terms of ensuring proper loss absorbency I think it's fair to say that we have a standard in the PFMIs, cover two for most folks. I think one of the key issue folks have pointed out is that very much depends on the rigor of the stress testing that leads to the calculations of fact. And of course there will be other discussions in other fora internationally on stress testing. You raise a couple of other points about product eligibility and the like and that is course part of our rules, but again probably something we'll be discussing elsewhere. I think though as a number of folks have noted we do have -- essentially what we're dealing with is very much an end of days scenario where you've gone through a whole lot. But let me let Phillip comment.

MR. WHITEHURST: Thank you. I obviously agree very much with a number of the points that have been made. I think we've heard the term "context" used quite frequently by various spokespeople so far, so it might be useful, might work better in the realities rather than in the abstract. For example, if we take a swaps market example, what is the situation in which something like this variation margin gain haircutting kicks in. So we take initial margin, we take that to very high levels of confidence. We typically -- all CCPs here would know their own metrics, but we probably take that to about a 40 basis point move, 40 to 50 basis point move, so if we're conservative on that and let's say it's 40, you then have a very big position, something sort of $25-50 million or a one basis point movement in the market which is an extremely large position as far as we're used to dealing with. Then we would take additional concentration multipliers, and that's a scale of say 50 million PV01 position, you'd be taking double the initial margin through initial margin multipliers. So that initial margin is then giving you coverage for a 80-100 basis point market move. So if we put that in the context of 10 year dollar swap rates, for example at 225, that's taking you down below 150 or back above 3 percent. So that's initial margin.

Then we look at the default fund which is the next major loss absorbing layer, and again of the CCPs can comment in our case at about a $4 billion funded default fund. So for 50 million PV01 position that's another 80 basis points of cover. So again you are sort of widening that move out to sort of 160 basis points where you've got funded cover. You then have typically an assessment that is usually the default fund again, so that's another 80 basis points. And that's the point in our case where variation margin gain haircutting would kick in. So just to give that context here, we're talking about 10 year dollar swap rates having gone negative for, for example, a person who's long the bond market and before they would be experiencing variation margin gain haircutting. So that's the extent to which this market has moved.

And then I think the thing I would like to say on -- sort of in addition of a number of things we could say, but certainly the point there is that the person who is getting haircut there, if it's a rally and if the market has moved from 225 down through 0 we're in a situation where we have paid out all of the profit to a person with that position, which if you contract with for example the bilateral world you would have been already out at 225 because that's where you are if you're in a bilateral contract. So you're getting a lot protection. You can ride quite a long rally if you're long, or quite a long sell off if you're short, and it's only in the point that there's been a really extreme move well into implausible territory that you are starting to experience haircuts. So you've had plenty of time to think and plenty of time I think to make a decision about exiting the market at the point that you are extracting I would say super profits.

So I think hopefully that helps provide a little bit of context admittedly just in a swaps market.

MR. WASSERMAN: Kristen, would you like to come in?

MS. WALTERS: Yes. So as a fiduciary I think that we generally view our variation and initial margin as sacrosanct. And I think of course as we've also discussed that given the choice between recovery and resolution we would propose resolution given our general view that our clients would prefer to be money good versus position good. And we think there are a number of issues that pertain to keeping, you know, positions in place at a CCP where it's in the event of a large failure is basically a risk management on the part of the CCP.

So our view is that we would not touch any client margin beyond the defaulting member and that in order to prevent this it is essentially ensuring that there is a fully funded default waterfall including risk based contribution from the CCP to at least the size of the largest clearing member's contribution of -- probably would be 8-12 percent of the overall size of the fund. We also think that the only instance that we can see variation margin haircutting being used would be in a situation where the CCP has gone through the entire fully funded default waterfall liquidation, an orderly liquidation or resolution has been instituted and in the context of potentially replacing management, using the existing operations, recapitalizing the failed CCP that net variation margin or variation margin from the point of default could be used, but only over a very short window.

MR. WASSERMAN: Just to be clear, when you say a "short window", I mean at based if you go to the money good --

MS. WALTERS: Yes.

MR. WASSERMAN: -- if you go to a service termination --

MS. WALTERS: Yes.

MR. WASSERMAN: -- you're going to have to have VM haircutting if that's the analogy to insolvency?

MS. WALTERS: Well, if you have a fully funded recapitalization plan in place I don't think you would necessarily need to rely on margin for that. It could be fully funded by the clearing members and the CCPs.

MR. WASSERMAN: Yeah, but if by assumption that's fact. In other words you have fully funded what you thought was necessary but --

MS. WALTERS: Yes.

MR. WASSERMAN: -- it turns out that was wrong.

MS. WALTERS: Yes.

MR. WASSERMAN: So the alternative I think is variation margin haircutting at least once, but does it sound like it is admissible under those kinds of extreme circumstances to have it for a short window?

MS. WALTERS: So if I understand our conversation so far we have been talking about haircutting in the context of a recovery, where we're trying to keep the CCP viable. So in that situation I think we believe the answer is no. In the situation where we're in resolution and we're actually trying to liquidate all of the outstanding positions, because at the point of failure that's when the CCP will be at its most risk neutral state with only defaulting positions. So we feel that in the context of matching off positions and also an auction for the defaulted positions, that if you had to use variation margin haircutting for a day, 48 hours, over a weekend, we feel that would be the least worst thing to happen, but we're not proponents of it at all in a recovery situation.

MR. WASSERMAN: Sunil, would you like to?

MR. CUTINHO: Yes. I have a few things that I want to respond to. First is on this idea of, you know, I think Oliver's question, the variation gains haircutting and if variation gains haircutting fails what's the solution with those open positions. We haven't had a matched book. I think the next panel we're going to talk about it; that's when we talk about a targeted tear up, or a tear up of some contracts while we keep the others going. I think we jump into recapitalization funds as being a solution. I think it's not a solution. We generally think that recap fund is a way to accelerate resolution, it's not a way to promote recovery. The way we think about it is -- remember those five largest institutions have failed, and thanks to Phil for eloquently pointing out circumstances we are considering this -- if you're talking about more funds and promoting recovery and avoiding this stage, then having capital outside the system is of no good, right.

So having capital in the waterfall, even if used in the right order is much better because when those five institutions fails at least that capital is available and we will not get to this stage. If our goal is never to get to this stage then it is important to have -- and if the fear is that assessments are not going to be available then let's prefund assessments for those institutions where we feel that they are super risky, systemically seriously damaging to the world economy, we'll put that in the waterfall. Because when those institutions fail we'll use it in the right order. If they don't fail we will not use it, but if they fail that capital is available to resolve the issues. So it's much more effective than having capital outside the system than having it in the system.

I think we spent too much time on CCP contribution to the waterfall. I think the important element there is the contribution should be a function of the risk that the CCP brings. And the second thing is where is it in the waterfall, you know. Having it junior in the waterfall and having a substantial percentage junior in the waterfall is an important, you know, alignment incentive for the CCP to make sure losses don't even bleed into that layer. We're talking about a situation here, as Phil pointed out, and we can go on with other markets as well aware. You know, five institutions have failed and it's a very bad world. And if you compare that to the world around the clearing, non cleared world, it's worse off. So these tools that we're discussing within the context, we're talking about in a world where, you know, it's very uncertain outside of clearing and within clearing we want to actually promote recovery.

The idea of gains haircutting is actually two things. One is it allows the incentive effects to work to put recovery in place. The second is it give some breathing room for new capital to come in because the only reason that it is an attractive option is that our markets that are worth recovering for. This is systemically important. If the market wasn't important we would go straight to tear up and wind-down, but tear up is not a very attractive option for the market, so variation gains haircut is a mechanism to actually restore confidence back and then allow new capital to come in. And then if it's a limited purpose because as you pointed out if you keep continuing it people would lose faith and it would stop being their obligations.

So it's a very limited purpose. We say maximum of two cycles, and then allow capital to come in and then continue of we must. If not, as Oliver points out, tear up the contracts and use a targeted tear up so that at least those markets that are functioning well can continue.

MR. WASSERMAN: Kristen?

MS. WALTERS: I just wanted to add, so the concept around the CCP's contribution to the fund. So I definitely agree with the comments when CCPs were entirely neutralized and they were not for profit organizations, but I do think now that a number of the CCPs are for profit organizations that this concept of having fully funded capital that includes a risk based assessment relative to the overall fund itself is very important.

With regard to variation margin haircutting I think that we're concerned as a firm that if it's used to restore the CCP it's simply going to discourage market participants from actually using these risk mitigating instruments. So I think we've said before that we would like mandatory clearing not to be in place unless at least two CCPs clear the same product. Because in the instance that you have issues with one CCP you can actually migrate positions and reestablish them at another CCP.

MR. WASSERMAN: So I know there are a welter of issues that are all sort of in a ball and difficult to untangle. That said the skin in the game is a very, very popular issue which is going to be discussed more fully elsewhere on a different, or maybe here but on a different day. So I just want to -- because it's a fascinating one, but we really should keep to the issues that we have today which I think are going to fully engage us for the next hour or so, and indeed the whole day for the ones we have.

One of the points that I've heard a number of people raise is with respect to limits on variation margin gains haircutting. And I would like to -- as people go on, if they could speak to that. That said, Joe, I wanted to recognize you.

MR. KAMNIK: Thank you, Bob. I was going to make a profound point about skin in the game but I won't now. (Laughter) I wanted to point out a few differences with our market and the other derivatives markets that we're talking about here. And I'd like to ask Kristen a few questions of I could. So we talked about the concept of recovery versus resolution and you pointed out perhaps leaning toward resolution versus recovery, but for the options market we're the only game in town. So I'd like to ask you would your analysis be different in that case?

And I'd also like to make another distinguishing point which is we don't pay out variation margin gains in the options market. So I think Jean-Phillipe provided a better terminology for us which is a pro rata reduction in unpaid payment obligations. It's more of a mouthful than VMGH, but I'd just like to point out that we're talking about something that's a little broader than just variation margin.

One other point before you answer the question, I don't think it's necessarily the case that if the prefunded resources are depleted that there is a risk management flaw within the CCP. I think it's possible that the prefunded resources could be optimally calibrated, but that there's an unforeseen, unpredictable event in the market that's not captured by the stress tests that deplete the resources.

MS. WALTERS: I think that's correct. And again I have to preface everything I say as a risk manager. So certainly there are large operational errors that could occur that could cause that type of situation that would not result in a risk management failure necessarily of any clearing member of the CCP itself.

And your first question was?

MR. KAMNIK: I want to see if your analysis on recovery versus resolution was different for the options market where OCC is the only clearing agency for the listed options.

MS. WALTERS: Well, I mean I think we view that as a concern in -- I mean it's very difficult to do. So even our point that we'd like to have multiple or more than one CCP for each product that exists potentially for interest rate swaps and CDS, but it's actually very difficult. So we do think there's a lot of work to be done to actually make sure that there are multiple CCPs simply before there is mandatory clearing.

I think in your market things are also physically settling in some instances which I believe makes --

MR. KAMNIK: Some are, that's right, some are.

MS. WALTERS: -- the variation margin haircutting -- I don't think it's even feasible.

MR. KAMNIK: Right. So as I mentioned it's more accurately depicted as the pro rata reduction of unpaid payment obligations for us. We have premium payments coming in that could be haircut similar to variation margin, and then we have a small futures business in which variation margin haircutting would work also. But I think it's important, and it echoes what point Sunil made earlier that these institutions broadly, and I think OCC is classified somewhat separately because of the distinctions with its role in the marketplace, but they're worth of recovery based on the fact of the systemically important nature.

So I'll leave it at that.

MR. WASSERMAN: Tracey, I think you wanted to come in?

MS. JORDAL: Sure. I think there are multiple things said here. I think in the end what we're talking about here is the use of client assets in order to assist in the recovery and/or resolution of the CCP. And I mean client assets in terms of end users who have gained in their positions. I think from our firm's standpoint as a basis client assets or end users who are non defaulting clients should never be penalized. However, as a tool of last resort to the extent margin is considered to be used we believe that variation margin gains haircutting is a bit lopsided because it just penalizes the winners. So in our view you really should take into account both VM and IM which is more of a mutualization of a haircutting when you look towards haircutting any type of margin as a recovery tool.

In terms of how many times should it be used, I think Kristen made a good point and others where I think the more times you use it the less incentives people will have to pay in. Because once you pay in the first time and you know that it's going to be haircut there is going to be less incentive to pay in or even participate in another auction.

MR. WASSERMAN: So I should note while

we are talking here about either variation margin gains haircutting or as Joe accurately points out one might reframe it because of the options context to simply gains based haircutting, our rules and our statute would not permit initial margin haircutting. Actually taking the collateral posted by clients.

But, Richard, I think you wanted to come in?

MR. HORGAN: Yes. I think to continue what Tracey was saying is I don't think that it's been clear on what is the FCM's responsibility to its customers. Keep in mind many of these futures contracts are tied to some type of physical contract and if I am getting it variation margin haircutted what is my responsibility to my customer to continue to pay them. It's very typical for a futures broker to settle up every day with your clients on a variation payment and would I still be obligated to make those variation payments, and then are we creating an additional system risk where then you're just transferring that exposure down to the FCMs?

MR. WASSERMAN: What does your client agreement say?

MR. HORGAN: My client agreement would probably allow me to -- and I would have to think about that a little bit more, but my client agreement would probably allow me to hold back some monies, but also I have a responsibility from just a business enterprise perspective to continue to meet my obligations to m clients.

And then also the variation payment or haircutting concept in many instances -- the futures is just one component of the portfolio that the customer is managing and whether it's a gain or a loss on the future side in many respects is just part of the whole transaction itself. By the way agricultural hedging is something that we're a little bit more familiar with.

MR. WASSERMAN: I guess the question I would have is to the extent that the DCO, which you're a member, has this as an available tool, is it possible for you to arrange with your clients through the client agreement some way of addressing the risks that that posed to you sitting in the middle?

MR. HORGAN: I think you could. I think you will have some challenges with the education of the client and the sophistication and trying to walk them through that process.

MR. WASSERMAN: An unenviable task. Jean-Phillipe?

MR. DION: Maybe just starting off by recognizing a lot of the context that was provided where VMGH or pro rata reduction in payment obligations is never a first best outcome. That of course the first best outcome is a participant default that does not consume the entirety of the defaulter's initial margin.

Then at that point if we're discussing reduction in gains it's important to understand that the pros and cons are not absolute, they're relative. And they're relative to contract close out or contract tear up which in many cases a CCP clearing member would not necessarily contractually be obligated to make the client whole in the case of a CCP default.

Now that being said, maybe bringing us back to your original question which was limits, limits in the use of VMGH are very important. And specifically the foremost limit is the success of the CCP's default management process and the ability or the success of the auction process perhaps more specifically in the case of, for example, an LCH. Because in that kind of a scenario where the defaulter's portfolio is accurately and well hedged, and the loss on the portfolio is being stemmed, then we're considering ultimately haircutting the losses attributed to a hedge portfolio where there is no longer significant market movement on the book versus close out and ultimately potentially service closure of the CCP. So the relative pros of VMGH are incredibly important here. And foremost the most important limit is that the CCP have a successful default management process because that makes the comparison much easier in that case, and ultimately that's what I think we're discussing here.

Now judging the success of the CCP's default management process and how that occurs with the resolution authority is an important question, and perhaps thankfully not necessarily one that this panel will deal with, but the next one.

MR. WASSERMAN: Phillip?

MR. PRIOLO: I just wanted to give a little bit of an end user perspective here. You know, somebody who is an end user and a risk manager and a credit professional, you know, the use of forced clearing is something that we're obviously against, but if that is, you know -- that ship has sailed, right? That's probably neither here nor there, and, you know, as somebody as a risk manager I feel I could, because I've heard some of those who represent CCPs talk about you're better off if you're with a CCP than if I'm doing bilateral trades, and I don't necessarily agree with that view; however, I think if you're talking about this scenario where you're getting into variation margin gains haircutting, you know, I'll use the word doomsday, I'll use the word -- you know, you're in a pretty dire financial picture. Systemically markets are in pretty bad shape at that point. So to be at that stage where you've had four or five financial institutions fail and we're now trying to cut gains on variation margin, I don't know what other tools you have left in the tool chest at that point. And so as somebody who is fairly new to this and an end user I'd not before that, but I don't know what else is out there that you'd be able to use. So it seems prudent at that point that that might be where you need to be.

MR. WASSERMAN: Yeah, the term I heard someone mention earlier is "least worst". Phyllis, I think you?

MS. DIETZ: Yeah. We've been talking in terms of the haircutting being the tool of last resort. Is there any possibility that it might be employed further up in the waterfall in a different way, or is it truly the least desirable and that's the very last measure? Any thoughts on that?

MS. JORDAL: We believe it's the least desirable. I think it's important to have the other risk management tools calibrated correctly. I mean you made a good point, you can't foresee unforeseeable events but you need to do your best. So, you know, skin in the game, another topic for another day. What's the right percentage? There's been a lot of percentages thrown out there. Are people valuing, are their models correct? So I think there are other things that should be done and variation margin gains haircutting should be definitely a tool of extreme last resort. And I think it would be a doomsday tool.

MR. WASSERMAN: Lindsay?

MS. HOPKINS: We would agree that it's very last resort from us. Coming from a much smaller exchange perspective I recognize and agree with a lot of the comments that have been made and the pros that variation margin gains haircutting has. And I think it could work effectively for a SIDCO or a larger CCP, but we're not a SIDCO and we really don't know how our business could recover in terms of reputation. That is if we were to haircut variation margin gains -- I mean we're designing our plan to be viable, that's what it's required to be in the rules, but if we were to haircut variation margin gains maybe we cover some of our losses in the short term, but we do so at the expense of our long-term viability and reputation. And we think we lose our market and we go into wind-down at that point. So I guess I would just hope that there's a recognition that one size doesn't fit all when it comes to tools that are used in recovery.

MR. WASSERMAN: Kevin?

MR. MCCLEAR: I wanted to answer Phyllis's question, but first I'll say I think variation margin gains haircutting is most appropriately placed at the end of the waterfall. However, it could be used higher in the waterfall.

And the thinking would be that you want to keep some of your resources available so when you get to the auction or the partial tear up that you have resources to pay for those positions. That's something that's not really thought of often is that when the clearinghouse has an auction or goes to tear up it needs to provide fair and reasonable commercial value for those positions.

MS. WALTERS: I think the point that I would make again is around -- so last resort in the context of a resolution. I think we've seen during the financial crisis and after the financial crisis that the regulators have put into place resolution procedures that actually work and prevent systemic risk. And there are regulatory rules in place around regulatory drive stress testing, full transparency around risk management practices, and a regulatory process for resolution and orderly wind-down. So I think rather than thinking of recovery and the use of variation margin gains haircutting as kind of the avenue, it's also very important to think about the fact that CCPs by their nature should be under the same umbrella as banks and they can be allowed to fail. And that potentially that's actually the right avenue to be thinking about instead of the thought of touching customer margin.

MR. WASSERMAN: So just some issues onto the rules. Essentially a CCP's recovery plan needs to -- and it's recovery and orderly wind-down needs to be complete within itself.

MS. WALTERS: Yeah, understood.

MR. WASSERMAN: It is not permissible to expect a resolution activity such as we have in the United States under Title II of Dodd-Frank. You can't have that in your plan. If in this case the requisite agency, the so-called key turners were to decide to invoke resolution they may do so. And one reason may be because the plan is either seen as likely to fail or is likely to create some systemic risks that are unacceptable. But from the perspective of what has to be in the CCP's rulebook and arrangements, essentially either you have recovery or you have essentially an orderly wind-down in service termination. You can't invoke resolution.

MS. WALTERS: Completely understood. My point is more that at the point at which the default fund is completely gone then recovery is no longer an option, so the thought would be that actually wind-down might in fact occur. And a point is that we would prefer from a fiduciary perspective to protect client assets, not to use variation margin gains haircutting as a way to continue a recovery using client funds rather than recognizing that recovery is no longer feasible and then move to the path of wind-down.

MR. WASSERMAN: Fair enough. Sunil?

MR. CUTINHO: First is I think we may part ways with some of our fellow CCPs. Variation gains haircutting or any variation haircutting is absolutely the last; cannot occur anywhere below that. We have to exhaust the assessments, we have to exhaust the funded portion; cannot occur anywhere before. Because it is -- you're passing losses to a broad set of market participants, you know, and so it's not attractive. It's not the best outcome.

In terms of money good versus position good we agree money good is better than position good within the context of, you know, allocations versus tear ups which we are going to talk about. I mean that's the point in time where we are saying well one way to resolve an open book or an unmatched book is to give somebody positions. And another way is just close out the market and give everybody certainty, cap their risk, and give them back their assets. I think under those circumstances money good is better than position good because you are not -- you don't want to give people risk. But I think we are talking a few steps before. And this is a continuum, these are not absolute, these are a set of tools, so variation gains haircutting is basically -- occurs slightly before tear ups. It is something that is put in place so that it gives some more time before we take the ultimate action of tearing up and closing the book.

MR. WASSERMAN: Before I recognize Oliver I just want to begin trying to get people focused here on this issue of limits because theoretically, right, you can do variation margin gains haircutting an unlimited number of times and you will eventually -- it's come to a balanced book as positions expire, theoretically. I think it's probably fair to say most folks would say doing that an unlimited number of times would not be acceptable. Okay. I've heard someone say great, it should be a limited number of times, and what I'd like to hear from folks is, okay, how would one set those limits, is this a governance issue, is this a rules issue? What are the limits to the number of times you could apply this? Oliver?

MR. FRANKEL: I think it's a governance issue, and I think it's an incentives issue. We've talked about gains haircutting as a loss allocation solely, but as Raj mentioned gains haircutting, any loss allocation done through gains haircutting is meant to be accompanied by a similar faced amount of debt from the CCP, backed the recovery of its claim on the default as a state and some share on its future revenues. The latter being effective we believe in mitigating the moral hazard that the CCP would continue to gains haircut forever. So at some point the CCP would think well rather than keep subjugating my revenues stream I should tear up contracts. The alternative to gains haircutting is to tear up contracts and the decision around it needs to have some governance and needs to have the right incentives both. What the right governance is I'm not sure we want to discuss right now, but I would imagine the risk committee would be the best of all place to do that.

MR. WASSERMAN: You raise an issue that was raised before which is sort of okay, what is the compensation for the gains haircutting. And one of the things I've heard mentioned is well, an interest in the recovery. What I guess I would consider sort of like reversing the waterfall.

MR. FRANKEL: Yes.

MR. WASSERMAN: That has recoveries eventually coming from the defaulter, right, and they will in the fullness of time however much they are that those should essentially be used to reverse the waterfall. Is there anyone who disagrees that the gains should be reserved for that purpose, you know, that after whatever expenses there are of collection, that those should go back to whoever lost them?

MR. MCCLEAR: Yes. It has to operate that way.

MR. WASSERMAN: Okay.

MR. MCCLEAR: And can I make just one point of clarification? Because with respect to using variation margin gains haircutting earlier in the waterfall, and this ties into your point, that would be done to facilitate a recovery, to buy time, and to help pay for the auction. To the extent you've got to the end, you've had a successful auction or a tear up and there were remaining funds, you would use those remaining funds to reimburse the people that you variation margin gains haircutted. So all of that is out anyway. It's just a tool to buy more time to facilitate recovery.

And to your point to the extent that you do recover from a CCP perspective from the defaulting clearing participant, of course you have the reverse waterfall and it goes in the first instance to pay the people that were variation margin gains haircutted.

MR. WASSERMAN: So there seems to be agreement on that point. And there was a second point that was raised which is well, what about the future revenues of the CCP. And so here's the problem I'm seeing and, Kevin, I think you sort of raised it, one of the requirements here under our rules, under the PFMIs, is you need to have a viable plan for the replenishment of your resources, right. By assumption you've gone through the resources you already have, you've gone through your prefunded, you've gone through assessments. If we say that no, we can't reserve any of that before we do variation margin gains haircutting how are we going to replenish that? And it seems to me from work in other insolvency areas one thing is equity in the entity. In other words whoever provides -- someone is going to have to provide new value. It's going to have to be voluntary because we've run through all of the commitments that are there. So it seems to be you either have to reserve something from your authority or you need some way to induce people to put more money in. And if you give away all of the future revenues already to those who are getting haircut, where is the source of an incentive for someone to put in new value?

MR. WHITEHURST: You see, I think we are meaning that into cure rather than prevention. So if we go back to sort of the prevention and to Phyllis's question earlier, we're not advocates of margin gains haircutting high up, but I think it is an interesting thing that you could consider. What would it do? And I think to Oliver's point it's about incentives. If you put variation margin gains haircutting further up then you'd be giving people affected by potential variation margin gains haircutting the incentive to act sooner to exit their position. And I think the perspective -- you know, we can look at this through -- is that on the one had as a CCP in a situation you've got a problem which is mounting losses, you've got a runaway market and you've got mounting losses. Now the other problem if you like is that in fact it's about having to continue to pay out profits. So you're giving incentives to those people who have the profit making position, but they at some point will potentially be haircut and therefore, you know, you can have the public sector versus private sector conversation about what CCP should be, but as a private sector organization CCP wants to get hedges and the market is running away, and the people with the potential hedges are continuing to hold their positions. You have variation margin gains haircutting as a very powerful way of giving those profit makers an incentive to exit the market. And to the extent that there are other

CCPs that they can move their position to, and that's a possibility to the extent they're able to go bilateral with those positions, but that puts the profit maker in a situation where they remain money good. They have to exit their position at the problem CCP, and they can reestablish it through other methods, other instruments.

So I think the incentive side of this has to be really strongly considered.

MR. WASSERMAN: Kevin?

MR. MCCLEAR: No, I agree. And going back to your question about the timing and the length of variation margin gains haircutting I think it's very difficult to define an advance because we don't know what the situation is going to be. We don't know the nature and extent of the shortfall. So I think what we've agreed, and it's appropriate, it comes down to governance. And I think -- well, I know what we plan to do and it relates to what Oliver referenced -- we have in the event of a default, we second to default management committee made up of member firms.

We'll consult with them, we'll consult with our risk committee. We have an established risk committee obviously at each of our clearinghouses. We'll communicate with the regulators. And ultimately we'll go to our board and we'll do this on a day by day basis as the market situation evolves.

MR. WASSERMAN: Sunil?

MR. CUTINHO: Yeah. So in terms of limits I think since it affects end clients it's important in the rules ex ante to have the number of variation margin gains haircutting hardwired. It doesn't mean that that's where it will stop, but if it were to exceed those levels then it's important to have governance in place. I think governance is important. More CCPs as we talked about have good governance, a diverse set of participants. The most important thing about governance is there is an obligation to the market, there's an obligation to recovery in the market. I think history shows that it's very important that you cannot set up governance at, you know, in those times; it has to be preset governance. The importance of the governance is the best interests for the market rather than their own personal self interest. So governance and independence and some level of certainty. Of course I agree that, you know, what set of tools will be used, you know, you can't clearly pre-enumerate all the tools that will be used, but it's important to give some level of certainty that there will be X number of cycles. We believe two variation gains haircutting cycles in the rules, and then if one were to exceed that because there is capital coming in and it's only a question of timing, then the governance sets in and says let's not tear up the contracts because the next step is tearing up. So you can keep the institution going.

MR. WASSERMAN: So let me press on that point because I think I heard Kevin say that the governance he was looking at would be a consultation with the risk committee. And so I'm going to look over at folks on this side and say is consultation enough or are you looking for something that may be a bit more focused?

MR. FRANKEL: Assuming the risk committee has proper representation from all the stakeholders, I think the risk committee is actually the best form of governance, not just the consultation. I think there's a concern the -- I remember we've heard it from a number of stakeholders that just continuing the service regardless of what losses might accumulate may not be the best strategy and that some form of partial tear up of certain problem contracts might be the way to go forward should the default management fail.

You know, the governance is going to be looking I would imagine at how effective the default management process is and where it's stumbling, and making a judgment on whether the contracts that would be torn up to solve the problem would be problematic to the industry as a whole. I think there are complex decisions that need to be made there. I'm not sure the CCP is best placed itself to make those decisions alone.

MR. WASSERMAN: Kristen?

MS. WALTERS: I would just say from a governance perspective that I think about these variation margin haircutting as kind of a wartime measure and it's always difficult to do things during war. And we've talked about how obviously if CCP members are defaulting, people are potentially exiting positions, it's very, very difficult to come in and try to use that technique during wartime. So I think we would prefer a peacetime approach where the risk committee and governance structure of the CCP make sure that the loss absorbing capabilities are completely, fully funded and of a reasonable size and stress tested, calibrated to stress conditions, so that the issue of getting a last resort of variation margin gains haircutting never actually arises, except again when you get to the point where if all measures don't work and you have to liquidate, then you might have to use it minimally at the point of default. But I do think that when you think about how to intervene and ensure stability in the markets, all the governance and risk approaches that we use, we want to do them in peacetime up front.

MR. WASSERMAN: No, that's fair. And again I think as the Chairman mentioned, as others have mentioned, we've been working very hard on that. We are continuing to work on that in terms of things like stress testing, and I imagine a number of things are going to be looked at over the course of coming months and years. It's just that it is incumbent upon us to say yes we're going to work very hard on those things, but what if they don't work. What we are called upon to do is to deal with any possible situation. We certainly want to make sure that they are highly unlikely, but they are possible and therefore we're called upon to deal with that.

MR. WHITEHURST: Could I ask a question? I think a couple of us have mentioned that fully funded, I wonder if we could just discuss what that means.

MR. WASSERMAN: Tracey?

MS. JORDAL: Sorry. I was going to say something else not address that question, but before anyone answers your question I think with respect to all the other points that were made prior to that I think, you know, your questions about what -- if you give away future revenues what incentivizes people to put more in and all of that. I think it's all about putting confidence back into the system and back into the clearinghouse itself. So having transparency where as an end user you can see how many times will variation margin gains -- where I could read the rules, although they might be massive and huge, I at least know what I'm getting into. So if it's just a -- there may be a recovery tool and it might be variation margin gains haircutting, but we don't know how many times, it will scare end users. There will be concerns and then they might not go back in if they see, okay, well I was cut once, I was cut twice, I was cut three times. Maybe next time it's, you know, what's the point really. So I think there needs to be transparency in the rules, very clear what the process is. And as far as governance, governance is important. I think proper representation is important as well where you have all key participants being able to participate in the process somehow.

MR. WASSERMAN: Tom?

MR. KADLEC: I would say that in answer to, Kevin, moving up the variations, it's completely unrealistic to me for our customer base to think that they would want to participate. They're going to be running for the hills and disaster. They will be liquidating. We've seen this happen in 2008 and 2009. So I would agree with Sunil, it has to be the last of -- the best option of terrible options.

In terms of governance, I'm a member of the CME Clearinghouse Risk Committee and this is fully discussed. You should push us to discuss it more, but I think in a crisis the CME Risk Committee and other CCP risk committees are going to need proper oversight and perhaps hands on oversight. So part of this to me is what will be the collaborative industry. I mean you talk about participants, well who are they? This discovery process should really get granular, and who are those people that will help these markets recover? And that pertains to the confidence issue, it pertains to aligning interests, which in a crisis tend to splinter. And I'll leave it at that.

MR. WASSERMAN: Just one question. Tom, when you say that oversight with respect to the Risk Committee, do you mean the Risk Committee will need to provide the oversight or someone will need to oversee the Risk Committee?

MR. KADLEC: They need to be engaged and a participant at the table in discussions and in decisions be an active participant to lead and to help direct the recovery process or dealing in a wartime crisis as an example. Decisions are made, decisions are not made in a textbook, they are made -- frontline decisions are made right on the frontlines. There is no playbook for them. So the ability to get all participants in a room and say what is the best for the industry and for the end customer is critically important in my mind.

MR. WASSERMAN: So I thought I heard Oliver saying, and you'll correct if I'm mistaken, that essentially the Risk Committee would need to be more than collaborative, but actually would need to have some kind of veto authority over things. Is that what you're saying or especially as someone who is on that Committee what you think about that.

MR. KADLEC: Details, I probably -- too early to talk about details, but sure. I mean if the final decision is with the Risk Committee then they need to have what the CME Board or -- Sorry, Sunil, I keep picking on you -- they would be -- I'm more talking really about regulators. I'm more talking about the engagement in the oversight, the proper oversight to be a fair arbitrator, to align industry interests so we don't have the splintering of the various people around the room that will represent the end customer versus clearing entities.

MR. WASSERMAN: So I'm going to turn over to Phillip in just a second, but I would note that there are a limited number of things that a regulator can do. One of them however is that almost by assumption here a DCO that is in this position will have less than the required amount of financial resources at that point in time and thus would be subject to basically being shut down for that reason. I would imagine, and I would remind folks by the way of what I said earlier about my views not necessarily being those of the staff of the Commission, but there might well be some folks coming into the Commission and urging certain actions. So there is some involvement by the regulator.

Phillip?

MR. WHITEHURST: Thank you, Bob. The point I wanted to make ha been mentioned a couple of times, as if variation margin gains haircutting is exclusively a buy side or an end user issues, we take very seriously protecting end participants. We've built a number of segregation models, we work hard on the portability that allows clients to move from a defaulting member and also we're not an advocate of IM haircutting. We think that's something that's very important. But I think the context again here is VM gains haircutting is a long way down the waterfall. There has been significant pain experienced by a number of people prior to this and specifically the members. So we've seen exhaustion over default from probably exhaustion over assessments. So a lot of people have experienced a lot of pain. And even in the VM gain haircutting phase it's not as though it's targeting anyone in particular. It's targeting gainers, but those gains are just as likely to be members as it is end user. So I mean that's our experience. Some of the biggest positions that we hold are from dealers as well as from end users. So I think it's important not to regard VM gain haircutting as in some way the exclusive jurisdiction of end users.

MR. WASSERMAN: I was going to recognize Joe and then Sunil.

MR. KAMNIK: Thanks, Bob. Phyllis, going back to your original question about the placement of gains haircutting within the waterfall, I conceptualize it as two distinct buckets. You've got your waterfall of prefunded resources, once that's exhausted you return to your recovery tools of which gains hair cutting should be the first layer. So I think that the way Kevin was discussing it though was perhaps as a liquidity tool. So if you're talking about it as a loss allocation tool, you've depleted your prefunded resources, you turn to that. It doesn't appear to me as if there's a way to put it in a higher place within the waterfall structure because it's not appropriately within the waterfall structure. But if you've exhausted your prefunded resources and you've turned to you recovery tools, and let's say you've made an assessment but the assessment hasn't come in like we saw with the Korean exchange in December 2013, you may have to go to gains haircutting either as a liquidity measure or as a loss allocation tool.

MR. MCCLEAR: Right. The way I think of it, what Joe just articulated begs the question whether assessment rates are part of the default resources or are they part of the recovery. And again, you know, ICE believes that variation margin gains haircutting should come at the end of the waterfalls. It's a tool of last resort. But in answering Phyllis's question, there are ways to apply it earlier. You would always go through the prefunded resources, but maybe you don't have your assessment rights yet, maybe you need some time, or you haven't collected. But the ugly truth here, and it's a running theme throughout this discussion, and the question has been asked a number of times, is what happens if you don't do variation margin gains haircutting? And the ugly truth is all of the clearinghouse rules are established such that if you don't pay you're in default, and if you're in default you wind-down, and if you wind-down that means you tear up all the contracts and you're done clearing.

MR. WASSERMAN: I recognize Phyllis and

then I promise Sunil.

MS. DIETZ: I think going to Joe's comment when I asked the question about whether or not the haircutting had to be the very last measure that the gasping clearinghouse uses, it really was going to the idea of not labeling it as part of your default waterfall or recovery, but just does it give some breathing room, does it provide liquidity, is it terrible for reputation. And if it would have, as I think was mentioned, short-term benefits, long-term it might be bad. So that was really my thinking just -- there was an assumption as to where it came in the process and I just wanted to make sure we fully vetted that.

And I also just wanted to speak to Tom's comment about the role of the regulator. I think Bob is a much more gentle person that I am and definitely the regulator would be involved. And as Bob mentioned, you know, we have reporting requirements as everyone here, certainly with the clearinghouses know, we have quarterly financial resource reports, we require incident reports. So I think as a distress situation unfolds we would be part of the collaborative team for sure. So I think that is important to stress, that we would be part of the decision making and discussion.

MR. WASSERMAN: Sunil?

MR. CUTINHO: Thank you, Phyllis. One of the things I wanted to point out is the regulator is informed, but Part 39.19 is about informing the regulator.

So just a few things I wanted to address. One is that I think there was a discussion about incentives. For an institution whose entire franchise is based on clearing the incentives are perfectly aligned to rescue clearing. I can't put it any other way. And you can see through the actions of the institution under different circumstances.

The second thing that I wanted to point out is, you know, we confuse capital to liquidity so I wanted to make sure that they are two distinct things. Liquidity is a separate issue.

Here we're talking about a shortfall and allocating those. That's we believe that variation margin gains haircutting is absolutely the last. I agree with Tracey and also Phil, at the market participant level there cannot be any discrimination. It offers certainty as we mentioned before, if you redefine how many cycles in the rules, but then the governance is all about, you know, if there are situations where, you know, more capital will come in and you don't want to really stop the clearing at that point and go to tear up, so that's why governance is very important. And risk committees play a very important role in that governance. They are there during peacetime as well as during wartime. And they need to be diverse representation of stakeholders.

MR. WASSERMAN: And with that I think that would have to be the last word for this panel. I do want to make sure I give folks an adequate break. And in 15 minutes, at 11 o'clock very promptly we will be talking about reestablishing matched books.

(Recess)

MR. WASSERMAN: Okay, we will start with a couple of administrative things. First, if I could ask and I should have followed this before, folks who want to speak to please turn up their cards and we'll help in a more organized arrangement.

Second, I think we have some folks who have joined us who have not had a chance to introduce themselves. Marcus, I think?

MR. STANLEY: Yes, I'm Marcus Stanley from Americans for Financial Reform. We're a coalition of public interest groups working for stronger and more effective financial regulation.

MR. WASSERMAN: And Bis?

MR. CHATTERJEE: Hi, I'm Bis Chatterjee. I'm from Citigroup representing ISDA for this session.

MR. WASSERMAN: Thank you. So our second session is on reestablishing a matched book. And as was somewhat alluded to in the last panel, following a participant default, it's essential that the DCO promptly liquidate the positions of the defaulter in order to reestablish a matched book.

The preferred tool to do this is a voluntary auction accomplished within the DCOs prefunded default resources. And again, giving context, it's important to recognize that historically such auctions have been invariably successful and in fact, DCOs have been able to complete them while applying only the defaulter's resources. That is to say, the defaulter's initial margin and guaranty fund contribution. I'm reminded of the Lucas report in the Lehman situation where the question was, well, gosh. Why didn't you return more of the margin?

So we've generally been very successful there. But despite this positive historical record, the commission regulations and the PFMIs require CCPs to develop a viable plan to reestablish a matched book in the event that the voluntary auction process is insufficient. The primary tools that are available to accomplish this task are three.

Forced allocation, a DCO may have rules establishing a power to allocate positions that have not been liquidated voluntarily to non-defaulting participants. Perhaps limited to those participants who are active in the markets for those products as a price determined in accordance with those rules. Partial tear up which is arguably a bit of a flipside of that terminates a portion of positions, either those opposite the unliquidated positions of the defaulter or possibly a risk-related, a set of risk-related positions possibly even an entire product class in a manner that is, again, set forth ex ante in the DCO's rules.

Complete tear up terminates all positions, matched or unmatched. And then, the value of those positions is marked to market and any remaining default resources are used to compensate pro rata those with claims based on those positions in a manner again set out ex ante in the DCO's rules. These tools are much less desirable than voluntary methods and each of them carries drawbacks and risks and they can create disparate impacts on different types of market participants.

The potential for conflicting interest among stakeholders complicates the DCO's preparation of a plan to reestablish a matched book using any of these tools.

I'd like to start first with perhaps a more positive aspect and then, we'll get to the more interesting scenarios which is how could auctions be enhanced to promote a successful outcome? For instance, could participation in the auction be broadened? Is there a way that DCOs can incentivize auction participation? So I'll open it up at this point.

Sunil?

MR. CUTINHO: Thank you. We can speak to our experience. We've had very successful default management auctions throughout our history and one of the things we learned from this experience is two things. One is when we have well-established and mature markets and, you know, it's important not to restrict, structurally restrict certain market participants from participating in auctions because at that point in time, you want the risk -- you want those positions to be auctioned off and you want the risk to be cleared.

So our experience dictates that we've had successful participation from buy side as well as sell side and we've had -- and that has dictated the success. In constructing hedging and auction mechanisms for over-the-counter products, we've gone one step ahead. Those markets, you know, we still don't have this public transparent market there. Of course, they are just the beginning.

In those markets we have an obligation from the clearing member firms to participate in the auctions. Those obligations come with some penalties as well and there's a lot we can do with the guaranty fund and incentives. So participation in the auction dictates, and the nature of participation dictates, how the member firms fund would be utilized and when losses accrue.

So I think as you pointed out, incentives are very important. And this is what helps us understand why recovery, recovery from failures is actually what CCPs are about and they've been successful tryout because of these incentive effects.

MR. WASSERMAN: Kevin?

MR. MCCLEAR: Yeah. So at ICE we also support broadened participation. So the customers can participate in two means. One they can go through their clearing participant and the clearing participant effectively bids on behalf of the customer and the customer origin.

We also support direct participation. And we're honestly thinking through what the terms and conditions of direct participation by the buy side would be. What agreements they'd have to sign, what terms and conditions they'd have to comply with. One of the things we're struggling with is we're also proposing to incent participation from our clearing members in the auction by having a mandatory auction.

And similar to what Sunil said, if they bid poorly or fail to bid, then their guaranty fund contributions would be juniorized. They'd come first. And I should mention, too, that the clearing members are generally incented to bid in the auction because they want to protect their guaranty fund contributions and their assessment rights.

The last thing they want to see is a fire sale and have to pay more of their guaranty fund contribution and assessment rights out to the benefitting party.

MR. WASSERMAN: Raj?

MS. RAMANATH: Yeah, I think in terms of what Kevin said and what Sunil said, the current structures at the CCP -- the CCPs, I think, do a very good job of incentivizing members to participate in the auction by seniorizing or juniorizing the default fund. Is this better? Yeah, so in terms of seniorizing and juniorizing the default fund contributions of members, I think the current structures do a fair job of incentivizing the members to participate.

To the question on broadening the auction to a wider audience, I firmly feel that it can be done because there could be -- induces participants who have the opposite risk, who can provide the right kind of trades to the CCP. The challenge we see in that is in terms of incentivizing the inducers or the participants to actively participate in the auction.

The concern we have is that they might look at the auction portfolio with the intention of front-running which is basically look at the portfolio to figure out the kind of trades there are with the intention not of participating in the auction itself but to provides hedges to whoever is the ultimate auction winner. And therefore, there's some additional work that probably needs to be done in terms of making sure that our right incentives aligned to the extent that clients and participants are -- clients are allowed to participate in auctions.

MR. WASSERMAN: How is that problem addressed? I mean, presumably members already participate in the auction. They can bid better or worse. The concern about front-running, how is that addressed for members?

MS. RAMANATH: I think in terms of members because there is a seniorization or juniorization of the guaranty fund. If you look at the portfolio, you do not participate in the auction. Or you submit a bad bid; the amount of guaranty fund that you've contributed is potentially at risk.

If you are the winner, there's a chance that your guaranty fund gets used first is going to be close to zero. Whereas if you submitted a bad bid, which is essentially what you would try to do if you were trying to front-run, then you're guaranty fund gets used up first. And knowing that a substantial amount of your capital is at risk would prevent members from front-running.

MR. WASSERMAN: So what I'm hearing you say is that the prevention of front-running comes from the sort of juniorization point that we were talking about. And so, is there some other way to expand participation to non-members, to end users, buy side, whatever? Is there some kind of rules or some kind of other arrangement that would address the concern?

MS. RAMANATH: One way I could think of is to have selective part -- so the extent of the CCP is aware that there are end users who have the kind of risk which would offset the risk that they are trying to liquidate, it could be a selective invitation to participate in the auction. But in that instance, they would probably have to make sure that the clients know that there would be certain amounts that they would risk if they do not -- if they fail to participate in the auction.

MR. WASSERMAN: Joe?

MR. KAMNIK: Thanks, Bob. So I agree with the points made earlier about incentive alignment currently existing with respect to clearing members. You know, you can construct the terms of the auctions such that there is a natural incentive with a second price auction to bid to fair value. Juniorizing also creates an incentive but I think it's important to think about the entire set of recovery tools that we're putting forward and when we think the incentives that we're providing within an auction.

For example, if partial tear up is the next step after a failed auction, then as I can see the problematic positions within the portfolio, I may not be incentivized to bid a fair price anymore if I know that I won't be subject to a partial tear up. If complete tear up, however, is the last step for all of its worth, at least in this case, it probably incentivizes participation to a greater extent than partial tear up does.

MR. WASSERMAN: Bis?

MR. CHATTERJEE: Yes, I think some of the points being made are very valid in the sense that if we have to get to a better auction, a better quality auction, the two possible options are you get more people to participate. You get more people to participate than just the clearing members and then, you figure out a mechanism where whoever is participating in the auction is incentivized to provide better levels.

So, I think, some of the points made earlier were what if someone who has to participate is giving you throw-away levels? So I'd like to start by addressing the first part which, I think, Raj started by saying what if -- we know that most clearinghouse rules force the clearing members to participate in the auction and if they don't participate their guaranty funds and their assessments rights are already at risk.

So that kind of gives them some kind of an incentive to participate. If you open up the auction to indirect members and you want to make sure that they don't get a free look or they're not front-running or, you know, they look at the portfolio saying, wow, I really know what's going to be defaulted. Potentially my variation margin gains could be at risk. Just because I saw the portfolio, let me start unwinding the portfolio.

I think you can prevent all that kind of behavior by asking indirect members to also provide some kind of minimum skin in the game. So it would be like you have the clearinghouse rules say that we welcome indirect participants or non-clearing member participants provided that if you want a direct look at the auction portfolio, you have to provide a minimum amount of resources or skin in the game. And subsequently, if they walk away and do not bid in the auction, that skin in the game is part of the waterfall of resources like any other clearing members' resources would be.

So I think you could create some kind of structures where essentially you're saying you have to put a minimum amount of resources to be eligible to see the portfolio and bid for the portfolio.

MR. WASSERMAN: Okay, Kristen, Sunil, then Oliver.

MS. WALTERS: Thank you. I actually for the first time realized that to speak I'm supposed to do this. I was like using the hand raise before. So apologies for that.

So I think that when we think about an auction, it would be in the context of immediately after a default where the CCP no longer has the financial resources to sustain itself. Which, in case, that would lead to us to resolution and we would want to -- that's the point where the CCP would be closest to risk neutral, where the defaulted positions. We'd want everything to be matched off and then, the auction to be held around the defaulted positions.

And our view is that in that specific context, we think it would be beneficial to expand the auction beyond clearing members. We think it's better for price transparency as well as just diversity in the auction process.

MR. WASSERMAN: Let me press on that. Are you suggesting different auction processes? One for the first auction where you're just try --

you know, the one that's always worked so far where you would just have members but then, if that doesn't work, a second expanded auction?

MS. WALTERS: No, I'm just -- I was trying to be very specific to when we feel there would be expanded participation. So it's essentially in a resolution scenario where you've matched off all the positions and you've isolated the defaulted positions and there's an auction that's facilitated as part of resolution. And in that case, we think that it would make sense to expand the auction participants.

MR. WASSERMAN: Okay. Sunil?

MR. CUTINHO: Well, I think when we are speaking to auctions, our default management at this point in time; we are not even close to resolution. We are still -- it's a part of what a CCP does normally when a member fails.

So when talking about incentives, a few things that I wanted to respond to. One is even in a situation where only clearing members are participating and their funds are at risk, of course, there are incentives for them to bid well. But there's always one winner or probably a few winners. But there are others who have bid on the portfolio but they have not won the portfolio. They've seen the portfolio.

So your question is still relevant, right? So your question was well, there are in a structure where only clearing members participate, you know, there are clearing members who have seen the portfolio but who have not won the auction. How would we police their actions, right?

Would they go in and front-run? So this is why I think the problem is the same even if clients participate or clearing members participate. The question of having clients put some money is -- I mean, I think it is designed as an incentive for clients to participate not solving the problem of them front-running.

As far as solving the problem of front-running, you know, these are regulated markets we're talking about. And these are ex ante relationships. We are not going to go and, of course, there are times when clients would come to participate in a default. They are subjecting themselves to oversight.

We need to -- they are subjecting their activity to be reviewed before and after the auction was successful. So in our experience, I think, yes, there is a chance where somebody sees a portfolio, can front-run the portfolio but I think the consequences of that are very serious, whether it's a clearing member or a client. And I don't see the skin in the game from clients being and a way to prevent that.

Skin in the game for clients, having clients put money into the waterfall just if they have to participate in the auction; I think we are immediately restricting the universe there because client charters prevent them from participating in mutualized risk. So I think that's essentially the point we were making.

You cannot structurally limit people from participating. Of course, you could have several cycles of auctions. You could have an auction where some members participate and then, you could broaden the participation but even there, you're exposing yourself to a risk where more people get to see the portfolio.

So I think the solution is oversight of the entity's activity at and after the auction is a way to address that.

MR. WASSERMAN: Oliver and then, Phil.

MR. FRANKEL: I think this is actually a really complex subject because it deals with market structure. I think it's a complex subject because it deals with market structure which, you know, varies from market to market and so it's hard to really find general principles.

I would say though, I would point out that when members are committed to providing liquidity for defaults, once they see the portfolio, they actually try and find the necessary risk from around their own client basis. It's kind of critical.

Without that, it's not possible to offer good prices. So it's kind of confusing if the clients are also going to participate. I think but it's okay. What needs to be certain is some sort of clarity as to who's going to participate in the auction so that this thing is not -- it doesn't create a confusion about you were going to rely on a price. It's not there and so, everything falls down and creates trouble.

So clarity on whose going to participate and also, members who engage in default drill exercise, default drills, fire drills every six months, if another participant end user wishes to be involved in default management potentially, I think it would make good sense that they would participate in those drills. And so, that they know that -- so that there's a confidence by the CCP that when they're asked to bid on a portfolio, they can do so in the appropriate time that they won't get the positions backwards. That they build the infrastructure to understand what's going on and have an appropriate compliance set up so that there isn't a leakage of information to the execution desk improperly and so on.

I mean, so I think it's quite easy to do to have participants and other members involved but there has to be a fair amount of practice and I would think a participant who's going to participate in auctions needs to be qualified in that fashion.

MR. WASSERMAN: We'll go to Phil and then Sunil and then I'm going to try and move us on to the next agenda item within this.

MR. WHITEHURST: Thank you, Bob. Yeah, I think from our point of view that it is very much about specifics of the instrument that you need to take into account in these situations. Certainly, first of all, auction for us is very much pre-recovery. It's part of our default management process and hopefully avoids ever reaching those stages just as a point of clarification.

Depending on the instrument you might be looking at a liquidation route or you might be looking at a hedging and then an auction, typically in an OTC market. You're using the hedging to take you out of what we might call the open risk or the delta. And then, the auction is to tidy out the book transfer, if you like. So that's important, I think.

So what is the role for each type of market participant at each stage in that process? I think it very much depends on the market structure. Certainly, certain market structures there's very little client-to-client activity so you would want to go to market makers and have them provide hedging prices and probably also auction prices just given the thousands of line items that might be involved.

But in others, perhaps more in markets where you would liquidate your positions, you might be able to put them straight into order books, for example. So I think it does depend very much on what instrument and you'd have a tailored default management process according to the specifics of the instrument.

MR. WASSERMAN: Sunil?

MR. CUTINHO: I just wanted to reaffirm

this point that Oliver made. Default drills, yes, it's very important that if we are expand -- I mean, we do this all the time. If the structure is broad enough to buy side participants, those participants should participate in default drills. It's a key aspect of -- they would understand the compliance aspect of it as well as the operational aspect of it.

The other thing is the default risks are taken into account in distressed market scenarios not just normal market scenarios. So this is how CCPs solve for defaults under extreme circumstances because these things cannot be figured out or designed and when there is a default, they have to be done well ahead of time.

MR. WASSERMAN: So, as I said, I --

MR. MCCLEAR: A real quick point on that.

MR. WASSERMAN: Okay.

MR. MCCLEAR: All right. So I just wanted to note, even if the customers or the buy side participate directly in an auction, they still need a clearing participant. They still need to clear those transactions so the clearing participant has to approve their bidding activity, if you will. They have to be standing behind that customer.

MR. WASSERMAN: Are you saying standing behind them -- well, obviously, they have to stand behind them financially but are you looking at the clearing participant responsible from a market rules?

MR. MCCLEAR: No, I was thinking in terms of clearing.

MR. WASSERMAN: Okay, let's move on and actually, I think I want to take together what we have as B and C which is to say, what are the tools that DCOs and really, not just SIDCOs but this is really more general, should include in their viable recovery plans in the event of a failed auction? Whether that should include forced allocation, complete tear up, partial tear up and what are the risks that arise from the tools? Who's affected by those risks depending upon which tools and how?

Raj?

MS. RAMANATH: So I think at the outset I would say that as a firm, JP Morgan firmly -- JP Morgan as a firm firmly believes that there is always a market clearing price for any trade. And it's a function of what is the price and does the CCPs have the resources to pay that price? And therefore, we believe that if a clearinghouse right sizes its resources, its loss absorbency resources, even if the price is low during a market-stressed environment, they would be able to meet the auction price. And therefore, we ideally should not get to this problem.

But then, from a certainty perspective, we realize that we need certain tools that would give us certainty that the clearinghouse would always return to a balanced book. And looking at the three options, forced allocation, partial tear up and complete tear up, I think we believe that neither forced allocation nor complete tear up is a viable alternative and that from a systemic stability perspective it could be very damaging.

And therefore, for lack of a better alternative, we feel that partial tear up as a tool can be used to a very, very limited extent provided -- and when I say limited extent what I mean is if the clearinghouse has, let's say 100 trades. It's been able to auction off 90 or 95 and there's just a handful of trades that it's unable to manage, that's probably a scenario where you use partial tear up as a tool.

And even by partial tear up is used, to question about what are the risks? Clearly a person who had a trade, whose trade is suddenly torn up is going to face replacement cost on those trades. They had a certain expectation with respect to the trade and now that suddenly vanishes. And they need to reestablish that position. And to the extent that the participant has this opened risk which they need to manage, we feel that the participant should be entitled to a certain degree of compensation for that replacement cost which they need to get from the

CCP. And --

MR. WASSERMAN: I'm sorry. Let me press you on that point just for a moment because -- so to the extent what you have is essentially reducing some -- if someone has a directional position, to oversimplify just a bit. And we reduce that directional position. They face replacement cost risk but heck, that's a lot better than complete tear up where they'd lose all of it.

If someone has a hedged position, is it possible that partial tear up might put them in a less hedged more directional position and then, what are the risks there?

MS. RAMANATH: So I think when we are looking at the CCP's portfolio, we are looking at portfolio of the participant only with respect to that CCP. So a person who has a directional position at one CCP might, in fact, be running a balanced portfolio, a hedged portfolio, except that the hedges they're in some other CCP.

Or it could be that they have a hedge

position at that CCP except that one leg of that trade is now being torn off and they end up with a directional risk. Which is why in either scenario, we would expect that participant to try to reestablish that position elsewhere either eventually cleared at the same CCP or more likely elsewhere outside of the system.

And the process of establishing the trade is going to entail a certain cost which they are going to suffer because the trade has suddenly been torn up at a price that they couldn't control which is where we feel the need for compensation to step in.

MR. WASSERMAN: Okay, I think Sunil, all the -- oh, Phil? Okay, Phil, Oliver and then, Sunil.

MR. WHITEHURST: Okay, thank you. So I think in terms of forced allocation, as a firm, we have tended to move away from that as a method. It has been in some of our waterfalls in the past. It isn't any longer. That's really something that's happened in consultation with our members largely on the basis that it's not as controllable.

I think there's a lot you can say about the nature of the way you implement a forced allocation. You've got a set of trades and a piece of risk that you're trying to allocate. And that can be allocated in lots of -- you could have lots of different methodologies for coming at that. So it's a question of how do you go about allocating.

I think the thing I'd say about partial tear ups that can potentially be quite powerful is assume you can get around some of the netting opinion problems that have existed. We've got the question whether it's voluntary or mandatory. I think there is potentially room for something where you've got a set of problem positions and you're looking then to find a way out of those problem positions. I think there's a parallel there almost between CCPs and the different services they run and the idea that individual services can be closed as distinct from a CCP being shut down as in a way a form of partially tearing up problem markets, if you like.

So I think there's a few things to consider but certainly, forced allocation is something we've tended to back away from.

MR. WASSERMAN: I'm going to go to Oliver and Sunil. And then, Kristen, can I drag you into this as well? So Oliver?

MR. FRANKEL: So we talked about the context in the previous panel about how stressed the markets must be. For and as Raj pointed out, we don't think this can ever happen but it's a possibility. But let's think about what the conditions would be for an auction to fail. That is there is no price at which members or other participants would be able or willing to take on the defaulter's positions. They would be nuclear or whatever the description would be.

I think it has to be that the participants in the auction would find that those positions, those small set of positions, hopefully, were unmanageable risk-wise. So there was no calendar spread or any other source of risk which would allow them to take that position. That molds would have broken down which allowed them to hedge them with something else. And so, the market has reached really extraordinarily -- either the positions themselves are gone nuclear and unmanageable with any other tool, their pricing has become unrelated to anything that they were being managed with before or that the market itself has gone to extraordinary levels where not that the market has moved 240 basis points but potentially -- but it would necessarily -- the bid ask spreads or mid to ask spreads has moved to 240 basis points which is an extraordinary idea.

And it would be symptomatic of a market, the structure of a market problem so vast that we don't know how to think of it. So the issues with partial tear up that are being considered here of what happens if people have hedge positions, I don't think it's possible that people would have hedge positions because if people had hedge positions, they would have been able to bid at auctions for them.

So I think we're in a situation, a context, which is extremely stressed. The relationships with the positions that can't be auctioned have all broken and that tearing them up is going to be the best action to take because it's, you know, giving those positions to other people is only going to magnify those problems for the people who receive them. Better that those same people have their positions torn up.

And presumably, the people who would be otherwise force allocated, you know, they don't have the opposition positions or they would have offered them up anyway. So you're only increasing the problem for those auction participants or members in force allocating them. Tearing them up has got to be the worst or the least worst outcome there, too.

I mean, there's also -- it spreads the problem just like gains based haircutting. It spreads it very thinly and very far. That has to be considered a virtue, too, in as much as it's got to lessen the potential contagion that would have -- that could come from this necessary action.

MR. WASSERMAN: Sunil?

MR. CUTINHO: Thank you, Oliver. That was a very good point I was going to start with the context. I don't have to say that anymore. I think the way to think about these is a series of tools and that you do partial or full tear up depends upon the circumstances, the nature of the market. And that context is very important to consider.

The one thing that I've heard there's conversation about replacement costs. But at the end of the day, what tear ups do, partial or full tear ups do, is it gives you certainty. It caps or crystallizes your losses and then it returns back the collateral. That collateral, that margin that was collected was for future ex ante risk exposure or even covering replacement costs.

So you have that margin that comes back to you. So you know that's why I'm -- I don't understand, I mean, in a context that Oliver is talking about, I don't understand what replacement cost really means. So it'll be good for us to understand what it really means because there is no market in these circumstances.

MR. WASSERMAN: So and, Kristen, the reason why I'm conscripting you in here is this. My concern about partial tear up has been that if you have someone on the buy side who has a hedge or somewhat hedged position, then partial tear up might be risk increasing. And then, they would be placed, I think, in the position, actually posting more margin because their net margin requirement would increase. And they would have to figure out a way to liquidate that and that scares me.

But I could be getting this wrong. So let me turn to someone actually who is a risk manager on the buy side to set me right.

MS. WALTERS: I actually think I would agree with that and I thought that Raj's comments were quite astute on the topic. So first of all, I agree that there is particularly for -- we are clearing standard products. There should always be a clearing price. Therefore, by default, I don't believe there should be a failed auction.

I also take your point, Raj, around partial tear ups that if you are in a situation where you have basically had a full tear up of most of the positions and you have a handful remaining, that would be the instance where I would think partial tear ups would be a reasonable thing to consider. So, Bob, I think I share your view and, Raj, I'm assuming that you would as well based on --

MR. WASSERMAN: Phil, Bis and then, Kevin?

MR. PRIOLO: Again, as an end user, for me having an unhedged position is an issue. It presents, you know, being made financially whole may not be the best outcome for me. I still need a hedge. And to give you some context, we have minimum hedge positions that our board sets and they're approved by the board.

And if I fall below those positions, I

then need to go before the board and explain why. And so, not having that hedge available to me presents significant issues. It also presents issues from an earning standpoint because I have hedged earnings that I am reporting out to the street. And then, I need to go back to the street and explain that I no longer have hedges for those because the exchange has failed.

So these are real issues for an end user that for me are particularly disconcerting.

MR. WASSERMAN: Bis?

MR. CHATTERJEE: I think I'll just pick up on some of the points made earlier. I think the decision of which of these three tools to use, whether it's forced allocation, partial tear ups or a full tear up really depends on a couple of things. One is what are we trying to do at that moment? As Raj laid out, if the situation is that you have most of your book priced in the default management auction and you look at your resources between what you have funded and what potentially you can get. And you're really talking about a few positions for which you are looking to solve this problem and you really want to focus on continuity of services, then you have to take one method.

If you're looking at positions where there are large number of these positions for whatever reason, Kristen, I know you mentioned standardized contracts but some of these may lose liquidity or transparency over time. And they may be still in the clearinghouse.

The question is if there are substantial amount of these contracts for which you did not get any pricing in the auction, forced allocating them doesn't really solve the problem. You end up giving these contracts for which the market's not able to put a price on and you'll be giving them to members who either may not have the financial resources to manage these things or may not have the risk management capability to manage these resources.

And that's maybe one of the reasons why some of these members never entered into these contracts in the first place. So I think it's very important to step back and say, what are we trying to do when we consider one of these options? Do we really want to continue the service? And B) if we want to continue the service, the choice of the tool really depends on what happened in the auction. So if you have an auction, you get prices on everything but you don't have enough resources, then you probably look at something like what was discussed earlier and the variation margin of the gains haircutting or even partial tear ups.

So I personally am concerned with the situation where you have an auction. You don't get prices on certain products and we force allocate them because I don't think that helps any of the participants.

MS. WALTERS: Yes, I think in the financial crisis we did see that there were clearing prices across markets with the exception of highly structure products traded over the counter or across banks. Basically, so sub-prime

CMBS. So there were situations that where repo, for instance, just didn't work in those markets because there literally was no pricing.

And certainly, as tear up derivatives we all know that story. But I think in these markets, the ability to have -- to find a price even if it's not at the level that you might desire it to be is completely achievable.

MR. WASSERMAN: And just before I go to Kevin and then, Sunil, I mean I think the issue is this. Again, likely, right, these are going to have a certain degree of liquidity and you will be able to get a price. If that price is such that it's going to exceed the available resources, you do have a problem. And we need to figure out, again, ex ante, how that problem would be solved.

I mean, with respect to the forced allocation versus partial tear up, my concern is this. On the one hand, I realize that forced allocation to members is going to create risks for those members and they may question whether those risks are measurable, manageable and controllable like we were talking about what's in the CPMI IOSCO report.

On the other hand, the members at least, and particularly if you limit it to those members who are participants in those markets, have a certain degree of expertise in risk management and in handling positions that is, I think, different in kind to those of the buy side folks who I look at as sort of the civilians in this.

And so, if you go to partial tear up, and again, I'm less concerned about replacement cost risk, more about creating directional positions for the civilians, how do you account for that risk? And that's really where I'm getting concerned about partial tear up. But let me go to Kevin and then, Sunil and then, Oliver.

MR. MCCLEAR: I was just going to share that ICE currently has forced allocation in its rules. But we too are proposing to move away from forced allocation for the reasons that have been articulated just now. We view it as risk-increasing during a time of stress which is not good. And to your point, the clearing members need to measure their risk. They need to be able to quantify and know their risk. That's very important.

There are also additional burdens associated with taking on contracts that if you force a position, you might be forcing a position that a clearing participant is inexperienced managing from a risk perspective and there are operational burdens, too. For instance, for some of our contracts, we require price submissions on a daily basis and they might not have the trading desk to be in a position to submit the prices.

I did want to talk, too, just quickly about complete tear up. I think there is a limited use of complete tear up. So some of the clearinghouses, as we discussed earlier, having clearing silos for contract categories like at ICE clear Europe we have three categories of FX, CDS and F and O. And I think there are instances where you might want to do a complete tear up of a particular contract category to preserve clearing of other markets that are still viable.

MR. WASSERMAN: Sunil?

MR. CUTINHO: I wanted to answer your question. I think on paper it sounds as though, hey, clearing members have the wherewithal to take on these positions, forced allocation, so why not do it? But I think we forget the fact that we don't want to put our clearing members at risk as well and especially under those circumstances because if they fail to perform or they suffer losses, then they will not perform to the clearinghouse.

So this is why I think allocation of positions when there is no market in those positions is not a very good outcome for the industry. So tear up crystallizes those losses.

The second thing I wanted to talk about more, rather than just speaking about tear up is the incentive effects that Joe mentioned. I think if it is in the rules ex ante, it acts as an incentive for markets to recover and not come to that step. I think that is something we should pay more attention to. If your tools promise outcomes that are good and there is no downside, then why would people participate in recovery?

So tear up, of course, it impacts firms. It impacts end clients as well as market makers and everybody. So that just acts as an incentive for these entities to actually participate in the auctions, participate in these markets. Markets will come back. And that's why the context that Oliver had presented before is very important.

And since it's a very theoretical conversation about a scenario where there are no markets, tear ups, I think is the best of all the worst outcomes there.

MR. WASSERMAN: Oliver?

MR. FRANKEL: Thanks. I won't quote Richard Bookstaber's definition of a hedge but I would point out that in this typical -- in this really stressful situation, the hedges aren't working. When the hedges aren't working, it's really exposures from both parts of the hedges that are not working together. You're getting losses from both sides of your -- what we're considering to be hedges.

And so, tearing up one side of it is only going to be helpful. If that weren't the case, then people would have been able to provide liquidity for those positions in the auction. So I think you have to understand -- I think we have to recognize that the context is the hedges aren't working because if they had been working the auctions wouldn't have failed.

MR. WASSERMAN: Let me toss another question into the mix here and that is, are there ways that the risks to participants from things like partial tear up can be mitigated? For instance, you could do partial tear up through some random assignment. You can do it through is there a way to favor positions that are more directional and making them less directional. I don't know. Are there some approaches there? Bis?

MR. CHATTERJEE: So, Bob, I'd like to go back to your comment earlier where you said protecting the civilians. I'm assuming you're talking about retail non-ECP kind of participants. And I probably think there is some sympathy to making sure they are protected. But one would also question what they are doing in very liquid contracts in the first place.

So that kind of leads to kind of what you were -- you just mentioned is I think while there is one school of thought that says any loss allocation should not be seen as cherry picking. You know, you don't pick somebody because they wear a certain hat. If you go down that path and saying, look, there is probably different degrees of sophistication and financial resources available to certain categories, I mean, this is purely speculating.

But you could come up with a mechanism where you, as kind of you outlined. You start by again tranching the partial tear up process or kind of creating bands in which the partial tear up process works so that the first set of partial tear ups are to a certain extent of the partial tear ups come from the more sophisticated, financially secure, a proxy could be the clearing member had.

The next set-up could then next tranche or next settle there then goes to the indirect clearing members. So yes, there are ways which we can explore to see well, do we want it to be blind and fair and non-cherry picking which means it hits everyone equally who has the opposite side. Or do we create some kind of tier-based banding based on some tranching or some caps on how much goes to what kind of participants.

MR. WASSERMAN: Sunil?

MR. CUTINHO: I think the thing to consider is in this situation when you're doing a tear up, it's important to be fair and it becomes very difficult for a CCP to treat different participants differently. It's important to treat them equitably to the extent it has knowledge.

So it has a knowledge of positions. It knows what they are and it has knowledge of the issues with those positions that couldn't be auctioned off or those markets. So tearing up those markets and doing it as equitably as possible is what we would pursue because even in our rules because it wouldn't be a good place to be where you just start picking certain market participants and they bear more of the losses because that would go against the fairness concept.

MR. WASSERMAN: Further on this issue? Hearing none. The next question. Are there processes, governance mechanisms that should be implemented to alleviate some of these concerns? I mean, because, for instance, I guess if -- well, first off if you're going to be doing it completely randomly, then one could look at that as fair.

If you have other mechanisms, for instance, how do you define product sets? How do you define risk sets? Then there may be governance concerns. What do folks think?

Sunil?

MR. CUTINHO: Okay. I think that we

should separate two things. One is the previous question is about whether we change the impact of tear ups based on who the market participant is. I think that's where the fairness concept comes in.

But there can always be algorithms that are transparent and open that limit the exposure to markets that are functioning well. So that's what partial or targeted tear up is about. So you can come up with algorithms that ensure that you do not tear up across -- you keep markets that are functioning well, going, while markets that are not functioning where there is no prices, as Oliver pointed out, those are torn up. And the losses distributed equitably.

The thing about governance, we already spoke to this. I think CCPs have good governance structures already in place and it's important that in such a situation, especially when we are doing variation gains haircutting or tear ups that it's important for that governance mechanism to act according to the rules as well as act in the best interest of the market.

I think independent rather than for their own -- we cannot have a structure where participants act in their own best interest. Here they have to act in the best interest of the market. So that's what we strongly believe in.

MR. WASSERMAN: Phil?

MR. WHITEHURST: Thank you, Bob. Yeah, I think, I mean, if we come back to that question as sort of randomness perhaps in a partial tear up, I think from our point of view that would seem to perhaps not meet some of the tests that are set out by CPMI in terms of controllable and manageable and those sorts of things.

I think also it's important to bounce another test we haven't mentioned which is minimizing systemic impacts. I mean, minimize fairness isn't mentioned as a test of the tools. But if we look about minimizing impact, you know, as a risk manager what you're trying to do is if you've got a problem position, you want that to be dealt with with as little impact to the market as possible.

And so, I think methods which give a degree of visibility into the way that you're going to go about allocating a piece of risk seems to us to meet a better sort of standard if you like.

MR. WASSERMAN: So let me -- you quite rightly remind us of the criteria in the report and talking about among other things, very importantly, we want to minimize impact on the market as a whole and create the right incentives. So it seems to me there are a number of ways even within partial tear up that you can do that.

One is simply, okay, we've got some positions that either can't be liquidated or can't be liquidated at a price that is within resources. So you could simply randomly assign those to members within their -- including customers and then you'd get it to a matched book but perhaps with negative impacts.

You could, as has been suggested do that on some kind of preferential basis, perhaps, depending upon the members or perhaps preferring risk reducing within the bounds of the clearinghouse because the clearinghouse doesn't know what hedges folks have outside the clearinghouse. And believe me, this is the last time to try and have them try and figure that out.

Okay. You could expand the scope and so avoid the -- one way to avoid breaking of netting sets is by instead of doing a very surgical way, expand what you're cutting and essentially do a risk-related set of contracts. And that might then be less risky both to the members who, or participants rather, whether members or customers, who bear the partial tear up and to the market as a whole because of having that essentially avoiding the netting set problem.

I guess, as you move down that scale, though, the governance burden, the risk burdens perhaps decrease, the governance burdens perhaps increase because then you have to figure out well, is there a certain discretionary aspect to that? So how -- I guess, how do we approach that?

MR. WHITEHURST: Well, I mean I think you make a lot of valid points, Bob. Again, we don't have partial tear up available then, as I say, drawing the parallel that we have siloed services which would allow us to close a particular marketplace. And to some extent that is a kind of a partial tear up if you like. In other words, not taking markets down that are still functioning perfectly well.

I think for us, partial tear up it probably comes back to the question of what you're clearing. And I think amongst the most plausible of these highly implausible situations is that it's a particular type of product. So it may be a particular index in CDS or it might be a particular currency pairing in NDFs or a particular currency in the swaps market, something like that.

And I think partial tear up in that kind of context, there is no price in this particular product type, you're asking the question well, if many other instruments have markets in which there is still a functioning marketplace, to what extent should those participants be involved in solving a problem related to a particular marketplace and a particular instrument perhaps. So for us, I think when we consider partial tear up, we're not really thinking about partly tearing up a subset of contracts in a particular instrument.

I think, for us, the more likely type of partial tear up is potentially tearing up all of the contracts in a particular instrument which is one of the instruments that you're clearing within a particular asset class or risk category.

MR. WASSERMAN: Anyone else on this point? Which event -- let me ask, perhaps, a somewhat broader question which is this and we're talking here about the concept of well, maybe you tear up in particular product class. And one of the things I've seen, I mean, I specifically remember in the ISDA paper is well, maybe what you do is you can terminate a particular service and thereby save the other services.

And I guess my question is and I'm

reminded of what Lindsay said earlier about reputational risk. Is that, in fact, practicable? Which is to say, if you tear up a particular service would -- do you see that that CCP could go on even though it has suffered that kind of a reputational loss?

Kristen?

MS. WALTERS: I think highly unlikely and most improbable.

MR. WASSERMAN: Kevin? And then, Sunil.

MR. MCCLEAR: I think it's possible because we talk in terms of reputational impact. Nobody likes to fail. But again, it's all about context and we're talking about an unprecedented event. You've gone through four or five, maybe more, of your clearing participants and it's important to remember that clearinghouses are central counterparties. So the only way for a clearinghouse to default is if our clearing participants default to us.

So I don't think at that point it's really a question of a failure of our risk management practices. I think it's just a unique market circumstance that might warrant taking -- tearing up one particular contract category to preserve others.

MR. WASSERMAN: Sunil, then Joe.

MR. CUTINHO: Just to add to what Kevin was saying, and the context that Oliver provided before, you know, the context within which we are talking about partial versus full tear up is some markets have completely broken down. There is no markets to -- and that's why it's hard to find a price, it's hard to find auctions.

So there are markets that are functioning. So that's the circumstance under which you are considering partial tear up versus a full tear up. We think it's reasonable to consider that even if you tear up one product class as you put it, it's reasonable to expect that the other product classes would continue. That's why we are having this conversation around us because those are other markets are important and that's the very reason you're considering partial versus full.

If all the markets have failed then the set of tools you would consider will also differ. They won't be partial tear ups. You will start considering broader sets. The second thing is netting set. Netting set is a complex discussion beyond public roundtable but a lot of things to consider. There is underlying versus options. So we have to take in -- when you do partial tear up it has to reduce risk. It has to minimize risk. That's important to consider rather than arbitrarily choosing just a certain set of contracts to close without taking into account the risk associated with that action.

MR. WASSERMAN: Joe and then, Phil?

MR. KAMNIK: Two things. Bob, to your question about the viability of the CCP if you're engaging in partial tear up, I think it's all context-specific. And this echoes Kevin's point earlier.

You have to evaluate whether the CCP has operated its default management process appropriately and prudently such that the auction was successful but that the price obtained in the auction was not such that the prefunded resources could absorb it. And then, you had just an overhang where you had to, you know, gains haircutting didn't work for whatever reason and you had to go into a partial tear up.

I would think that the context specific nature of things would mean such that the viability of the CCP for other product classes could continue. The second point, you had asked about partial tear up and maybe where do you draw the line in terms of your subset.

It seems to me that you want to tear up the smallest subset possible to return you to a matched book. And that the fairest way to do it is pro rata based on the open positions against the defaulting members' contracts.

MR. WASSERMAN: Phil?

MR. WHITEHURST: Thank you, Bob. Yeah, I think the thing I say to the reputation point; I think you're absolutely right. There would likely be damage. But I think you should leave that for the market to judge. So I think there's a burning bridge problem. There's a market that's failing. I think you're trying to deal with that first.

If you're then able to do so and keep other services open, then I think that's better in that immediate circumstance. And then, I think what you're probably going to see from participants is that there's a post mortem. There's a why did we get to this situation?

You know, on the one hand it could be the marketplace failed and therefore, we don't hold the CCP particularly accountable or there might be a post mortem, wow, the CCP management really screwed up there. So actually, we're going to withdraw in our activity with that CCP because we don't have trust in them anymore. But at least you're beyond the point of -- so the critical problem might be an outcome that you'd consider.

MR. WASSERMAN: And just to be clear, I think the concept of having these segmented services makes a lot of sense. Rather my concern tying to what Kristen said, tying to something Tom has said earlier is that the likely reputational impact is going to be my heavens, this was a failure.

In retrospect, oh, gosh, how could we ever have expected this? Well, it's your job and that there would likely be loss of confidence such that in constructing your planning, you shouldn't say, oh, we've got that segment and nothing to worry about. Yeah, you probably need to have it segmented but I think there's a great deal to worry about in terms of the goal of having continuity of operations because of the likely impact on market confidence.

Do we have any other issues here relevant? In which event, it looks like we have actually ended a panel early which is fine. A couple of very important announcements.

First, for those who are not familiar with this area, we used to have a snack shop here in the building. That is unfortunately no longer the case. There are some shops basically on 20th

Street and there's a very nice snack shop in the breezeway as you go down here or on L Street or if you to your right out the building by 21st and M and there's as well some places to sit down.

Also, I know it is very difficult to get folks back on time from lunch. We know from the CPMI IOSCO report it's important to set good incentives. And I have figured out a way to do so. I have baked four cakes. There are two orange with buttercream frosting and two chocolate with triple chocolate fudge buttercream frosting as well as a small pan of blondies with chocolate frosting.

At 1:20, 10 minutes before the lunch period ends, they will be placed on those tables and available on a first come, first serve basis. We'll see how the incentive structure works.

MS. DIETZ: See you in a while.

(Recess)

MR. WASSERMAN: Okay. If I could ask everyone to please take their seats. Okay, if you could -- and anyone else? Okay. Well, we seem to have gotten folks back from lunch so I guess the incentive structure worked.

And I think we have two new panelists and I'm hoping I could get them to introduce themselves. Herb?

MR. HELD: Herb Held. I'm from the FDIC.

MR. WASSERMAN: And Lloyd?

MR. PLENTY: Yeah, Lloyd Plenty, BNP Paribas Group Management representing ISDA.

MR. WASSERMAN: Well, thank you very much. So our third session is on wind-down. And I should note that by definition, the failure of a DCO that has been designated systemically important by the Financial Stability Oversight Council could create or increase the risk of significant liquidity or credit problems spreading among financial institutions or markets and thereby threaten the stability of the financial system of the United States.

Concerns regarding the failure of a DCO might be especially pointed for end users including those in the agricultural, metals and energy sectors who may find that they cannot reestablish hedges that are lost in such a situation. And I know we tend to be focused a lot these days on central counterparties for swaps but we should remember as well the singular importance of clearinghouses for futures in that context.

On the other hand, a DCO must have sufficient resources in order to continue to operate. It is possible that a DCO may consume the resources available to it pursuant to its rules and be unable to quickly raise additional funds through voluntary means. Yet, a DCO cannot practically mandate that its participants provide it with unlimited resources.

Indeed, organizations representing clearing participants and banking regulators that regulate the bank holding companies of which the clearing members are often subsidiaries or affiliates are insistent that liability must be limited and measurable which ties in, again, to this measurable, manageable, controllable. So you may have a paucity of practicable alternatives.

A related issue is the timing of the determination that wind-down is appropriate and necessary. Clearing obligations must be paid every business day. The failure of a CCP to make payments for even a single day can cause serious disruption to the clearing system. At the same time, a process that forces a final decision regarding service termination within a single day may not permit sufficient time for the negotiation of a private sector solution or for the requisite procedures necessary to invoke the resolution authority under Title II of Dodd-Frank to be performed.

So I'd like to first talk about timing here. And again, there are these practicalities, right? What we're dealing with here and, indeed, what we've been dealing with all day are unprecedented situations. And while we can and should have the kinds of tabletops that might help us better understand some of these issues, I think it's doubtful that certainly I'm very hopeful that we will never get used to going through these kinds of exercises.

And so, since we've got human beings involved who take measurable time to think. We need to work through things that are possible for human beings. And so, the first question I'd like to put to the panel is, is there a minimum amount of time following a participant default or some other point, say the exhaustion of available resources, the failure of an auction however that failure might be defined that should be required before the determination to wind-down is made?

And I will remind panelists that if I could ask you to put your tents up when you would like to speak? And so, who would like to start us off? Raj, please?

MS. RAMANATH: Thank you. I think I would start off by looking at how a wind-down is defined in the PFMIs. And if I look closely at the definition, when I look at wind-down, it specifically says a wind-down could be a transfer of critical services to another entity with a wind-down of the legal entity. And I think that's kind of echoed again in the CPMI IOSCO final report on recovery which says that, yes, a CCP should have a plan for complete tear up in its rules but that could be destabilizing and that's probably a point at which the resolution authorities would step in.

And therefore, as a firm, we believe that rather than look at wind-down of the CCP, it's probably more important to focus on the fact that a systemically important institution should necessarily have a resolution strategy with respect to its critical functions just as any other systemically important financial institution does. And the resolution strategy should focus more specifically in terms of continuity of the activities, the critical functions of the clearinghouse rather than actual wind-down of the clearinghouse by itself.

And to the extent that we've had mandatory clearing and I think the last (inaudible) report spoke about close to 75 percent of trades by notionals being cleared. It's absolutely critical that there be continuity of activity. If not, we are clearly faced with the scenario where you are going to have a market destabilizing impact should you not have some kind of a resolution mechanism stepping in.

And if you think about it, you're facing a scenario like that when you run through your funded guaranty fund, your assessments. You've looked at all your recovery tools and that's the point at which you are wondering whether you should wind-down a clearinghouse. And that's a scenario when there's very significant stress in the market and when you have that kind of stress in the market, that's precisely the point at which all the participants would look to the CCP to act as a buyer to a reseller and vice versa.

And if that's a point at which you wind-down the trades. You're going to have market mayhem in terms of everybody trying to reestablish those positions because they have all this open risk. And therefore, we, as a firm, do not believe that wind-down is viable for a systemically important CCP. And there clearly needs to be a resolution plan which is set out, a resolution plan which is supported by some kind of prefunded resources which would support the recapitalization of the clearinghouse, that would ensure that you can have continuity of the service without waiting for some kind of contingent liabilities or funds that might or might not come in. And ensuring that recapitalization resource ensures you do not have any sort of recourse to some kind of taxpayer bailout.

And to the extent that you have these recap resources which would help in the resolution of the clearinghouse, we believe that the ownership model would ultimately have to change in favor of those who have helped the CCP survive. And that's one of the reason, key reasons, why we feel that when we look at wind-down, it's not in the context of the clearing service in terms of the critical functions it's doing.

If we speak about wind-down, it's

probably only with respect to the legal entity which is going to be wound down.

MR. WASSERMAN: Sunil?

MR. CUTINHO: I want to address a few things. We'll get to the timing in a second. I think we talked about the context in the first two panels. The important thing is we believe in recovery versus a wind-down.

And let's start with the topic of assessments versus recapitalization. Assessments are a very important and credible recovery tool. If the concern is -- I've heard this concern many times. If the concern is availability of assessments in stressed situations, there are a few things for us to keep in mind.

The recap fund with capital outside the waterfall is of no use for recovery. A better mechanism, I think we talked about this before is rather than have the funds outside the system, the systemically important concentrated clearing members that can bring down a systemically important, if the concern is they wouldn't -- we wouldn't be able to assess them in these circumstances, then let's prefund that but put it in the waterfall because the risks to, as we spoke about, largest financial institutions failing and then, markets in a disarray and then exhausting all funds, if you have prefunded all of that capital, the resources ahead of time and it's in the waterfall, we wouldn't even exhaust the mutualized pool.

We would that at our disposal when we are resolving the default of these institutions. So this is why we don't believe recap fund -- one of the reasons we don't believe recap fund is an effective tool. The other reason is that availability of funds, a promised land, at the end is not an incentive for all the recovery tools in the system.

You know, we talked about auction incentives. We talked about people participating in auctions. Essentially if you're saying that there is a windfall available at the end, then why would somebody participate in an auction? So again, I think that's another reason a recap fund is not a very attractive solution.

The third thing is why punish all the clearing members? The problem we have is clearing member diversity. We need a lot more clearing members rather than a few concentrated clearing members. So the way to limit the risk is not punish every clearing member to put additional funds in a separate remote place but target those to only those entities that bring concentration risk to the system.

Because if you do that, that acts as an incentive as well to reduce concentration. It becomes a function of the risk. It becomes a function of the system and then you make sure that there's diversity. So all actions, all incentives that are set in place is to make sure the system is less concentrated and less risky and the incentives are in place for it to recover from failures of default of funds.

When it comes to timing, it's very hard to enumerate all the timings ex ante. And when we talked about situations when we arrive the circumstance called wind-down and it's important to have flexibility rather than enumerating those situations ex ante.

Resolutions -- a wind-down is basically explicitly, transparently setting out that the outcome and this is exactly the things that are in other systems as well. The outcome under these extreme circumstances are bad so the incentive effects for every market participant as well, we don't want to be there. Let's participate in the auctions. Let's control our risks. It's an incentive for every institution in the system to work for the benefit of the market rather than for their own self-interest. So that's where I'll stop for now.

MR. WASSERMAN: So let me first -- I'd like to separate out the issue of the replenishment of resources. I mean, maybe you prefund it, maybe you carve out of your assessment powers one times your default fund -- however you accomplish that. Let's -- I don't think that is necessarily, you know, that's necessary to the issue we're discussing at this point in terms of wind-down.

Let's say you've done that. My question is okay, but it turns out that you still have intractable problems otherwise. You haven't been able to reestablished a matched book. Okay. Maybe you've done partial tear up. You simply don't have -- the resources you have that folks have agreed to do ex ante turn out not to be enough.

And so, I guess the question is -- and actually we need to add another factor. I was saying earlier, you may not assume the intervention of a governmental resolution authority. The recovery plan may not assume that. That is very different from saying that it may not foster the ability of the resolution authority to act.

And so, tying back to my comments a few moments ago, if you need to allow time for that to happen, is it practicable to do that? Is there some minimum time where you can even in light of doing things like either whether it's suspending clearing or doing variation margin haircutting that you could keep things going at least that long so as to allow time for those human beings to act or alternatively, do folks feel, no, actually, that you really do need to proceed very quickly to service closure to avoid systemic risk?

So what do folks think about that? And let me ask you, Kevin?

MR. MCCLEAR: So we think when we get to this very end as a last step before the clearinghouse has to wind-down, and we think in terms of wind-down being tearing up the position and we terminate clearing effectively. We think there should be a timeout called, a suspension. Sometimes people refer to it as a false weekend.

Where we all get together, by we I mean the clearinghouse, its clearing participants, the regulators, perhaps the resolution authority, and we try and figure out can we work this out? Can we "recapitalize" and we haven't talked about what recapitalization really means. I can tell you that the clearinghouse will have operating capital at that point. We have regulatory requirements in that respect. So we're a going concern. We're not insolvent from an operation standpoint.

It's just a question of whether we have willing clearing participants, whether we have default resources which, as you know, are the margin and the guaranty fund and the assessment obligations. But we really think it makes sense, there's not much to lose, we don't think, as that point. We're effectively not clearing because we've gone through the variation gains margin haircutting and we're done with that.

And so, it's a last step. We think it makes sense to have; I'll call it this suspension period of a very limited time frame, one day, two days. Again, I reference a weekend. If it happens on a Friday we have that two days. If it happens during the week, we think we need a timeout.

MR. WASSERMAN: Tracey?

MS. JORDAL: So I think it's hard to put a minimum number of days on the time frame. I don't think it should be after a certain participant default but maybe after certain exhaustion points. So the point you can find someone to step in or to the extent the auction fails, then that makes sense to look towards the wind-down.

But I think it's hard to put an exact time frame on it right? But it can't be too long because the longer you wait, I think the less confidence people will have in the system which I think goes back to the importance of having things spelled out. So if you're going to use a recovery tool such as variation margin gains haircutting, people, you know, if you go through two cycles, pretty much people know how long that might take.

But if it's an open-ended, you know, how many times you might go through it, it might lengthen the time period. And the longer -- when people don't know what's going on or if there's no clarity on what might happen is when people faith and confidence in the system. But I think wind-down makes sense but only after you've exhausted the other options such as if the auction fails or you can't find someone to step in.

MR. WASSERMAN: So let me just clarify. So you are saying there should be a minimum but, I mean, is this that there should be a minimum but it should be extendable through some sort of governance process or?

MS. JORDAL: You know, it's hard to put like say -- it's hard to say it should be a minimum of X days. I think it's a -- there definitely should be a governance process and then, it should be after certain things occur that then you should look towards the wind-down. But I think it's hard to say minimum three days or five days or two days. That's sort of the balance that you need to try to strike.

MR. WASSERMAN: So are you saying that essentially those minimum may be too short or too long?

MS. JORDAL: You don't want the minimum

too short. Sort of I'm saying both things. You don't want it too short, right? Because you want to be able to do it wisely but you don't want it so long that people start to lose faith and confidence in the system.

So whether it be -- I think the industry needs to assess how long that those periods might take to get through if you do -- if the answer is variation margin haircutting one cycle, how long does that take? And then, one day. So if you go through two cycles it's two days. So maybe a minimum two to three days. But that's if people agree that two cycles through variation cutting makes sense versus one.

MR. WASSERMAN: And that's a question I put before the panel. Kristen?

MS. WALTERS: So I agree with Tracey's kind of discussion around kind of the exhaustion point. I think that at the exhaustion point it becomes more kind of a maximum amount of time versus a minimum. And again, I think we've talked about the fact that when you get to this exhaustion point where the CCP does not have sufficient financial resources to sustain itself, we do support CCP resolution not recovery.

So again, believing that financial stability is best served in a market where rapid and complete winding down of a failing CCP's positions and reducing any timing. So repaying monies back as quickly as possible would be our preferred approach. So in that context, what you would want to do is at that exhaustion point, you would immediately when the CCP still has -- is as close to risk neutral as possible, I think I mentioned this previously, the only unmatched positions are the small number of defaulted ones. That's when you would actually start a complete tear up and return of collateral to clearing members.

So we would basically suggest acting very quickly and decisively because the longer you wait, the more market volatility, the more procyclical behavior and the more difficult it is to address.

MR. WASSERMAN: Joe?

MR. KAMNIK: So I feel like I say this every time before I comment but it's context-specific. So in the ordinary case, I think it's useful to talk about times when wind-down should not be invoked. The first time I would say would be when there is a depletion of your prefunded resources.

Presumably, we've all developed ex ante rules-based recovery tools for that very reason. The second time I would suggest would be when there's a failed auction. Presumably, we have partial tear up or complete tear up would be the wind-down. So let's say there is a partial tear up possibility within the rule set, you want to explore that option if the amount of problematic contracts are such that they could easily be absorbed by partial tear up.

So I think the overarching concern here is if the CCP is running the default management process effectively, then I think you want to keep things ongoing as long as you reasonably can.

There is a point that I think Tracey made earlier which is at a certain point in time, the confidence in the viability of the CCP is going to erode.

And when that starts to happen, the option of wind-down increases. But generally speaking, I think you want to go through the tools that you have at your disposal and try to get them to work first.

MR. WASSERMAN: Richard?

MR. HORGAN: You know, I think if you're assuming that you're winding down and you're tearing up, the time frames would be some type of analysis as it relates to how the market participants can reestablish if they were hedged positions or they were part of a portfolio, how long would it take an energy company to maybe use an alternative source to manage their risk and manage their hedge structure so they know that there is limited time but it gives them an opportunity to seek alternatives when they know that their positions are going to be torn up.

MR. WASSERMAN: Sunil?

MR. CUTINHO: I want to address a few things though. When you mention timing, if we are talking the timing of an authority stepping in during the wind-down process, one thing is very important though. If you don't allow the ex ante transparent default management and recovery tools to play themselves out and we prematurely step in, then that will cause disruption in and of itself because at that point in time, market participants do not know what to expect whether it's the rulebook that they are used to and the transparent set of rules or something else, a different set of rules.

So I think it's very important to keep in mind the timing of intervention, so to speak. When you talked about timing for more capital to come in, we have discussed variation gains haircutting. The purpose of some of these tools, variation gains haircutting and partial tear up, is to give chance for capital rightly pointed out by Kevin, capital outside of the operating capital. More funds in the guaranty fund to come in at that point in time.

But the most important thing there is to close out the risks. There cannot be any ongoing risk. More capital comes in for the markets that are running and active and have to be continued as a going concern. I think that's the timing question.

The suspension is not a good idea, I think, because if you suspend markets -- if there are functioning markets and markets are moving, suspending clearing is very, very bad. It accumulates risks. If trades cannot be cleared, you cannot even reduce risks. So it's not a very good outcome because at this point in time when we are close to this edge, we want markets to recover.

So having clearing services providing clearing for these markets is very important at this point in time.

MR. WASSERMAN: So let me see if I can synthesize what you're saying. What I think I hear you saying Sunil is well, okay, we would, and I thought I heard you say for two cycles, go through variation margin gains haircutting and then, maybe continue subject to some kind of governance procedure. But if not, then I'm hearing it's at that point that you would go to wind-down?

MR. CUTINHO: Correct. So and then you still have tools, partial tear up or full tear up and then, full tear up is nothing but wind-down as Joe pointed out.

MR. WASSERMAN: Oliver?

MR. FRANKEL: Right. I don't think -- recovery has the best chance of working if the whole process is totally transparent and is clearly laid out in rules and those rules can't be trumped. So I think it's critical that we don't have some intercession that otherwise -- that would deteriorate the incentives that we've created with proper recovery tools.

There is a need, I am assuming, for consideration of some alternatives if things get very bad. But I don't know why that period needs to start at any particular point. The period for consideration of what to do could start at any time as long as it doesn't intercede with the ongoing effective application of the recovery tools.

For the market to -- I would like to echo Sunil's point that if you intercede or if you suspend clearing and you really run the risk of creating a real market problem and certainly a buildup of exposure for the CCP and the clearing members which cannot be productive. So I would not recommend an explicit suspension but rather the process should be going in parallel, not virtually, but in parallel in any case but in a way that doesn't intercede or disrupt the confidence that may be had in the recovery tools and the incentives that they would provide.

MR. WASSERMAN: So, Oliver, what I think I'm hearing you agreeing with Sunil with this kind of a okay, you keep on clearing but you have the haircutting for a specific number of cycles to whatever that number is established ex ante rather than suspending clearing for that period?

MR. FRANKEL: Yeah, definitely not suspending clearing. That would be a bad idea but what I'm recommending is that as soon as there is a concern that the default management may run into a problem, so it's a very large clearing member or the contract's being cleared and not that liquid or there might be -- any concern. There should be a war room type set of meetings going on to discuss what would happen if the recovery tools don't work, what are we going to do? So that participants can know they know they've got the incentives to work but the incentives and everything should work but should they not work? There are -- these discussions don't start de novo at some point without no information. They've been already ongoing for quite a period.

I don't think it makes sense to start a two day pseudo weekend with no information. That should have already happened.

MR. WASSERMAN: Let me press you just a

bit because I would separate out two issues. One of which is when do you start the discussions and the planning and the meetings of the risk committee? And I would think that would be very, very, very quickly as after the default happens. The second is what the rules provide and, in other words, when the essentially service closure bell might be rung and I think I -- I thought I heard you say and others say, well, there needs to be some degree of certainty in the rules as to how that would happen, perhaps subject to some kind of governance but that you do need certainty in. Or am I getting --

MR. FRANKEL: No, that's right. I'm saying yeah. The higher the certainty -- the high uncertainty of the rules are -- more clarity participants have into what the rules say and how they operate the better because the incentives will be clearer and will work better.

MR. WASSERMAN: Thank you. Raj?

MS. RAMANATH: To answer the question around suspension, I would actually agree with what Sunil and Oliver said which is that suspending a market would only impact market confidence. I mean, the risk is there in the system it's not gone anywhere, it's not going anywhere. And by suspending the market, you are limiting the options in terms of what the participants can do with respect to managing that risk for that period of time.

And in a stressed market environment, I think it's very important to focus on market confidence and how suspension would impact it. Any negative impact to market confidence would only limit any further hedges or any further price that the CCP can get with respect to the defaulted portfolio and therefore, that's a point at which you need to do anything and everything possible to boost confidence, to encourage people to come back to the market and provide the prices rather than to stay away from the market.

MR. WASSERMAN: Lloyd?

MR. PLENTY: Yes, I was just going to echo a bit what Raj and, sorry -- echo a bit what

Raj and Oliver said. I mean, I think we're in a scenario here where clearly you've got a systemically important name which is in trouble. So I think one, the war room, if you want to call it that, that description, should happen very quickly. And I suspect that you'll have -- if it's a major clearing member, you're probably having the same issue across jurisdictions and across CCPs maybe internationally.

So I think the ability to start developing some sort of strategy is very important. I think secondly, the ability to suspend should be really one of the last resorts because some of the major CCPs will have quasi-monopolistic positions and therefore, what are the alternatives to having that service available?

MR. WASSERMAN: Philip?

MR. WHITEHURST: Thank you, Bob. Yeah, and I think I'd echo what a lot of people have said so far. I think you might be suspending lifelines if you're going to suspend clearing.

And I think another point to raise more generally about timing is also one of materiality which is to say, obviously, again, context. We're in places; we don't want to be here. But the VM gain haircutting can initially be relatively small in scale and the question again would be, well, what is the circumstance that we're in and if there are relatively modest amounts of haircutting going on, is that grounds for closing the services?

We would describe wind-down as closing the service, tearing up all the contracts. So again, that's whether it's purely a time-bound issue or whether it's also a scaling of how much haircutting is going on, that, to me, would also seem to be a relevant thing to be accounting for.

MR. WASSERMAN: Kevin?

MR. MCCLEAR: I started so maybe I'm going to finish. So I just wanted to make it clear, when we recommend a suspension, we recommend that it's the absolutely very last step. I mean, we advocate, wholly support, I agree with everybody. You have to run through the plan recovery process including variation margin gains haircutting.

But before the point of the vari -- which is the termination of clearing by the clearinghouse where we do the complete tear up of all the contracts, we don't think it hurts to have a short one, two day suspension to sit around the table, as I say, to talk about is there any last step that can be taken to save the clearinghouse.

MR. WASSERMAN: So let me follow up on that because on the one hand I think again, and I'll confess, my prejudice is that humans needs measurable time to act in terms of at least hours and preferably days just simply to deal with unprecedented situations.

On the other hand, it could be argued, well, look. Yeah, you can do that but you can continue paying and collecting albeit subject to haircuts. But let me put a different issue on the table that I've heard mentioned elsewhere and I'd like to get the views of the folks here which is what are the risks of doing that? Of delaying wind-down? I'm now looking at this from the other perspective and saying, I've said a few minutes ago, gosh, we really need to allow time for things to act. But what is the cost we're paying in terms of risk, in terms of systemic risks?

And so, if we have an arrangement where we have, whether it's a suspension, whether it's variation margin gains haircutting, and, Phil, you'd say, well, if it's not too much that's fine. But how do we know what is too much and maybe it is? So are folks concerned about systemic risk of during those couple of days or however long we have for that building up?

Oliver?

MR. FRANKEL: And you mean, in that period no more trading and no -- or does trading continue, I mean, clearing continue?

MR. WASSERMAN: However you want to set it up. In other words, by essentially having the patient still on the table rather than -- well, let me stop that analogy. By having the clearinghouse continue to operate in this dire state where it is whether suspended or it's continuing to pay and collect but it's collecting in full and paying in part.

There are those who said, gosh, during that time, the clearinghouse is not going to be mitigating risk but we may be afraid that it is creating risk during that time. And again, I've heard that in other forums and other places. I'm trying to get the view from the folks sitting around this table, is that something you're concerned about? Do you think that's right? Do you think no, actually, this is better? Where do you want to go?

MR. FRANKEL: I mean, I certainly would want to be able to flatten my positions if I haven't already. I don't know I wouldn't have already and if flattening my position is helpful for the default management process as we hope the incentives would create, albeit we've avoided the situation. But in any case, I'd want to be able to have the -- you know, during this period to control my risk to the clearinghouse. I think that's kind of critical.

And, by the way, if I can do that, I don't see how -- if everyone can do that, I don't see how keeping the clearinghouse going can be anything but helpful to the system generally. I don't think the clearinghouse itself can contaminate the system if people are allowed to control their exposures to it.

MR. WASSERMAN: Well, let me press just one little bit more on that because -- so during this time, yes, you can flatten your risk if you can find someone to take the other side. But again, during this time when you lose, you will be called upon to pay in full. When you gain, you will collect in part. But do you still feel, look, that's still the best or the least worst outcome?

MR. FRANKEL: And I presume you're talking about contracts for which there is no price found in the market and so, I'm still just exposed to something that for which the best remedy would be tear up. Good question. I mean, I -- it's a good question.

MR. WASSERMAN: Sunil?

MR. CUTINHO: I just want to follow up on what Oliver just said. You know, if you take the case, I don't see how keeping the clearinghouse clearing creates more risk because if you imagine the risk management framework and the things in place, at this point in time, to focus would be on controlling the risks within the system. We are still in a mode where there's clearinghouses functioning.

So if you completely stop or suspend markets, the risk is changing. There are other -- even if this particular market is broken, other related markets are functioning. So when those markets are changing, there is history there. If you go back in time, you cannot simply shut down clearing or pause it.

I don't think -- I think pausing clearing or shutting down clearing even for a brief moment in time would only increase systemic risk rather than reduce it. So as Oliver pointed out is you want a price discovery mechanism. Clearing backs the price discovery mechanism. So if you shut clearing out, where would that price discovery mechanism go? So you need that price discovery mechanism so that clearing may very continue and will never up in that wind-down stage to begin with. But if you pause it, it will definitely accelerate wind-down.

MR. STANLEY: I see Kristen has her tag up too and she may have been about to answer this but I'm just getting a little confused by the sort of we see on the sort of the clearing member sell side and the clearinghouse side this assumption that the suspension of clearing is disastrous from a financial stability standpoint and that other mechanisms such as bilateral trading and potentially other clearinghouses cannot apparently be relied on.

But then we see from the end user side and BlackRock is certainly a major, major buy side player. The perspective seems to be get me out of this mess as fast as possible. Give me my money and let me go handle my risk myself because I don't want to be tied to a wounded entity. And I think that perspective is that in normal times, mutualization of risk through the clearinghouse is beneficial, it helps systemic risk. But if the clearinghouse itself is injured then the mutualization serves as a risk-spreading mechanism in some ways.

So I was just curious why this difference in viewpoint seems so strong or maybe I'm misinterpreting it.

MR. WASSERMAN: Let me turn to Phil for a second.

MR. PRIOLO: I would say that assuming there is sufficient information out there that you know that the clearinghouse is considering suspending operations, winding down, whatever that might be, I would obviously not be advocating further hedging on that clearinghouse.

We'd be talking about how we would be moving positions to other exchanges if the other exchanges are unaffected by these types of things.

So I think, I don't know how much public information would be out there. I mean, if the exchange was talking about a wind-down, I would hope some of that information would be out there. But we would be suspending trading, looking at other alternatives to hedge.

MR. WASSERMAN: So let me separate out your issues there though. Because and I think others were saying, yeah, in this kind of a circumstance, they would be working to self-liquidate. The question here though, and certainly, there's nothing right in any part of this that would stop folks from basically saying, you know, I really have concerns about dealing with this entity.

I want to go to the sidelines for a while and see if they can bring themselves back or maybe they can't or if I can find a competitor, let me go there. But the issue, what we're dealing with here is not the kind of self-liquidation or individualized activity that participants would be taking but rather essentially a service termination.

And so, basically, within the rules, saying look, if the following happens because here's the deal. Under the PFMIs you have to address fully any uncovered credit loss. And so, if you have enough resources great. If you don't, the ultimate way of doing that is saying okay, under my rules I'm going to at a certain point, and what that point is what we're discussing, say we're done. The contracts end here, add up all of my obligations, add up all of my available resources. Distribute them pro rata without having to involve the bankruptcy attorneys and basically fold up the tent and go.

And I guess you're right. I mean, I think there is on some folks, not among others, a view that well, to have that kind of service termination would be destabilizing. And so, I guess the question is when folks are thinking about this from the energy space, from the agriculture space, is it, in fact, destabilizing? Is he all right when he's saying, wait a minute, we've got these price discovery mechanisms that depend upon the clearinghouse and if the clearinghouse shuts down, so do those price discovery mechanisms.

So that's really where I'm getting -- trying to get folks to think.

MR. PRIOLO: I think everything you said is true. I agree with yes. It would be a destabilizing if I had to wait or decide whether to continue to hedge on that exchange or someplace else. A suspension would be, I think, far more destabilizing.

MR. WASSERMAN: And termination?

MR. PRIOLO: Well termination leaves me then with I need another option to hedge, right? So then I'm assuming there are other exchanges that are available to be able to do that. If not, then we have a bigger issue, I think, right?

I mean, I spoke to Sunil at lunch and we keep talking about all of these events that are happening and there are probably other things going on in the world besides what we're talking about here that are going to be pretty destabilizing to the world itself. These events are, as I said before, doomsday events so I would say we probably have a lot of other things to worry about too and if I have no place to hedge any of my generation, I'm a physical energy supplier.

So I have ISOs that I can sell that to. I can take it to the spot market. I would be unhedged.

MR. WASSERMAN: Tom?

MR. KADLEC: Yeah, I think the answer it depends. And whatever the confidence, I think Tracey mentioned it. Confidence in the marketplace however we get to a confident, a more confident place in the market, we have to use those tools.

There was a suspension of trading after 9/11 for four days if I remember correctly. That brought some stability, people to get organized and garner some confidence.

So I would -- I think it's a tool that

you should use. I don't think it's a prominent tool, Kevin, I think but the pause should be considered and it can be used in a variety instances. The most important thing for a hedger is continuity of markets and however we can continue that continuity is what I would look for to support our customers.

MR. WASSERMAN: Kristen?

MS. WALTERS: Thank you. So I think what I would just say just to your point earlier, I think the reason -- so the view of BlackRock, so we actually don't have any of our money or any skin in the game whatsoever. We're entirely acting on behalf of our clients as fiduciary.

So when we talk about kind of money good versus position good, as a fiduciary that's the really, the only answer. And we tend to think that in a crisis situation that end investors will want money good and they will not want to have positions outstanding that could risk additional losses.

What I would say that I didn't mention

previously is or I should have mentioned is that so we are without equivocation complete supporters of central clearing. So we think it is absolutely a stabilizer of markets. It's good for transparency, loss distribution, collateral. So the points that I'm making is really just in the context of after there's been it's kind of the point of no return for a CCP where they've literally exhausted the financial resources that they have.

And in that case, we think that the liquidation is a good one. I just wanted to note that the decision of when to do that, I think the regulatory bodies should be making that decision or be involved in that dialogue because they physically are overseeing the activities of the CCPs. So certainly there needs to be an ongoing dialogue.

And once that decision has been made, then the appropriate regulatory body should be brought in to actually affect the orderly wind-down.

MR. WASSERMAN: So I should note, I mean, as a regulator as I sort of alluded to earlier, a CCP, DCO in this position is going to be under-resourced, is going to be then in violation of the resource requirements and we would always have the ability to essentially bring them to that wind-down. I don't know that we would have the ability to do the reverse. To say no you can't.

MS. WALTERS: Oh, no, I'm sorry. I was basically saying that the point of kind of no return where a CCP doesn't have sufficient financial resources, so it's basically utilized all of its loss absorbing capabilities. At that point, we think that a regulator would be best placed to work with the CCP to determine when the wind-down, when that actual point occurs.

MR. WASSERMAN: Sunil?

MR. CUTINHO: Bob, I just want to make a point of clarification. I think we talk about suspension and wind-down. We look at them as two different things. When you mentioned suspension or when suspension was mentioned, it is occurring some time before wind-down. And wind-down, when we think of wind-down, it has to be orderly. Orderly is the operative word here, right?

It's orderly wind-down. Suspension does not make it orderly especially in certain situations when a lot of firms have failed and there are markets that are functioning and then, there are markets that are not functioning. So when there are functioning markets and the CCP can clear those markets through mechanisms we have spoken about, then if a decision is made to suspend just for pure reason that we need time, I don't think that is confidence boosting for the markets.

And it'll actually accelerate the wind-down or it'll make it a disruptive wind-down. So that's the point we were making.

MR. WASSERMAN: Raj?

MS. RAMANATH: I was actually going to step back to some of the points that Phillip and Tom made with regards to there being an alternate market where they can go out and hedge trades. I think if the kind of scenario that we are talking about is where the two, three or four largest members have failed, and when you look at the large members, they are probably the largest members across multiple CCPs. And therefore, it's unrealistic to assume that the problem is associated only with one CCP is one jurisdiction.

The problem is more likely going to be more widespread than that. And therefore, I don't think it's an automatic assumption that the problem is there at one CCP but all the other markets are working fine and there's no issue anywhere else at all. So I would caution against assuming that there are other markets where you can go and easily get the hedges. I think the stress of the market is going to be far more widespread than that.

MR. WASSERMAN: And so, while I -- certainly your conclusion resonates. Let me just press you on one point. I think it is almost certainly the case and pretty much certainly the case that if a financial institution defaults to one clearinghouse, it and most likely all of its affiliates will promptly be in default to every other clearinghouse of which it is a participant.

That is a separate question, though, from what impact that default across all of those CCPs will have on the default resources. In some cases, it may have a very large exposure, in other cases a much smaller exposure. In some cases, it might even be positive. So I think are we on the same page that you're not necessarily going to have challenges to the default resources even though I think your point, your ultimate conclusion is right that you can't count on the markets working well.

MS. RAMANATH: I would agree to some extent and that the impact of one member across different CCPs would be different. But then, when I think of a scenario like this, I'm not thinking of one member defaulting but I'm thinking of multiple members defaulting. Because you're already blowing through something like cover 5 or cover 6 kind of resources. And that's not the level of stress that's brought by one member.

And where you have multiple members defaulting, chances are the problem is much bigger. That's all.

MR. WASSERMAN: Although, I mean, I think and as I mentioned there will be work elsewhere on stress testing but while it is certainly the goal that the stress testing ex ante is rigorous and that, in fact, your calculation of extreme but plausible is rigorous and accurate, it is also possible that even with the best of intentions and the most diligent of activity, you turn out to be wrong and you lose one member whose exposures than anyone ever predicted. So at which point you have the whole domino.

MS. RAMANATH: I would agree with that in terms of --

MR. WASSERMAN: Philip?

MR. WHITEHURST: Okay. I think one way of looking at this is kind of what is the far side of wind-down. And I think the far side of wind-down is that everybody who is clearing now has the open position which that used to be in clearing. And then, it seems to come down to a function of choice which is to say, that no longer does any participant have a choice. So everybody now has an open position that used to be either a hedge or they deliberately had that position.

They now need to reestablish that. We've talked about the context. It's probably a broken marketplace and it seems like a whole lot of chaotic activity driven out of marketplace which is in a very bad state. And again, we come back to the ex ante rules and recovery rules that we have with putting incentives in place, putting people in a position where they understand what it means while they have a choice to potentially reduce their positions.

We heard about IM. We heard about VM haircutting but certainly if you're targeting the people who can help the CCP to the extent the CCP is in this distressed state, again, it feeds back to that. If the opposite is well, we've all now got an open position and we've all got to dive into a marketplace that's really struggling and try to find each other again where you could have kept some cohesion by having a lot of the matches that already exist and not forcing those to be dislocated.

MR. WASSERMAN: Marcus?

MR. STANLEY: Well, first of all, it seems to me that you could design a process by which the clearinghouse, in the course of winding down, could act more or less as a matchmaker between its members to sort of address this problem, this chaotic problem.

I mean, the portion of the clearinghouse book that is matched, the clearinghouse knows different counterparties that are on each side and could set up a process to essentially inform them of the interest on the other side and make that process much more orderly. In fact, one of the people that we work with at AFR, I had an organization called VMAC and took out several patents around designing precisely such a process.

I can show them to you if you're interested.

But the second question I had is what -- are we clear about what wind-down brings to the table that the clearinghouse cannot already do? I mean, it seems to me that this morning -- what normally a bankruptcy process does is it lets you abrogate contractual rights. But this morning we were talking about taking people's margin away, doing complete tear ups. It seems like within the clearinghouse process, there were lots of options that we could give to the clearinghouse to change those contracts.

And so, I'm curious what new thing wind-down brings? Because I don't think we can assume that it brings public or government liquidity support. I think there's a lot of problems with that.

MR. WASSERMAN: Absolutely. Although, from a definitional perspective, what we're talking about is not abrogating contractual rights. Rather the clearinghouse rules are part of the contract.

MR. STANLEY: Right, exactly.

MR. WASSERMAN: And 99.99, you know, many, many 9s percent of the time, indeed to the present, 100 percent of the time, they operate in the gains or the gains and losses work just fine. Rather service termination -- you know, wind-down to service termination; I'm going to go in a moment to wind-down for transfer which Raj started us with.

But wind-down for service termination is basically saying that under the contract, these circumstances basically mean that we're going to terminate. That essentially, as I said, all -- there will be no future gains or losses. We will be tearing everything up from this point onward and for this point -- from this point backward, we're going to do a mark to market and what the clearinghouse's obligation is is to pay out pro rata the gains. And then, we put aside issues of well, what happens to the eventual recovery. So and ending things. But did you?

MR. STANLEY: And so, I guess just

rephrasing it was if the clearinghouse -- if it's part of the initial contract with the clearinghouse that it could move all the way to complete tear up, what are we -- what new right are we bringing given that so many rights are involved?

MR. WASSERMAN: No. Rather this is essentially the exercise of that right basic -- because under the circumstances there is no alternative. And so, I'm going to call on Sunil and the next -- I think I do want to talk a little bit about transfer and then, ultimately, I'm going to want to get to voluntary recapitalization. But let me go to Sunil.

MR. CUTINHO: Actually you said most of what I was going to say which is --

MR. GIANCARLO: Sorry.

MR. CUTINHO: -- wind-down for service termination because I think it's not right that when you terminate all the contracts and you wind-down there is -- clients still have exposure in there to recreate them. That wouldn't be the case if you're terminating the service. That's essentially my point.

MR. WASSERMAN: Well, yeah, I mean, I think -- but the point is that the good news is you will have no further exposure to the now wound down clearinghouse. The bad news is your ability to reestablish your hedges is going to be questionable at best and you know, as some folks have said, the marketplace is likely to be less hospitable than it was yesterday. And so, that is the problem with wind-down.

MR. CUTINHO: But under these circumstances, isn't the best thing to give people their money back? I mean, money --

MR. WASSERMAN: Oh, yes.

MR. CUTINHO: -- good versus position good. I mean, this is --

MR. WASSERMAN: I think the question is it may well be, right, that essentially if you have no other alternative, then essentially going to service termination is what you do. And the question, I guess, which thank you for segueing into, is are there ways to avoid that?

So in other words, the clearinghouse, under its current incarnation has failed. And so, one way of doing that, and Raj pointed out very early in this session that the PFMIs say, well, you should -- we need you to look to service continuity. And so, one way to achieve service continuity is transfer. And so, I guess the question is what are the ways that that can be fostered?

Remembering that part of the evaluation, for instance, under Title VIII for systemic importance for financial market utility is the lack of availability of alternatives. And so, are there ways to ex ante, build in, some things that will foster transfer?

Raj?

MS. RAMANATH: I want to go back to one of the statements I made earlier on in terms -- I'd go back to the statement I made earlier on in terms of there being prefunded resources, which are set aside for use solely in the context of resolution primarily because you do not want CCP, which is systemically important, to stop providing the service that it has been providing purely because of the destabilizing impact that it would lead to and the way we envisage something of that nature happening is by ensuring there are -- in concept it's similar to the bail-inable debt that a bank raises, that there is a certain amount of resource which is being held by a trust entity, which can be used to the extent that you see that the recovery process at the CCP is not going to lead to its continuity.

You might return to a balanced book, but you might not have the resources to reopen the CCP on the next day and in such a scenario the way you would see is you would transfer the key services, the critical services of the CCP to a bridge entity, which -- and that bridge entity would essentially be capitalized by the recapitalization resources, which are being set aside for -- explicitly for this particular purpose.

And to the extent that the continuity of the services being managed because of these resources, you would see a change in the ownership and the management of the entity to make sure that there's continuity.

MR. WASSERMAN: So, outside of a resolution process where you would indeed certainly have a transfer of control, but remember, we cannot -- that's outside of the scope for today, so how would you, as part of a recovery process, a process, that is to say, that works within the existing rules or the rules to be established, you know, in peacetime, of the CCP, how would you establish that bridge entity? I mean, I can sort of see how you might theoretically prefund, again, a -- what might otherwise happen through assessments, but how do you have that transfer of ownership and control?

MS. RAMANATH: I think one of the reasons why we speak about the transfer of ownership happening in the course of resolution is because we feel that needs to be significant regulatory oversight in terms of how the process works by itself.

To the extent that there's change in ownership and management, that is to be mandated; to the extent that there is a decision in terms of what services are deemed to be critical, what needs to get transferred, we feel that there needs to be significant regulatory intervention, which is the reason why we believe that that's probably a process that would happen as a part of resolution rather than a recovery because the way we see a recovery too, we see it as resources and tools available to the current CCP management and the challenge over here as you've already provided the entire layer of waterfall all the recovery tools that are possible to the CCP management, and that still hasn't been enough, which is why we are looking for a change in ownership and management.

MR. WASSERMAN: Sunil?

MR. CUTINHO: I think we have to figure out what problem you're trying to solve. If the problem you're trying to solve is making capital available so that the system recovers, then as we spoke before, Raj mentioned, there's five or more of the largest institutions -- global institutions have failed causing this large distress in the market, exhausting everything.

When institutions fail, their assessments are not available. So, if the whole idea is, you know, let's get some of those assessments ahead of time in peacetime and keep them somewhere. The best place to keep them is in the waterfall because we all want this -- we just concluded -- I mean, I'm seeing this reiterated again and again as recovery is much better.

So, if those funds are available in the waterfall when these institutions fail, then you have greater chances of recovery because you're not bleeding through the mutualized pool. At that point in time, all those funds are available. Those are defaulters' funds. They are available not only to help in the default management of the -- or to bring a matched book, but imagine we are porting clients and there could be shortfalls. We don't know what the situation is going to be. In those situations, capital at hand is very important to cure any losses, any deficits.

So, having them remote I don't think is a mechanism to help recovery. That's basically the point we're making.

The second thing is that if the problem is, okay, we need to do a transfer of service and you just pointed out there are no other service providers available but there are no other clearing options available, but what ex ante mechanisms can be put in place to have an orderly transition of service? Again, the question comes to, are those markets functioning? And those markets, you know -- and is the CCP as a going concern important for the market?

So, we just talked about mechanisms to keep functioning markets going and allowing more capital to come in. So, when markets are broken and you tear up everything, and you want to restart, it's almost like restarting a new fund. At that point in time, capital will come in and you can make decisions about equity ownership and things like that, but I don't understand why it is

important to -- at that point in time you have
terminated everything and we are restarting,
what's the -- what problem are we solving by
trying to get a prearranged transfer, so to speak,
which is your question.

MR. WASSERMAN: Well, let me press you
just for a moment on that first point. And so
what I heard you saying is -- and tell me if I'm
getting it wrong -- rather than having those
additional prefunded resources outside, it would
be better to have them inside --

MR. CUTINHO: Yes, in the waterfall.

MR. WASSERMAN: -- taking that as a
given, are you suggesting something along the
lines of cover two plus something?

MR. CUTINHO: Yes, not for every
institution. You know, we have something called
concentration margin, we spoke about it, it could
build upon this idea of concentration margin.
Concentration margin is meant to target, you know,
those entities that present concentration risks,
so you want to make sure that there is enough

collateral to cover that.

There are other forms of concentration in the market, maybe the percentage of clients that are being cleared or how systemically important an institution is, all kinds of other risks that an institution's failure can present to a market.

So, if the intent is, okay, if these large institutions fail and they affect multiple CCPs, then -- and their assessments are not available, then that capital or that assessment, might be a percentage of them, can be prefunded. They don't have to be used. They can be used in the right order. But if those institutions fail, you have that assessment at your disposal. This is not applied universally to every clearing member because you want to create an incentive effect. The incentive effect you are creating is to avoid the problem in the first place, so if an institution gets large and -- or has large concentration, just like concentration margin, you are providing an incentive for that institution to bring down its risks so it can reduce its costs.

So, you can avoid getting to this place -- avoid getting to the end of the world in the first place.

MR. WASSERMAN: So, what I'm hearing you say is that those folks who would have to prefund assessments, then, would be those who create the largest exposure --

MR. CUTINHO: Yes.

MR. WASSERMAN: -- basically, I mean, let's be honest, right, your largest clearing members --

MR. CUTINHO: Yes.

MR. WASSERMAN: -- so, if we were sitting over there --

MR. CUTINHO: Yes.

MR. WASSERMAN: -- would be the ones who would prefund --

MR. CUTINHO: Yes.

MR. WASSERMAN: -- not because of any particular credit risk today, but because in some hypothetical, systemic stress circumstance, they are the ones who would create the greatest stress?

MR. CUTINHO: Correct. And that is -- yes, and we are bringing this up only as an alternate -- if we think that these institutions are the ones that cannot pay their assessments and things like that, so when they fail, you cannot pay your assessments. So, if this is a big -- we think cover two is a good model, it covers a lot of risk and of course you are saying we'll have something about stress tests, and we just spoke about it as far as the context is concerned, we are confident that the current safeguards package covers a lot of risk and clearing has proven that through the financial crisis as well.

But if there is a big concern still about risk to CCPs, let's understand where those sources of risk come from and let's address them in a targeted way rather than the alternate that's being proposed.

MR. WASSERMAN: I'm going to recognize Kristen and then I would really like to move to the last question, which is the alternative to transfer and that is recapitalization. So, Kristen?

MS. WALTERS: Just a few quick points. So, I think the clearing process was very well tested during the financial crisis. I do think that at that time the products were simpler than they are today and there wasn't as much concentration of risk in large CCPs just even the fact that the bilateral markets, I think were at like 30 percent of activity versus more than two-thirds today. I think the assessment layer or the concept of contingent liabilities would be best replaced entirely by fully prefunded resources set aside.

And then I just -- I could not have said it as eloquently, Raj, but I agree 1000 percent with all of the comments that Raj made around resolution, prefunded, recapitalization resources held in escrow or trust, bridge organization, and new management to essentially leverage the operational infrastructure of a failed CCP. So, just, on the record, everything that she said, I would agree with whole-heartedly.

MR. WASSERMAN: Well, that gives me a nice segue because -- so, when you're talking about change in ownership, I mean, again, from my days more years ago than I care to admit, in insolvency -- insolvency legal work, not personal -- essentially what we're dealing with, you know, new value is what brings ownership is what brings control. Essentially what we're talking about is sort of a workout. And so, again, isn't this the way to deal with the fact that on the one hand your requirements may exceed the available resources, on the other hand, we can't make those requirements unlimited as commitments, but on the other hand, folks can come in voluntarily.

How do we foster that? How do we structure that so that essentially the kind of change of ownership and control and concomitant new value can best be fostered and remembering that we may have limited time in doing that? So, Raj?

MS. RAMANATH: Sure. So, I completely

buy your point about replenishments being voluntary and that members should have the ability to bring in those funds. I think considering the environment that we're facing where you've had multiple defaults, market is stressed out. The question is, do participants have the ability -- have they planned sufficiently in advance to be able to provide that kind of capital up front? And even if we look at the current assessment requirements and the capitalization requirements around assessments, I don't think any of us are required to capitalize any of the assessment calls.

Some of us may do that in a prudential manner to make sure that we have the balance sheet strength to withstand that hit, but to the extent that there are participants who do not capitalize the assessments, even though there might be a willingness and a desire to participate and to contribute initial capital at that point in time, that ability to contribute might not be there, which is one of the reasons why we feel that, to a large extent, a certain portion of resources needs to be set aside for a rainy day such as this.

And to clarify, we're not saying that -- we are not trying to take away anything from the waterfall or anything from the recovery resources that are there. The CCP already has the ability to call for those resources to the extent if you are more than covered to what's required or to the extent that if additional charges need to be levied by way of concentration margin, additional charges need to be levied by prefunding of assessments, those are rights that are already available and we are getting to this point only because all that planning has not been sufficient.

And when such large resources have vanished and it hasn't been sufficient to prop up the CCP, it's hard to imagine that at that point in time, members have the financial strength managing the stress to still contribute additional funds at that point in time. You are much better off planning for it in peacetime than trying to pull in those resources during the wartime kind of a scenario.

MR. WASSERMAN: So, let me see if I can press you just a little bit on that. So, essentially the waterfall is whatever is defined, I mean, agreeing, as I think we do, that whatever it is, it has to be very clearly defined ex ante. For instance, you could have a waterfall with assessment powers of 200 percent or 300 percent. Either one of them, you know, fits the bill in terms of being manageable, controllable. Okay.

What I think I hear you saying is, well, maybe instead of having a waterfall of 300 percent, and obviously those numbers I'm pulling somewhat out of the air, you would instead have a waterfall with 200 percent and then a 100 percent, again, of the prefunded -- the otherwise prefunded default contribution, would be held separately behind some figurative glass that would, once you run out of all the other resources, be broken. And then do I further hear you -- understand you to say, and by the way, if we get to that point, then there's going to be a change of ownership and that essentially the new value in question is a prefunded 100 percent of the default fund, which then, once you have to go there, is what flips the ownership control? Is that where you're going?

MS. RAMANATH: Kind of except that I would clarify that I'm not suggesting that we take away that 100 percent assessment -- 100 percent of resources coming out of the assessment of the clearinghouse. The clearinghouse has the right to right-size the resources, be it the funded guaranty fund or the assessment, and to the extent that it's being right-sized, it's being driven by stresses that are going to be discussed and decided. We think the clearinghouse has an absolute right to call for that and we are saying, independent of all the rights that the clearinghouse has, let us also set aside a certain amount of resources to be able to provide for a rainy day.

MR. WASSERMAN: Sunil and then Kristen.

MR. CUTINHO: Let's look at a few things and let's look at where we came from. At one point in time, you know, assessments were un-kept and there were multiple calls. We recognize and we accept the fact that you can't have unlimited liabilities for a clearing member. It needs to be transparent, ex ante, and so they can plan for it.

It is also a part of the credit review that you would perform on your counterparties, their ability to make assessment payments, their wherewithal.

But if we have a structure where there is capital sitting outside and then, you know, getting to that capital will change the ownership of the institution then what incentive do market participants have to actually make sure that they bid in the auctions, they participate in the auctions?

So, you're looking at capped liabilities on one hand and ownership of equity on another. So, that is what we have to take into account. So, it's important to take into account incentive effects of these structures.

We spoke about the value of having

capital in the system versus outside the system from a default management perspective, but from an incentive perspective also. You know, it's important to keep in mind that having capital outside that will give you equity ownership of an institution also acts as an incentive. So, that is what we should look out for when structures like this are proposed.

MR. WASSERMAN: So, let me make sure I'm understanding where you're going with this. What I think I hear you saying is that if we create this sort of prefunded recapitalization fund, which would have the attribute of change of ownership, again, we've talked in many contexts about incentives, this would be creating an incentive for clearing members to defect from the auction and basically an incentive for them to let the auction fail and then -- so that ownership would then flip over?

MR. CUTINHO: It all depends on the value you're getting in two perspectives, yes. So, that should be taken into account. Yeah.

MR. WASSERMAN: Although, is there a limit to that in the sense that in order -- you know, again, this would be very strategic behavior, but it's possible, but in order to do that, they would have to be going through all of the prefunded -- all of the prefunded and committed resources --

MR. CUTINHO: Correct.

MR. WASSERMAN: -- to get to this last point, so that strategic behavior would be far from free. It would get them control of the clearinghouse --

MR. CUTINHO: Yes.

MR. WASSERMAN: -- but at a --

MR. CUTINHO: Price.

MR. WASSERMAN: -- substantial cost.

MR. CUTINHO: Yes.

MR. WASSERMAN: And so, I guess on question though is, you know, if in doing this, are we -- I've been hearing a lot in other contexts, particularly around a leverage ratio, of cost of clearing and that essentially we are doing things in various contexts that are having the effect of making it very difficult for firms, both large and especially small, to participate in clearing. And so, if we add to the amount of prefunded resources, are we not perhaps fostering that very same cycle of making it difficult to clear? Oliver?

MR. FRANKEL: Yes, we are. I will agree with Sunil's point that -- I mean, suppose we're in recovery and there is -- once you're in recovery you've spent all the default funds and assessment rights, and so, you're still relying on default management to work if in fact the end game were to take ownership, the cost there would be free, because the default funds and assessment rights would be sunk cost -- the assessment rights would be a sunk cost at that point, so I think Sunil's point on changing the incentives is the right one and it's a worrisome one. You really want recovery to work.

This wind-down issue can be handled in many ways. It's very much remote. Recovery is terribly remote. This is more remote than that. You don't want anything to compromise the effects and thus we are hoping and designing for recovery.

On the point about general costs, you know, prefunding assessment rights or other contributions, it would be very expensive. The chances of any of these things happening is extremely remote, by design, you know, I think the (inaudible) talked about probability of exhausting resources to be once every 550 years in any CCP, it's an extraordinarily remote thing that we're talking about. So, prefunding for that seems unnecessary.

Certainly at all CCPs, I think FIA -- I'm sure -- FIA is proposing -- is sympathetic to the issue and is proposing that clearing members are required by their regulators to provide in capital for two or three potential assessment rights at any time to strengthen the assessment rights. I think that's a reasonable and cost-effective way of providing more confidence that the assessments will be forthcoming.

MR. WASSERMAN: So, you want to change Basel 282?

MR. FRANKEL: Yes, yes. We made the same point to other -- but it may not be so much on Basel. If for the bank clearing numbers, yes, but also for the CFTC clearing members they need to -- in the computation of adjusting that capital and so on.

MR. WASSERMAN: Raj?

MS. RAMANATH: I was actually going to respond to the point around incentives and whether creating this additional layer of resources would really impact incentives to -- in terms of auction behavior. So, I would completely second the point that you made in terms of the size of resources that need to be lost before the ownership structure itself would change, and that, itself, would act as a disincentive for members to get to that point.

I don't think the point is for members to -- for participants to get some kind of ownership. I don't think members are looking to get ownership in CCPs. All that members are saying is to the extent that resources are being used, be it in recovery or in resolution, there needs to be compensation and the compensation has to -- in recovery we spoke about compensation as coming in by way of not just recourse to the defaulted members -- recoveries from the estate of the defaulted members, but also by way of recourse to future earnings of the clearinghouse.

And depending upon the level of earnings of the clearinghouse, it might not even be earnings, but it could be some kind of a debt or equity instrument. So, the change in ownership profile can occur even in a recovery phase, but that does not mean people are looking to get to the recovery phase as a reason to participate in the auction and therefore I don't think that just the change in ownership is reason for participants to wait to get to that point before providing the right bids. It doesn't impact incentives.

MR. WASSERMAN: Kristen?

MS. WALTERS: I agree, again, with what

Raj said. I would also say that -- so, the purpose of the prefunded recapitalization resources that are held separately is basically at a foundational level it's there to promote continuity of service. So, the reason that you actually would resolve the failed CCP, create the bridge organization, have a change in ownership is because, invariably, there is likely a failure in risk management at the failed CCP and given that a CCP is, by definition, a risk management organization, the new entity is basically there to provide confidence to -- so, you have to have sufficient funds to actually recapitalize the entity and hopefully once you've stabilized with the operations of the existing or the preexisting entity and the new risk management ownership that you would have more voluntary contribution.

The last thing I would say is, you know, the other alternative around this continuity of service concept is making sure, again, that we don't -- that there are more than one CCP available for all of these products, so the concept of mandatory clearing without more than one CCP is difficult because if you had that, we wouldn't have to be talking about these issues about resolution, you'd simply report your positions to another CCP, which is something that happens with FCMs in the futures market all the time.

So, I think, if I'm not mistaken, because we might have situations where we have only one CCP clearing a certain product, that you have to go into resolution in order to continue the service in a viable way.

MR. WASSERMAN: Let me press you on that just for a second because -- are you saying, let's say, two clearinghouses of equal capacity? Because one could see that a CCP clearing a particular -- you know, you've got two CCPs clearing a particular product. The fact that they're both clearing the same product does not mean that one could necessarily absorb the other.

MS. WALTERS: That's correct. I'm just saying that from a principles-based perspective, it's difficult to mandate clearing unless there are more than one CCP available. So, if you have that as a foundational element, then I think it mitigates some of the concerns around concentration of a very small number of CCPs in the market, which is one of our largest, I think, concerns as a fiduciary.

MR. WASSERMAN: Okay, and I will recognize Sunil and then Phil and then I think we really will need to end this session.

MR. CUTINHO: Bob, I want to talk about two things, first is I want to reaffirm what Oliver just stated. In terms of capital and assessments, we do have good rules in place and the thing about cost, you know, especially leverage ratio, those regulatory rules are the ones that can create problems such as concentration rather than solve problems that we are talking about.

The second thing is, I want to address Kristen's point. I think I've heard this a few more times. There is an assumption that we'll be at this place only because failure of a risk management at CCP and I would like to argue against that. You know, we set the context before, we said more than five or six firms have failed. It's an unusual market circumstance. And the risks that -- the shocks that we see are far in excess of what we have seen in the global financial service and global financial crisis as well as 1987 crash, or LTCM or all these events taken together simultaneously.

So, if you are talking about such extreme circumstances, I don't see that why it is failure of risk management of a CCP that will bring us to this place. We are at this place because we have exhausted -- there are firms that have defaulted and as these firms have defaulted, markets have broken down and as markets have broken down, we haven't been able to close out or auction out some of the defaulter's positions and that's what brings us to these tail type of events.

So, I'd like to put that on the record.

MR. WASSERMAN: And Philip, closing word?

MR. WHITEHURST: Yes, and I guess perhaps somewhat predictably I'm going to also take the view that, I think I heard it, invariably a failure in risk management. You know, I think that could be one of the reasons -- there could be a functioning marketplace out there and the CCP is failing to deal with that circumstance and losing money and clearly the CCP, on a secular basis, faced the consequence of that activity, but I think more likely, of these implausible circumstances is that there's a market failure and that, I think, is difficult to lay at the door of a CCP in isolation. It's more the context in which, you know, that product marketplace is struggling to find a level at which people want to transact.

MR. WASSERMAN: Well, this has been an excellent panel. I'd like to thank the panelists again. I want to give everyone a full 15 minutes. There may even be some cake left. And so we'll reconvene at 3:23.

(Recess)

MR. WASSERMAN: Okay. If we can mosey on back to our seats, maybe we can let us out early. And as we're finishing that process I do want to, by the way, put in a plug. I just last night read a paper that just came out this month from the Reserve Bank of Australia on CCP loss allocation in transmission of risk, which has some, what I found, fascinating conclusions on their analysis of how they thought it will generally not, based on the real data they were looking at, so I commend that to folks' attention.

Okay. So, our fourth and last session is on liquidity risk management and this tends to be something -- you know, folks tend to -- actually, before I start though we do have one new panelist, so I'd like -- John, if you could introduce -- two. Yes, two new -- so, John, if you could introduce yourself and --

MR. SAVAGE: Absolutely. I'm John Savage from Exelon Corp. I work in credit risk management alongside Phil, who was here earlier.

MR. WASSERMAN: And Suzanne?

MS. SPRAGUE: And I'm Suzanne Sprague from CME Group. I work in the clearinghouse with Sunil Cutinho.

MR. WASSERMAN: So, folks tend to focus a lot, and quite properly so, on credit risk, but an important part of the PFMIs is management of liquidity risk, and as we noted before, you are required not only to allocate fully all credit losses, but as well to allocate all liquidity shortfalls.

And so, liquidity risk can arise in a CCP when settlement obligations are not completed when due as part of the settlement process. It can arise between the CCP and its participants, the CCP and its settlement banks and liquidity providers, or even among the CCP's participants. And the manner in which losses or liquidity shortfalls are allocated may affect the ability of the financial system as a whole to absorb these liquidity shortfalls.

And I should note that liquidity is of particular concern to my colleagues from central banks, including our own.

CCPs hold highly liquid securities that can reliably provide liquidity on a next day basis. In the event of a liquidity shortfall, CCPs need to have highly reliable arrangements to convert such securities to cash in the requisite currencies on a same-day basis. Thus, CCPs may need to use tools to provide such liquidity that rely upon clearing members or subset of clearing members that are well-equipped to handle such demands.

There are concerns regarding the adequacy of such tools in light of the magnitude of the demand for liquidity. Moreover, there are concerns regarding potential performance risk. Will the clearing members meet their liquidity obligations during the time of need? And, importantly, systemic risk. Will forcing clearing members to do so, result in damage to the broader financial system?

The design of these tools and governance arrangements regarding their use might be able to mitigate these potential risks and so I'd like to start by asking: What are the burdens that these recovery tools, that DCOs might have, as part of their recovery arrangements, for instance, rule-based requirements that participants provide liquidity? What are the burdens that these tools may place on participants? Raj?

MS. RAMANATH: Thank you. In line with a comment that I made earlier in the panel discussions, one of the things we believe is critical is that we strengthen the front end system and with respect to liquidity risk management, I think it does -- if the CCP is going to take very high quality liquid assets, which retain value throughout the cycle, and these are subject to appropriate haircuts, then I think to a large extent you go towards avoiding the problem of liquidity risk management.

I think a key challenge that, as a bank, we face with respect to rule-based liquidity commitments is any committed facility that we are required to provide comes with it very significant implications in terms of RWA, in terms of liquidity cost implications, leverage cost implications, in addition to G-SIB requirements, and all these costs, when they are rule-based requirements, they are -- these costs are not really reimbursed as far as members are concerned because if you look at the way the rules are drafted, the haircuts that apply to these facilities that members are required to provide are mandated by the clearinghouses.

So, these are not clearly market negotiated. An additional issue that might crop up is whether the facility is mandated on all clearing members or in the interest of systemic stability are they targeted at select members who do have access -- who have broker-dealer affiliates. And the challenge with requiring facilities only from broker-dealer affiliates, while it ensures that from a systemic stability perspective it does not impact a certain set of members, it also creates an unfair burden on those members who are providing that liquidity purely because they do have access to the Fed discount window.

And clearly, any sort of liquidity production during a stress environment comes with a significant cost. It's not unlike assessments where just as assessments are something you can't predict how markets would react during a stressed environment, if you are providing liquidity in a stressed environment the cost of that liquidity is something that you can't predict up front, which is why as a firm we believe that we are much better off if liquidity is planned up front and depending upon whether that's cover 1 or cover 2 liquidity requirement, to the extent that this clearinghouse determines what its liquidity requirement is, and it allocates this requirement by way of higher minimum cash requirements, we recognize that cash has a cost associated with it as compared to posting securities as collateral, but at least up front we know what the costs are and we are happier taking that cost up front then facing an unforeseen potential cost, which arises during the stressed environment.

MR. WASSERMAN: Suzanne?

MS. SPRAGUE: Sure. Thank you. There's a lot to comment there and we wanted to first kind of set some context around liquidity for CCPs. So, we do acknowledge that in the PFMIs and the jurisdictional implementations of those, there is a large focus on commercially viable lines of liquidity, and so we at CME do support using commercially viable lines of credit in the event we think we won't be able to liquify collateral same day. There are a couple dynamics that are happening, though, one of them speaks to the costs, which Raj had mentioned, so Basel is placing increased capital requirements on commitments to those facilities.

The other really relates more to jurisdictional differences and what counts as high quality liquid assets. So, for example, in the U.S., U.S. treasuries cannot count on their own as liquid assets. There is a need there, in a lot of cases, for CCPs to be able to get a little bit more creative about how they will put together highly reliable and prearranged funding sources to support the need for liquidity for U.S. treasuries as well.

MR. WASSERMAN: Phil?

MR. WHITEHURST: Thank you, Bob. Yeah, so I'd certainly agree with Raj in that a lot of the burden on this work needs to be done up front, you need to have done your liquidity planning in peacetime so that you're not looking at placing stress on the membership during a stressed event.

I think another point I'd like to make is really around assessments and just, again, on a practical basis, what are the scale of those assessments. So, if you just forgive me for a second to talk a few numbers. If we have a member of a participant with a margin requirement of, say, 100 and typically you have default fund contributions in the region of sort of maybe 8 to 12 percent of those amounts, so let's say a figure in the middle is 10, in terms of the assessments that we make, we typically assess once there is a relatively limited erosion of a default fund so you've moved into depleting default fund resources, we would typically look to assess once there was a 25 percent depletion just as a matter of what's in our rule books.

So, the claim in that situation would be to assess a member for three units of margin, if you like, on that example, so 100 of IM, 10 of default fund, 25 percent erosion, that gives you three as assessment.

Now, if you look at the daily fluctuation in the initial margin of members, even off a static risk position you're typically getting a similar sort of fluctuation, which is to say, the 100 IM requirement will fluctuate typically between sort of 95 and 105, so, again, not to draw any conclusions from that, but just to put some perspective when we talk about assessments and the potential liquidity strain that they may place on the market, it's nothing that's really unusual relative to the typical movement in requirements from one day to the next.

MR. WASSERMAN: So, I guess, are you getting maybe into that -- what I had as the last question, which is that the magnitude of the liquidity hit is relatively small?

MR. WHITEHURST: Again, I'm not trying to downplay that there is that requirement, but, again, it's a question of scaling, I think, for people who don't look at this every day maybe thinking that these assessments are sort of out of the blue and of an order of magnitude that aren't typically experienced. It's just trying to provide a bit of context for that.

MR. WASSERMAN: And I suppose one other point to get on the record here, I think one of the things I think I may have heard you suggesting is, well, you know, maybe we need to look at increased liquidity from maybe margin. Is there any problem with having increased cash as margin? Suzanne?

MS. SPRAGUE: I think that's a good

thing to consider as well, especially with the OTC clearing mandate. We do have new sets of clients now that are required to clear new CCPs and those clients don't always necessarily have access to cash or treasuries, and so if a clearinghouse is to set a minimum amount of cash requirement or treasury requirement, then it has a couple of different effects. One of them would be that oftentimes the collateral transformation would happen within the clearing member itself, so if the client has non cash or non U.S. Treasury collateral that it's bringing to its clearing member, the clearing member then would need to transform that and post cash or Treasuries to the clearinghouse, which could potentially result in systemic risk building up in a different place in the clearing member.

The other potential issue there is, if you think about the ability for different clients to be able to access different clearing members and then the potential concentration of a particular asset that would build up in the clearinghouse, in a default scenario you would have the clearinghouse -- many clearinghouses around the globe going to the market to liquify only one or two types of collateral, which potentially could then cause another systemic risk.

MR. WASSERMAN: And before we move on, are there any issues with if the clients do post cash?

MS. SPRAGUE: Another good point. The Basel leverage ratio proposal or its final form currently also does require clearing members to account for their leverage exposure in terms of what is on balance sheet. Under some accounting standards, cash actually does sit on balance sheet for clearing members that they've collected from their clients. So, we have already started to hear that clearing members are no longer allowing their clients to give them cash, so that, again, places the focus back on securities and if the only choices are cash and U.S. Treasuries, then that leaves only U.S. Treasuries to be used as a form of margin and the liquidity requirements to support the high quality liquid asset nature of U.S. Treasuries would, again, probably loop back to clearinghouses getting or needing higher amounts of committed liquidity or needing to rely more on their members for committed liquidity.

MR. WASSERMAN: Kevin?

MR. McCLEAR: Thank you. ICE maintains high liquidity requirements. I'll give an example with respect to ICE Clear Credit. At ICE Clear Credit, we clear the credit default swaps. It's a systemically important clearinghouse. Forty-five percent of the margin in the guaranty fund requirement is cash, 30 percent is cash and U.S. Treasuries, the remaining 25 percent is U.S. cash, Treasuries, and G7 currencies.

So, we hold a lot of cash, but we have to do something with that cash. We do not like to hold that cash in the settlement bank for credit reasons. If the settlement bank becomes insolvent, the cash can disappear. So, we invest that cash overnight in reverse repos. They unwind the next day so we have our liquidity but we go through that cycle every day.

The more cash we have, the more burden that places on us to find counterparties for the reverse repos and we want to diversify, obviously, and we see that capacity tightening up because of the capital charges.

With respect to the U.S. Treasuries, we don't require our clearing participants to provide liquidity. We do have a credit facility with a parent, and for instance, with respect to ICE Clear Credit, 100 million of that credit facility is dedicated to ICE Clear Credit, but we think that with respect to the U.S. Treasuries, we should have access to the Fed for liquidity purposes.

We do not want to borrow from the Fed. We're not asking for access to the discount window. We just want to be able to put up our securities to the Fed and get cash back for liquidity purposes.

MR. WASSERMAN: So, on that point I

should note that while, first off, the PFMIs do not permit you to count as a liquidity resources --

MR. McCLEAR: Nor do we --

MR. WASSERMAN: -- extraordinary provisions of liquidity, and of course, under -- while ICE Clear Credit is systemic, you know, under Title VIII -- 806 -- I always get confused whether it's (a) or (b), is very clear that any provision of liquidity would be very extraordinary.

MR. McCLEAR: Yep. We don't think that's right, but -- so, what we are doing is, we're looking for committed repo counterparties, but we're finding that market to be extremely tight. It's difficult to get committed repo facilities in place, privately negotiat4ed, committed repo facilities. We continue to work on it, but it's getting tougher with the capital requirements.

MR. WASSERMAN: Bis?

MR. CHATTERJEE: Yeah, Bob, going back

to initial -- you know, how you framed it, you know, the issue of magnitude of liquidity and then the quality of the liquidity, I think I personally feel that, you know, assuming -- you know, a lot of assumptions on how we got to the stage where, you know, we need to be in recovery of continuity to the clearinghouse, I think, you know, going back to the financial crisis and, you know, the broker-dealer that went down, the challenge is, I think you could have a situation where a member or -- you know, when faced with a liquidity call, could probably meet it with some fair amount of assets it has.

The challenge is, if you make that call very restrictive on what you can give it, say, if you just say, no, I just want cash, nothing else, I think you might have a situation where you could actually probably create a technical or a cascading default because -- you know, going back to what you were saying, what if it's only cash and why do we rely on cash? And I think that's maybe in the due course of business, normal course of operations, normal course of like, you know, a margin being posted, whether it's an initial margin, variation margin, guaranty fund contributions, it's okay to rely on cash and -- you know, or very liquid securities or high quality, rather, I'd say, like treasuries. In a recovery situation, I think you may need to look at relaxing that a little bit because the danger is that if you insist on cash, at that very instant, you might have a member kind of similar to what Kevin is saying, that cannot convert collateral to meet that cash needs, it ends up missing the call and leading to a technical default.

MR. WASSERMAN: Well, let me press you for a bit on that. So, what Kevin needs, what Suzanne needs, you know, Phillip, in order -- the whole reason they're coming to you is to meet an uncovered liquidity shortfall. And under our rules, the PFMIs and -- they need to meet their obligation same day, in cash, in the requisite currency. I don't think you're proposing, or are you, that we relax that rule?

MR. CHATTERJEE: Well, what I'm saying is that at that point, you know, your options are either to relax that rule or to consider, you know, some kind of like a temporary kind of -- you know, saying, look, if -- let's say I, as the clearing member, am asked for cash, I don't have cash but I have another form of collateral, I'm giving that as a loan and saying I very well have to meet my cash obligation, I'm just giving you a loan and that, you know, with the full understanding that, yes, if I can't give cash today, your option is to declare me in default. The other option is, I give you another form of collateral as loan, which, you know, you consider that I would have to replace and whether I take it away from, you know, other facilities like, you know, initial margin that's already sitting there in cash, I'm replacing, you know -- so, I'm trying to get to that point where you have the ability as a clearing member to temporarily meet the call with an asset, but you're not waiving your right to saying, I'm going to, you know, replace it with cash.

MR. WASSERMAN: But I mean, here's the problem these guys are facing. We are making them pay in cash and, again, the reason why we're making them pay in cash is because, you know, there would be difficulties if they were to pay in kind rather than in cash. I'm guess you, as a clearing member, if Kevin tells you, hey, Bis, guess what, no cash today, but here's some Treasuries -- I'm guessing you might have a little bit of difficulty, especially when -- and then passing that onto your customers. Okay.

So, he's going to pay you in cash. So, he's got to get the cash from somewhere, so how is it going to help him if you're giving him something other than cash?

MR. CHATTERJEE: That's what I'm saying. So, this doesn't happen in the normal course of business, it would only happen in recovery, and then he would have a similar thing to go to his client or his end, you know, person on the other side, because he's sitting in the middle, he's just passing collateral from one person to the other. To have the same ability that, you know, I am meeting the collateral, you know, transfer, in terms of a temporary asset that I will then replace back with cash, because the options are, one, you keep on asking for cash, you don't get cash, and you declare more members in technical default. So, because, you know, if you have a very distressed recovery market like situation where there's tremendous demand for cash, not just in the clearinghouse, but away in the financial system as well, there is a lack of liquidity or cash in the financial system. But is there a lack of assets? And that's the point I'm trying to make is that, you know, you may have enough assets, you just may not have the right kind of assets that everyone wants.

MR. WHITEHURST: Bob, if I could? I mean, I think from our point of view, to your question, you know, should we relax that rule that we make timely payments of cash, I think we don't feel that's the right answer, we feel you've got to put certain things as certain. I think some of those -- that idea that we might accept something other than cash when cash is what we would normally require, it feels to some extent like the end of a wedge potentially. And I think what we need to do is plan around being able to service those timely payments, that's, I think, a really important thing that we should do.

We should then work on how to make sure that's possible and I think unfortunately maybe not ruling it out, but it's certainly very difficult if we're accepting the payment in of something other than cash. We recognize that we have to supply cash out because you have standard CSAs that require you to pay cash on so you might be reliant on what we're paying you, you may have positions in other CCPs that require you to pay cash in, so that, to us, feels like an important point to draw the line and to work around how to avoid us being in a position where we're not able to pay the cash out.

MR. WASSERMAN: John?

MR. SAVAGE: I was just going to highlight from an end user's perspective the ability to use letters of credit is obviously important and that doesn't fit in this mold, but from our perspective, we would love to post an LC for a portion of the exposure and then cash incrementally. So, you know, based on our bank relationships and how we're structured.

MR. WASSERMAN: Kristen and then Suzanne?

MS. WALTERS: On the liquidity topic I would just say that I think we learned in the financial crisis that this is one of the most difficult types of risks to manage and it's almost impossible to manage during wartime. So, I do think that up front management and planning around liquidity, I do think higher cash margin requirements, as well as high quality collateral all the time are requisite in order to really manage this risk appropriately.

MR. WASSERMAN: So, actually, before I

go to Suzanne, I just want to make a point here. The PFMIs require that the CCPs be able to meet their liquidity -- highly reliable arrangements to meet their liquidity obligations. They also require them to due diligence with respect to their liquidity providers. And so, I guess our -- I'm assuming you folks have done that diligence and that you think the members are reliable.

MS. SPRAGUE: Yes. I can speak for CME. That's part of our ongoing credit due diligence process anyways, is evaluating the credit worthiness of the clearing members. We did always look at the liquidity profile of the clearing members as well, that places a little bit more focus on that element of the credit due diligence process now that we are looking to members, in some cases, for providing that liquidity, but I do think it's important to make sure that that's part of the process whether it's committed liquidity from non-members or committed liquidity from the clearing membership.

And I actually just wanted to make

another comment on what Kevin had said before. So, we get into a little bit of a circular problem because if the clearinghouse is under regulations or incented through regulators to collect more cash, yet at the same time a lot of regulations require you to hold minimal bank risk, you get to the problem where Kevin was describing fewer and fewer places to invest the cash and things that you would traditionally be looking to use to preserve capital, such as overnight repo secured by U.S. Treasuries or lower risk investment products that are available, those, under the new capital regulations, are offered less and less or in lower amounts, and so the clearinghouse is placed in a position where they have to look for other places to be able to invest that cash and it should not be at the expense of preservation of capital.

But one of the problems that we're seeing is there are now also regulatory requirements for -- in some jurisdictions -- for the clearinghouses to have rules that allow them to pass on investment losses to the clearing membership.

So, the clearinghouse has fewer options of where to place that cash to the extent they're making decisions that are no longer of low risk and nature, then it's the clearing membership that is bearing the risk of those losses, which we think presents another systemic issue as well.

MR. WASSERMAN: So, before I turn to Raj, I mean, so what I'm hearing is the clearinghouses have looked to the members and said, look, we think you can do this, and I guess the question is, is this something where actually it is going to be a real problem or that it's going to be painful ex ante to make the arrangements so that you are sure you can do it in wartime?

MS. RAMANATH: Okay, before I address that specific question, what I wanted to go back to was one of the previous points Suzanne made about evaluating members ability to meet our liquidity requirements, and, again, when we think of a recovery scenario and we put it in the context of what exactly has happened in the market, we are speaking of a scenario where the largest members of the clearinghouse have failed and typically if you are looking at a rule-based liquidity requirement, typically your largest members who failed are also the ones you would otherwise have counted upon to provide liquidity and to the extent that they have failed, you are not going to get that payment from them, even from a liquidity perspective, which is the fundamental issue that you come to when you're relying on the same set of participants for both credit and liquidity sort of extension, which is one of the reasons why notwithstanding all the due diligence, if your members failed, chances are from a liquidity perspective you're not going to really get that amount.

As far as the remaining members are concerned, depending upon the nature of membership base and the access that they have or the ability that they have to liquidate the collateral that gets posted to them, it might be a question of ability, it might just be a question of pain. If it's a member who has access, for instance, to the Fed discount window and there are Treasuries posted to that member, it's a question of pain, it's possibly a question of additional cost in terms of what is the haircut rate at which Treasuries are being posted to the member relative to what is the haircut at which you get cash from the Fed, and that discount -- that difference is probably a pain value to the member, but that's only one set of the population.

If the liquidity requirement is supplied uniformly to all members, which is the case in some CCPs that we've seen, then there are going to be members who do not have access to the Fed and the ability of those members to provide that liquidity or to support that liquidity requirement is going to be a function of whether they have those back to back arrangements and therefore are they able to generate that liquidity in short measure during a stress environment. Or, if not, they are not going to be able to provide that liquidity.

So, I think it's a two-pronged approach and it's not just one problem of cost alone.

MR. WASSERMAN: Let me just press on one additional point. At one point -- you've alluded to the difference between the haircut at the discount window and the haircut at the CCP. Is that a problem? Do the rules, as you currently see them, suggest that that's likely to be a problem? Or is that a more theoretical issue?

MS. RAMANATH: That's a good question. So, the way the rules are drafted, it's going to be the haircut -- the haircut at which the CCP posts securities and, Suzanne, you can correct me if I'm wrong, is the haircut that the CCP applies, and I'm sure the CCP would do its best to make sure the level of haircut that applies is relative to the market and therefore, to a large extent, is aligned to what the Fed is applying. But nevertheless, there's no guarantee that it would be exactly the same and therefore the potential for that problem does exist.

MR. WASSERMAN: Suzanne?

MS. SPRAGUE: Sure. Maybe I'll just give a little bit of background for folks that aren't necessarily familiar with the rules that we're talking about.

So, CME recently implemented the ability for U.S. Treasuries to substitute in the event we have a clearing member default who had Treasuries on deposit and we couldn't sell, which is a very rare event as we've been talking about for most of the panels today, it's a flight to quality asset and generally any market issues that we've seen in the past are related to lack of supply, so more buyers than sellers, an CME would be a seller in this case.

So, what we've done is implement a rules-based approach whereby we could use cash that is deposited in the guaranty fund by non-defaulting members, substitute in the Treasuries of the defaulted member, and thereby impose a limit on the amount of exposure any one clearing member would be subject to by nature of their guaranty fund requirement.

So, it's a way for us to be able to provide highly reliable and prearranged funding sources for U.S. Treasuries. It also, though, is capping the amount of exposure any one clearing member has. In addition to that, should the clearing members that are not in default have posted Treasuries themselves to the guaranty fund, we also have the ability to ask them to exchange it for cash. And we can then substitute in the Treasuries of the defaulted member for the cash to use in the temporary liquidity event.

The way that we've constructed that is post haircut and so in the crisis scenarios we've seen so far, the price -- the value of Treasuries generally increases and so that gain would be at the clearing member's advantage and then they are free to choose to sell it if they would want to or we do have a mechanism in the rule by which we would agree to exchange it at a later date as well.

So, we think that the incentives are aligned in terms of a high quality liquid asset being provided in that time as well as the potential for increased market value in a time of stress. We also think that it's important to take into account the clearing member's ability to manage those Treasuries and so we have further refined the part of the rules that allows us to require the clearing member to put in cash, which would then be substituted. We actually look to clearing members that are affiliated with U.S. Government securities broker-dealers, so they do have the expertise to deal in Treasuries and have, in times of stress, been able to provide that additional market capacity as well.

MR. WASSERMAN: So, before I turn to Philip, let me just press you just for a bit, because as I understood Raj's point, she was not concerned that, in fact, the value of the Treasuries would go down. What I heard her saying was, well, look, we get those Treasuries -- some folks, who might hypothetically have access to the

Fed discount window, would get those Treasuries and there is a haircut they're going to be incurring there, and so in terms of their liquidity arrangements and their balance of liquidity, if your haircut is less than the haircut they're going to be incurring on the day, that's going to cause some marginal liquidity problems to them even if, in the fullness of time, actually, the value of those U.S. Treasuries goes up.

MS. SPRAGUE: Yeah, and at least for CME we're pretty closely aligned, I believe. I don't remember the exact numbers off hand in terms of what the haircuts are at the Fed, but it is a consideration that we make to evaluate our haircut relative to that that could be posted to the window. We also align them with our commercial credit facility that we have in place, so largely the haircuts that are -- 27 banks that participate in that facility have vetted prior to the renewal of that facility, we are cognizant of the fact that that facility, in a lot of cases, would be

used on the other side by posting that collateral
to the window as well.

MR. WASSERMAN: Phil?

MR. WHITEHURST: Yes, and I was going to say, really, I guess there's a -- you know, other CCPs have alternative approaches. In the case of LCH, we tend to take our default fund contributions as cash, so I think you've then got to look at, you know, what's the pros and cons of that. On the one hand you've got the flexibility with the CCP that takes something other than cash and then has to potentially reverse out of that versus a CCP that requires cash for the guaranty fund initially, and I guess, to an extent, that's the beauty of competition, participants are able to look at which of those arrangements they prefer the look of and possibly clear their business according to that. So, there isn't only one way to skin that particular cat.

MR. WASSERMAN: Well, I guess the question is, does that end the issue? Because even if -- let's assume -- if I'm hearing you correctly, your default fund then is in cash?

MR. WHITEHURST: That's right.

MR. WASSERMAN: But your liquidity -- cover one liquidity may be greater than the default fund simply because of that also includes the collateral of the defaulter?

MR. WHITEHURST: So, obviously, having the default fund in cash does not in itself solve the liquidity issue. There are other ways in which we meet our liquidity needs, but just on that particular point about the default fund.

MR. WASSERMAN: So, getting towards the end of this, the question, I guess, is, what are the broader -- what is the magnitude of the broader financial risks? In other words, are the issues we're dealing with here marginal ones, you know, some difference -- or not, but assume there is -- some difference in haircuts?

I mean, I think I heard Phil saying a bit earlier that, well, look, the amount we're going to be looking for from folks in a liquidity provision compared to the losses they're potentially incurring on their positions in a large market move may be relatively small, that essentially, you know, the one thing that is not open to question, and this came, I think, to us at least very clear in the recent Swiss Franc incident, where essentially there were some very large movements relative to margin and, you know, essentially folks had to make and, in almost all cases, very reliably did make those payments in cash.

And so, am I right in saying that, you know, it's not clear to me, but maybe folks on this side will correct me, that the magnitude of the potential demand is systemically large relative to the Treasury arrangements you have to maintain to meet unexpected, extraordinary variation payments, which absolutely have to be made in cash? So, where am I getting it wrong?

MR. WHITEHURST: Bob, if I could interject. Obviously, the -- I think, again, there are two separate issues here. So, on the one hand the sort of practical example I gave earlier was about assessments in the event of a default fund depletion. I think in the Swiss Franc move you just described, that is a VM driven situation and those sorts of moves can be potentially larger. So, you know, I'm not necessarily -- I wasn't wishing to suggest that there are small liquidity requirements in the case that markets move a long way, but that can happen absent any default situation. That's something that members in the ordinary course of business are exposed to needing cash to meet margin requirements on large market moves.

MR. WASSERMAN: And I apologize if I mischaracterized your comment, but it sort of inspired my own and maybe at the end you and I are agreeing that the arrangements members already have to have for Treasury, arrangements to be able to come up with unexpectedly large amounts of cash in order to meet variation margin requirements, are fairly robust relative to the potential liquidity requirements that might be imposed under these recovery plans. Is that a fair or an unfair assessment? Suzanne?

MS. SPRAGUE: That's the same conclusion that we've come to as well in looking at times of increased market volatility. The VM payments that are made either for house-only activity or customer and house activity are two to four times what the assessment power averages for the clearing numbers as well as looking at just the assessment power ability on the clearing members themselves, it's a fraction of the tier one capital of these entities as well.

So, although, as Philip mentioned, the numbers sound big when you talk about assessment powers being two times guaranty fund, five times guaranty fund. When you actually look at the dollar amounts compared to the financial payments the firms have made historically, it is a fraction of that.

MR. WASSERMAN: Phil?

MR. WHITEHURST: I'm sorry. That's a legacy tent up. I apologize.

MR. WASSERMAN: Bis?

MR. CHATTERJEE: Yes, Bob, the only thing I'd say is, if you had a clearing system where the only people that were posting the need for variation margin and it was in cash, was just the clearing members who, as Raj said, probably have liquidity arrangements in place that they can convert various kinds of collateral to cash. I think that kind of system would probably be okay even in a stress situation. But to the extent, and this is where maybe I hate to call on Kristen, but other end users who also have to meet their variation margin, you know, calls to the clearing members into the clearinghouse, a lot of them rely -- they don't have access to Fed windows, you know, a lot of them rely on third parties, some of it could be the clearing member themselves or some of it could be other arrangements to convert this cash. In a -- you know, going back to the Lehman situation, if you had various parties that were relying on someone like Lehman for the collateral transformation, providing them cash, you know -- and again, we're talking recovery, we're not talking normal course of business -- one of the clearing members defaults and you're trying to clear a recovery, you don't know where the other clearing members are. So, you might have a situation where some of these end clients might or might not be in a situation where they're not as sure as the clearing members themselves to be able to convert their collateral into cash and meet that cash requirement.

So, you could have a situation where, yes, you know, if the members -- direct members themselves, have free access to Fed windows or other collateral arrangements, yes, it's probably not that big of a problem, but down the chain where you have other participants in the market who, you know, may rely on a bank for a letter of credit or may rely on a dealer to convert their securities to cash in a repo situation, that might be where the trouble actually is.

MR. WASSERMAN: Well, let me press you on that just for a bit because I know from the residual interest debate that you cannot reasonably expect your customers to post cash with you until 6:00 p.m. tomorrow, next day, 6:00 p.m. Okay. The demand that the clearinghouses are making then are actually it's not going to be on, in any event, the customers. They're only going to have to pay their variation losses. And, again, not until 6:00 p.m. tomorrow, so it's still in the next day realm.

The clearing members, on the other hand, and in the case of Suzanne, she's tried to, I guess, find folks who seem likely to have arrangements to get liquidity, so she's looking to you. Meanwhile, I know when Suzanne and the Swiss Franc case or somebody else in some other case calls you, you're going to have to be fronting the money for your client, who's not going to pay you until tomorrow, and so, I guess, that -- what that's telling me is you have some fairly robust liquidity arrangements on a day-by-day basis because, of course, you never know when the Swiss National Bank is going to get frisky, and so you've got to be prepared, and so if you are prepared, because you already have those arrangements to meet those needs, then aren't you sort of covered for the kind of things that might be happening as part of a recovery plan? Where's the disconnect?

MR. CHATTERJEE: So, the disconnect is -- you know, is to clearing members' clients, the kind of assets they have, because not all of them are holding Treasury assets. They invest -- you know, they have investment portfolios and in a lot of cases they rely on people to transform that collateral for them, either temporarily or in a case of need to sell it and generate cash.

So, if you have a recovery situation accompanied by a market stress situation where you have certain assets, you know, let's say someone holds a large quantity of Swiss Francs and is waiting to sell them, suddenly finds the value drops 20, 30 percent, in that kind of a combination situation, you have a problem in the market that waiting a day doesn't cure it.

So, I think, you know, like I said,

going back to the simple example of just a clearinghouse and the only people clearing, the only people that have obligations are the clearing members who our bigger institutions have access to better sources of liquidity, I think the problem is fairly self-contained.

But when you take it a step down and you look at the assets and the process by which end clients convert those assets, then you might have a bigger situation is what I was trying to put across.

MR. WASSERMAN: So, two things. So, I take it then you think that the approach that CME took in terms of trying to limit who they -- which of the members they were going to look to, while perhaps in some sense unfair putting differential burdens from a -- if, you know, a reliability perspective and perhaps even a systemic risk perspective, sounds like it may have been the right decision?

MR. CHATTERJEE: I personally see it helping out in certain situations but, again, to

-- not knowing -- because it's not just an issue of liquidity. This is a combination of market conditions, of market risk, and liquidity. So, to then -- you know, possibly -- you know, I'm not saying that, but let's say if you have a situation where somebody is like, why are you cherry picking certain people, you know, you may have to live with trying to explain why you picked certain things because your assessment was they could convert the collateral or they could take the collateral imbalance issue. I think that's what you would be wanting to deal with.

And so, if you inaccurately assess that someone can do it but they cannot really, and so as a clearinghouse you need to have that much transparency into the clearing member and their facilities and their operations.

MR. WASSERMAN: Okay. Further questions or comments on liquidity? Raj?

MS. RAMANATH: I was actually going to go back to the point that Kevin made about central bank access and that's probably a point that's worth exploring in terms of whether it is possible for CCPs to have access to central banks on a routine basis.

If you look at CCPs globally, I think, LCH, for example, in Paris, Eurex in Germany, or BMF in Brussels, and there are those CCPs out there as well who have access to central bank on a routine basis, such that their reliance on third parties for liquidities minimal to zero and what it does is it provides confidence to the clearinghouse that at the time that it requires liquidity, it's not dependent upon some third party performing and that it necessarily has access to that liquidity and it gets that.

So, I was just wondering if that's something that's worth exploring, because that's, again, something that the IMF had raised in their report that they released back in January.

MR. WASSERMAN: So the one thing I can say is that this institution has no power in regards to your request. Phil?

MR. WHITEHURST: Yes, I was just taking

up that point. I think it is something that we feel is potentially important and, again, just to clarify, this is not the central bank as a lender of last resort, this is central bank access to convert the highly liquid assets that we might have into cash for liquidity purposes, but we're supportive of that type of access.

MR. WASSERMAN: Suzanne?

MS. SPRAGUE: I'll go back to, just again, the full picture that's being painted, so clearinghouses should take in cash. Otherwise, if they take securities or non- cash assets, they should have liquidity to support that, but then they take the cash and they buy something and it turns it back into a non-cash asset because they're trying to mitigate bank risk, and so it does pose the question of, what are we trying to achieve and are there other ways that we should be trying to approach that.

MR. FRANKEL: Exactly. So, the Bank of England has offered its sterling monetary facility, in particular it allows EU to start UK, but the plan is EU recognized CCPs to have a bank account at the central bank, which allows them to place their cash there and not take on the reverse repo risk.

The reverse repo risk worries me in that when each day in the settlement cycle the CCP has to work its way out of the reverse, it is for that settlement cycle, exposed the bank money, and if the settlement bank defaults at that time, not only does it take away all the cash margin -- not only does it expose the CCP to all the lack of variation margin is paying on the trades and the need to liquidate them, but it's also running away with all the cash the CCP had and had invested.

This is a double risk there that -- resorting to -- using a reverse repo creates, having a central bank cash account is a lot safer.

MR. WASSERMAN: So, I should note that the PFMIs require CCPs to use -- to settle in central bank money where that is practicable. Obviously, not where it is not practicable.

Are there -- does anyone else have

anything to -- Kevin, I'm sorry. Yes.

MR. McCLEAR: I was just going to make a quick point on the lodging of cash at the Federal Reserve. There is a provision that allows systemically important clearinghouses to apply for an account, and we have applied, I think we're getting closer to being approved, but that would alleviate the concern that Oliver raised with respect to our cash. We could post our cash up at the Fed. We think all clearinghouses should have that type of access, just not ICE Clear Credit or systemically important clearinghouse.

MR. WASSERMAN: Okay. Anyone with any other comments on this topic? Or on anything else we've raised today? Or are folks -- have we exhausted ourselves?

In which event, closing remarks can be relatively brief. Thank you very, very much, especially to those of you who came twice for this, to the panelists, and thank you very much to the audience. I certainly speak for myself and I'm quite sure I speak for my colleagues when I say that we learned an incredible amount today. I think we're going to learn even more when we look at the transcript in a little while, because I always find that when I look at the transcript I find things that I didn't remember, but I think this has been an incredibly productive day and I deeply appreciate all of you and I will turn it over to Phyllis.

MS. DIETZ: And I just wanted to say thank you for coming also and I deeply appreciate Bob. He really studied up and read all the white papers and came well prepared. So, we certainly appreciate it.

And, you know, I would just like, in closing, to just I think come full circle and touch on something that Chairman Massad said this morning, which is, the goal is really never to get to this point of recovery and resolution and I think that we do our part as regulators with our regulation and oversight, clearinghouses do their part through their business practices and compliance with their own rules and clearing members have responsibilities as well, and so, I think it's appropriate to look at this from a much broader perspective and keep the thought in mind that we should keep doing what we need to keep doing and hopefully we won't ever really have to worry about recovery and resolution, although its an important topic and obviously we need to give it thoughtful and careful consideration. So, thank you, everyone.

MR. WASSERMAN: And before I let you go, Kristen made a very important point. As you may note from the press release here, members of the public or panelists who wish to submit their views in writing on the topics addressed in this roundtable can do so via the link at comments.cftc.gov and follow the instructions there and we're going to be receiving those -- staff is -- basically a month from today, April 20th, 2015.

Thank you all and safe travels home.

(Whereupon, at 4:27 p.m., the PROCEEDINGS were adjourned.)

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CERTIFICATE OF NOTARY PUBLIC

DISTRICT OF COLUMBIA

I, Mark Mahoney, notary public in and for the District of Columbia, do hereby certify that the forgoing PROCEEDING was duly recorded and thereafter reduced to print under my direction; that the witnesses were sworn to tell the truth under penalty of perjury; that said transcript is a true record of the testimony given by witnesses; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this proceeding was called; and, furthermore, that I am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.

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