UNITED STATES OF AMERICA

COMMODITY FUTURES TRADING COMMISSION

TECHNOLOGY ADVISORY COMMITTEE MEETING

Washington, D.C.

Monday, February 10, 2014

PARTICIPANTS:

Opening Remarks:

CHAIRMAN SCOTT D. O'MALIA (TAC)

ACTING CHAIRMAN MARK P. WETJEN

Panel I: Swap Data Reporting, CFTC Data Priorities and Path Forward:

JOHN ROGERS
Chief Information Officer
Office of Data and Technology

SAYEE SRINIVASAN
Chief Economist
Office of the Chief Economist

ANANDA RADHAKRISHNAN
Director
Division of Clearing and Risk

VINCE McGONAGLE
Director
Division of Market Oversight

DAN BUCSA
Associate Director, Surveillance
Division of Market Oversight

GARY BARNETT
Director
Division of Swap Dealer and Intermediary Oversight

Panel II: Commission's Concept Release on Automated Trading

SEBASTIAN PUJOL SCHOTT
Associate Director
Division of Market Oversight

PARTICIPANTS (CONT'D):

ROB CREAMER
President and Chief Executive Officer
Geneva Trading

CAITLIN KLINE
Derivatives Specialist
Better Markets

ERIC BUDISH
Professor
University of Chicago

STUART KASWELL
Executive Vice President and Managing Director, General Counsel
Managed Funds Association

Panel III: Swap Execution Facilities/Made Available to Trade Determinations

VINCE McGONAGLE
Director
Division of Market Oversight

STEPHEN BERGER
Director, Government & Regulatory Policy
Citadel

MIKE HENNESSY
Assistant Vice President, Treasury & Capital Markets
Federal Home Loan Bank of San Francisco

SUNIL HIRANI
Chief Executive Officer
trueEX

ALEX EVIS
Head of Market Structure Strategy, Global Credit
Goldman Sachs

PARTICIPANTS (CONT'D):

Other SEF Issues:

SCOTT FITZPATRICK
Executive Director
Tradition

Closing Remarks:

CHAIRMAN SCOTT D. O'MALIA (TAC)

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P R O C E E D I N G S

(10:05 a.m.)

CHAIRMAN O'MALIA: All right. Can we find our seats and get started. Well, I'd like to thank everybody for making their second trip back to Washington for those who made it down here the first time, and thank you very much for rescheduling on a short notice so we could get this in before the comment period ends and before the TAC, the mandatory trading requirements take in, go into effect this Saturday. So it was important we try to squeeze this one in. And I apologize for starting on a Monday, but the schedule is what the schedule is. So thank you very much for making all the arrangements.

So today we have a very interesting three sets of topics. We have data, we have a concept release on automated training, and we have SEF issues. And we're going to focus primarily on the made available for trade determination that the Commission recently put out several submissions. Now of course I was trying to hold up a little bit so I could talk about Acting Chairman Mark Wetjen's efforts to be helpful on the data front. I'm going to go ahead and say it anyway even though he's not here, and hopefully somebody will repeat it to him so I get credit for that, but he has been a tremendous force in terms of kind of refocusing the Commission's attention on data.

And I appreciate his support and his willing to set up, willingness to set up this cross-divisional data group and so we can begin to identify and correct any problems we have in our data so we can be quite effective in our surveillance, risk management, and oversight responsibilities. I also appreciate the strong support for the comments made by Deputy Secretary of Treasury, Mary Miller. In her last two public comments, she's addressed this issue head on, said she's going to roll up her sleeves and fix this issue, so I'm grateful for her support. And she's committed the resources of OFR. So that will be a great leverage tool for us and provide some additional assistance to attack this data challenge.

So we have, we continue to work on our Office of Data and Technology SDR effort led by John Rogers working with the four SDRs that we have permitted to make sure that they're quite effective in transferring the data to the Commission, but there's a lot of work that has to be done. We have the relevant division directors as well as our economist and representatives from the Office of Surveillance and we'll hear from them as to their challenges and what's going right, what's going wrong with our data, and we'll see if we can help them out with fixing their problems. And certainly we'll want to learn more about their priorities as well.

Panel two, we've got a great discussion, something this committee has tackled I think from the very first meeting we had three and a half years ago, and that's the, what are the appropriate risk management controls for automated trading. And so we will attack that again, and we will talk about it. We, as everyone knows we have completed the comment period, well, we just reopened it again until the end of this week, but for the concept release on the advanced testing and supervision of automated trading, we received dozens of very good comments, and we will have a handful of those people that commented talk about the proposal here today.

And I am mindful of one of the questions that Larry Tabb actually posed to me. And one question that we'll be asking is, what is the problem that we're trying to fix with this. I think that's a good question and probably will be quite helpful in forming our discussion and our next draft proposal if there is to be one.

Panel three, the SEF issue, made available for trade has been a hot topic in a lot of publications, discussion around the Commission as well. DMO has certified several made available for trade submissions. The go-live date is next week or this weekend I guess is the actual date, but this is an important topic that people are trying to understand, and we have linked these benchmark products with -- these package transactions linked products, and there were a number of comments in the commenters that submitted comments that said, we have some concerns about operational, technical, and jurisdictional challenges with these made available for trade submissions and want to understand that.

Now I was a little frustrated when the first submission came out that it included package transactions because it never addressed this issue in the comment memo to the Commission. And in fact, in that document, the staff recommendations to the commission said, regarding package transactions, such requests are not appropriate for consideration within the scope of the Commission's process for reviewing a MAT determination. Well, if it's not then, when?

So that is one of the reasons why we had some urgency in scheduling this meeting. Thankfully the staff has also expressed an interest in reconsidering the package transaction and figuring out some of the technical and operational challenges with implementing package trades and we're going to have a package trade roundtable on Wednesday. So that, I'm looking forward to that. We'll obviously be able to discuss it extensively here and certainly on Wednesday. So maybe by the end of the week we'll have a pretty clear picture of what these products are and how we should address them going forward in a temporary relief process.

So those are the three panels we have today. Again, let me thank everyone for making adjustments to their schedule to be here following our snow day. Let me turn it over to the chairman for any comments he may have.

ACTING CHAIRMAN WETJEN: Thank you, Scott. Thanks for assembling the TAC group again today.

As usual a very good and interesting agenda for the day and number of topics that the agency could stand to benefit from this committee in talking through. A couple of points I wanted to make with regard to data, we've had the SDR reporting obligation now in place for a little more than a year, and we've been getting some useful information through the reporting obligations; but there has been a sufficient passage of time now where it's become clear that we could probably do even better.

And so Scott's been, Commissioner O'Malia has been very, very vocal about this, and I appreciate his commitment to making sure that we solve all of the regulatory challenges and problems we have that stem from our rules or otherwise, including this one. But it has become clear that we need to make sure that the quality of the data we are getting is as good as it should be and as good as what was envisioned by our rulemakings and frankly by what Congress, I think, envisioned for this agency. So it's entirely appropriate, given the passage of time now since the beginning of the reporting obligation, that we take another look at this and see how we can improve upon what's already been provided to us through the reporting, the regulatory reporting from the marketplace.

So we look forward to the work of this group we've assembled here internally. We look forward to the comment that we expect to get from market participants including the folks in the room. And we'll continue that process all in effort again to make sure we maximize the utility of the information we get. One of the things that was most important to me is that we, we're not going to be able to enforce these new reforms as well as we like unless we have high quality data, it gives us the very best picture of what's happening in the marketplace. So we're looking forward to that process being complete.

Secondly on the made available to trade submissions, and equally importantly if not more importantly the trading mandate on February 15th, this is obviously a critical moment for the marketplace, but also a critical moment for the agency; it's one of the last remaining deadlines, truly hallmark deadlines under Title VII. And as Commissioner O'Malia alluded to, we've been spending a lot of time in recent weeks, but even longer, sorting through some of the issues that have been brought to us and trying to figure out how we can do two things.

First is to maximize the level of trading activity on the SEF platforms or on a DCM, that's priority number one and that's what the rulemakings in Congress directed us to do; and then two, make the transition as orderly as we can. And there have been a number of key issues raised including with respect to package transactions that clearly present some challenges that we need to think through carefully. And all in effort, again, to make sure that as much transactions, as many of transactions as possible can take place on regulated platforms; but also to make sure that the February 15th day comes as relatively smoothly as possible.

So looking forward to the discussion later on today and at this meeting on that subject. And also looking forward to the roundtable as well on Wednesday. And I think we've learned a lot already, but I expect we'll learn some more by the end of the day Wednesday. So with that I'll turn back over to Commissioner O'Malia. Thank you very much again for everyone being here.

CHAIRMAN O'MALIA: All right. We're going to start with our first panel, which is made up of our division directors, our economist, the Office of Surveillance, and the Office of Data and Technology. We're just going to let them present on what they, what's going right and what's going wrong with the data. And then we'll have a Q and A after that and walk through that in our first panel.

So I -- let me, John Rogers, our head of -- Chief Information Officer in the Office of Data and Technology. He'll be followed Sayee Srinivasan, our Chief Economist. Then Ananda Radhakrishnan, the Director of Division of Clearing and Risk. Followed by Vince McGonagle, Division of Market Oversight. Dan Bucsa will represent the Office of Surveillance. And Gary Barnett will clean up with the Office of Swap Dealer and Intermediary Oversight.

So I will turn it over to you for, what, six presentations. So thank you very much.

MR. ROGERS: Thank you, Commissioner O'Malia. Good morning, everyone. Thank you. Can you hear me? A little closer, okay, all right good morning, everyone. Oh, that's better. Before I start, I will say that all statements and opinions are my own and do not necessarily represent the view of any Commissioner or the Commission. I'd like to start by talking about -- first technology challenge, using the remote here.

So I'd like to start -- I’m going to talk a little bit about three different subjects, specifically the harmonization effort that we have going on with the SDRs here at the Commission, a little bit about data that we collect under Part 20, and then lastly an update on what we are doing with the global trade repository feasibility study working group. The data that we deal with in harmonization is data housed at the SDRs. And the, it's something I've been here and spoken on a couple of times.

And here the key elements that we're looking at as it relates to harmonization, just as a fresher, we are focusing on standardization because obviously the ability to standardize on the data will approve the ability to aggregate and analyze the data, it will improve the data quality. And an example of that would be the LEI, which we've been working on for some time. Another example would be UPI. Another key priority for harmonization is consistency. And that's consistency within the SDR, itself, and then that's consistency across the SDR. So typically as we talk about the fields that we're looking at in our harmonization initiative, we're getting together and talking about what these fields mean and making sure that we all have a common understanding of that.

Another aspect of what we're looking at is in terms of capability. Not only do the SDRs house data, but they also have portals that allow us to utilize that data. And so as we look at the portals, we look at each one of them and see things that we like in each and make recommendations as to how those portals can be improved. So we're trying to achieve the highest common denominator of standardization.

The other considerations that we have, I've already mentioned the impact of global standards LEI and UPI, we're certainly looking at it from the perspective of how we might use the data within CFTC, so that's potential data uses. And we're very much aware of the impact on the people or the entities that are submitting data to us and focusing on the relationship of the SDRs providing data to CFTC and a bit less on the front-end process, but it actually does bleed into the front end of how data is submitted to the SDRs. And I'll touch on that just a little bit.

The other characteristic I would like to talk about as far as the SDR data is concerned, a lot of times people think about it as Part 45 data, but really it's much more than that, it's really Part 43 data, 45, 46, and 49, as well as optional data that will be flowing into the SDR. We're looking at all of that data. From the data that is flowing into the CFTC, we get what is called, what we call Part 20 data, futures equivalent swaps positions for commodity data. We are receiving that on a nightly basis here at the Commission, performing validations on that data here, and providing feedback to entities as to the quality of that data.

Now it's a little bit different than the activities that are occurring on the SDR data since the SDR is the entity that is holding the data, and so that validation is happening on that end. Excuse me.

What we've done as far as a team is concerned, is we have an interdivisional team made up of the representatives of the people to my right and left and their representatives and we are meeting with all of the SDRs. We have meetings that happen with all the SDRs in the room with us to talk about harmonization, to talk about how we can develop consistency in the data across SDRs, but we're also talking to each SDR individually so that we can focus very specifically on the things we can see that relate to an SDR.

So a little bit more detail when we're meeting with SDRs individually and then raised up at a higher level to ensure consistency when we talk to the SDRs as a whole. We're focused on the content of the data, not necessarily the delivery method, because each SDR has a different method of receiving the data into the SDR and we're really not talking about data coming back to CFTC at this point but rather the data that's in the SDR, so it's really not, the subject is not XML versions, FpML versus FIXML and that sort of thing, but rather more on what do we see in the data and how meaningful that is to us and how do we standardize across that.

Our work has been focused on credit so far, although there has been a little bit of a move into other asset classes actually taken up by the SDRs, themselves; but as we move past credit, we'll be moving into the interest rate asset class second, and then on from that point. The SDRs are responsible for providing action plans for each phase and by asset class to basically record when they will deliver the capability that we've agreed upon through our harmonization activities.

The outcomes that we are looking to get is to basically get each of the SDRs to provide data that allows us to compare across SDRs even if it means creating additional data elements within the SDRs so that we have that harmonized data element, because we're, as I said before, focused on data view at the CFTC and not elsewhere. So some examples of checks that we would be doing in harmonization would be an LEI analysis where we're looking at just how many well-formed LEIs there are in existence in the swap standard repository.

Another would be a USI analysis, and how is the USI both traceable among transactions, but then how well is it persisting within the records that are submitted to the SDR. So we would present the results of that to the SDRs as we go through the harmonization effort.

As it relates to Part 20, the validations are things that we've internally built, coded into our systems. We're constantly adding new validations into that data. We are rejecting data that is incomplete so that it can be resubmitted to us by the reporting party. And this is actually the first instance that we've had here at the Commission where in an automated fashion we're examining data and pushing it back if there are problems with that. And we're maturing that process as we go along.

An example of some validations we would do under Part 20 are to make sure that what is reported is only those commodities that are covered under Part 20. Another validation would be that the sum of the counterparty records notional values is not greater than the principals record of notional value that either should be, you know, roughly equivalent. So if it turns out that someone is reporting a counterparty, a total counterparty value that's greater, that's a problem.

In the future one of the things we're going to be implementing is if it turns out that the notional value that's reported doesn't match up with the strike price parameters for the future's equivalent commodity, then that would be something that we would object.

MR. MCGONAGLE: May I interject here just for a minute?

MR. ROGERS: Sure.

MR. MCGONAGLE: I just tapped John on the elbow to interject just for a minute. With respect to the Part 20 obligations and John's going into some detail about validation, but I think it's important that, because you're going to hear this from me a little bit later in the context of the working group, but to sort of step back and see how we've been thinking about this from a strategy perspective. And behind me, a few rows behind me, Greg Kuserk within the Division of Market Oversight, has taken the lead for our team to think about what the implementation and strategy around Part 20, we'll say clean up, is.

So, you know, how are we thinking on today the current state, and then how do we get to the future state. So where John is talking about validation controls and ensuring that, we have those entities who have reporting obligations, that they're complying with their reporting obligations. And to the extent that they are correcting errors that they've made, that we have a format in place where that error correction is either identified to us proactively or we have the systems in place to sort of clean that data up as we receive it. And the goal then to, is then to start to streamline where do we see repetitiveness with respect to data submission issues, how do we communicate that out into the community so that they can be corrected, and then also, frankly, how do we identify those entities that have a reporting obligation that are effectively not reporting as required under the rules, and are there, you know, do we have gaps because we've given out maybe certain no action relief.

Do we sort of have an understanding about our universe of Part 20 reporting obligations? And so while we're going through this data verification analysis, we are thinking, you know, next steps for implementation, how this data is supposed to be utilized, how can we best streamline a receipt of data that we feel has integrity, and then, you know, as part of the process, what do we do next. Is there guidance? Previously there were, a guidebook that was made available for Part 20. And how do we evaluate, on a going forward basis, for those who aren't living through the process because we haven't contacted each and every trader.

OPERATOR: First and last name followed by the spelling.

SPEAKER: Sure, Jessica.

OPERATOR: And then the last name?

MR. MCGONAGLE: I'm just sort of interested to see where this goes. And so leaving off, and then I'll turn it back to John to finish the communication with whoever is on the phone, the idea then that, you know, for guidance on a going forward basis so that we have our resources available not only internally but externally, so we're ensuring that those that have the obligation are complying with their obligation.

MR. ROGERS: Thanks, Vince. So yes, a lot of what we do is, you know, certainly from the Office of Data and Technology perspective is in partnership with the divisions, DMO is a major partner as it relates to Part 20. And Vince, that -- so I'll be a little bit shorter because Vince covered a couple of things that I was going to say, but thanks.

So in talking about the progress that we've made, is overall I would say that the harmonization effort between CFTC and the SDRs has been very valuable because we've been able to focus on the roughly 30 fields that are part of the first phase of the harmonization effort. It has certainly made the data more usable I would say. We are focusing on multiple phases of delivery. We have been focused on phase one, and the SDRs have provided action plans, and I'm holding them up just for a visual aid, that basically lists all of the fields out and the dates that they will be delivering that information. And so --

CHAIRMAN O'MALIA: John, is that public information?

MR. ROGERS: That is not.

CHAIRMAN O'MALIA: Yeah.

MR. ROGERS: So sorry. That's why I can hold it out at a distance and make sure any, no cameras were focused on it. But no, it's not. And but we are also simultaneously working on phases two, three, and four with each one having about 30 fields all in the credit asset class, and then we'll be shifting to the other asset classes. And the reason that it's 30 is to have chunkable things that we can focus on and deliver towards. And there's a long period of internal review be multiple offices within the Commission before they get issued. So phase two, the phase two list should be issued in the relatively near future followed by three and four.

I wanted to give you some examples of some of the improvements that have been made under the harmonization effort and specifically these are from the SDRs in question. So, for example, and this actually bleeds into a little bit of what I was talking about how the SDRs are not only focusing on the data being given to us, but also outreach to industry, even though we're focused on the relationship between us, for example, DDR has initiated a data quality review with industry to improve the overall submission quality and completeness across credit and FX asset classes. So even though we're focusing on credit, they are actually going a step further and focusing on that.

And they've been reviewing the fields as part of the phase one list in that process and have been conducting their own individual outreach to firms to review submissions so that the data can be harmonized upfront and hopefully flow into the SDR in a more harmonized fashion. They've also begun the process of reviewing the rates asset class. And then from the portal perspective, they've implemented a series of enhancements to the portal search capability on behalf of the CFTC's use of the data.

From an ICE Trade Vault perspective, they have actually implemented all of the fields that are in the phase one list. So there have been changes made to comply with the requests that we've made to improve the quality of that data. And they've been working with the ICE Trade Vault credit submitters to promote the use of LEIs and have gotten that up to a 90 percent rate of having valid LEIs. From a CME perspective, they've made improvements to their portal for reporting and access to data and increased system controls to access the data. So those are some examples of improvements that have been made.

From a part 20 perspective, just to give you a little bit of a context on it, we've received since July of 2012, about 500 million transactions. And we have built 62 validations to apply to those transactions. And as Vince has pointed out, you know, we are continuing to examine that data and will be looking to issue additional guidance in the future to enhance that integrity.

From a challenges perspective, I think that because we have lots of data and it is very complex, data consistency is still a challenge because we have focused on 30 fields in one asset class and we'll be focusing on a set of others, but there are other asset classes to deal with and we're talking about hundreds of fields here and lots of complexity in the data because there are lots of data relationships that we have to deal with. So the SDRs from their perspective are increasing the number of validations that they're putting on their repositories; but there are other issues around, you know, potentially identifying particular trade parties in the transactions that they have.

These are coming from, this is feedback coming from the SDRs, themselves. And one of the things that we've heard as commentary is no-action relief has created some challenges, because from the perspective, no-action relief is fine on one end, but it really leads to additional validations and things that need to be put in place in a pretty quick timeframe in order to get the data into the SDRs properly.

And then lastly, one of the comments that was made that the fact that there isn't a global UPI system, a product identification system, that has created challenges as well. From a CFTC perspective, some of the challenges that we see are the just understanding all of the different permutations of process flow of data as it flows from the submitters into SEFs, into DCOs, and into SDRs ultimately. So having, you know, continuing to develop that map, if you will, a process map is something that's a challenge. And then the data consistency, we would echo that. From a part 20 perspective, I believe Vince pretty much covered that.

So the last thing I wanted to mention was the global trade repository working group. It's an international working group. It's sponsored by the FSB, CPSS and IOSCO, they're the co-secretaries on this initiative. CFTC representing IOSCO and the European Central Bank representing CPSS. Our co-chairs, myself, along with Benoit Coeure from the European Central Bank are co-chairs. My, from CFTC our vice-chair is Srini Bangarbale who is our chief data officer here at CFTC.

There are about 25 countries that are represented on this initiative. And the focus is on if we think about harmonization from a CFTC perspective, the more repositories that are collecting data and trying to get consistency along those lines, this is, this concept is a global aggregation capability where repositories from around the world are potentially providing access so that from a global perspective, you know, financial risk can be assessed and stability can be assured.

So it's on, and it has definitely very interesting parallels to what we're doing here. Some of the things that are being focused on as part of this initiative is to think about the potential constructs for a global repository. One would be a central database, a big uber database that would hold the data, a logically separated data base; or just having regulators deal with other regulators when they need data.

So there are other issues from a business, legal, and technological perspective that are being focused on as part of this initiative. The website is up on the slides if you want to look at the report that's come out, it actually came out in February and comments are due at the end of February, and the final report is due at the end of May. So with that I'm done. I'd be happy to answer questions at the appropriate time, but right now I will turn it over to Sayee.

MR. SRINIVASAN: Thank you. So we're going to be, the task is to sort of to talk about what's working and what's not working. And so I thought sort of John was talking about things at a certain level of abstraction, and I'm going to get into something much more granular and which is the CFTC swaps report, the weekly swaps report. So I sort of have a question here to the audience and the panelists, how many of you -- sort of if you can raise your hand -- how many of you have actually seen any of our weekly swaps reports? Okay.

So I think this is a good opportunity to sort of educate people about what the weekly swaps report is all about, and we can also talk about the challenges we face in putting the report together and how market participants can actually use the report. So you access it from the main page here. You go to market reports and there is --

ACTING CHAIRMAN WETJEN: Yeah, please move away from the page very quickly. [Laughter.]

MR. SRINIVASAN: So this report comes out every week, it's a weekly report, and the report, it come out around, our team releases around 3:00 p.m. Eastern on Wednesday, so by 3:30, 4:00, it's up for the whole world to sort of see it. That is, that's an option for you to sort of make a subscription, subscribe to the reports, so when the report is released for public consumption you can actually go see it. There's a section at the top every week which talks about special announcement, and it's a space for the staff to highlight any sort of issues that we see in the data. And so I'm just going to walk through the latest report. The, it has, the swaps report talks about open positions and also gives the information about transaction data. And so there is sort of a lag. That is a 12-day lag in the data that's presented in the report.

And so I'll just sort of go through some of the tables and, you know, sort of encourage people to sort of go in and take a look at it at their own leisure. So if you saw what this table gives you is a gross notional outstanding, and we are talking about positions, this is some of the open interest equivalent from the futures world and single count. And as you can see, at any given time we give you data for the -- so this came out last Wednesday -- it gives you open positions as of January 24th and also for the prior four weeks.

And so this is the headline number. So you can see that the total interest rate, open positions in interest rate swaps is about 330 trillion dollars. Cleared is 194, and uncleared is 136. And it's sort of interesting to see on a week-to-week basis the numbers jump around. We have questions about why this happens and at times we have explanations for why it jumps around and there are times we don't have explanations for why things in the numbers jump around. We don't massage the data. Whatever data we get from the repositories, we just sort of aggregate them and push them out.

We also break up the interest rate swaps, a category of interest rate swaps called the cross-currency swaps, we have a line item for that. Those are not subject to mandatory clearing so none of it is cleared. The other number which we aggregate is the total credit default swap data. And we also give information for FX, equity, and other commodities; but a warning, those are estimates. It's where we are today, it's sort of a, we're not in a position where we can actually work with the data.

It has, the staff has spent over a year working with the various SDRs to clean up the data for interest rate swaps and for credit default swaps for us to even calculate the notional amounts. When you go beyond IRS and CDS, say in FX and equity and commodity, there's a lot of commodities -- there's a lot of options transactions which happen and options positions. And the data is not cleaned, so if somebody does, say a longer dated crude oil options contract, it's a swap, but they just say that I have a position for 50,000 barrels of crude and here is the strike price and here's the expiration.

It's difficult for us to figure out what's the notional amount of the trade. So we are sort of working with the SDRs to sort of figure out how to compute the notional amounts for it, but we are not there yet. But the plan is, you know, we have a decent handle on the data for rates and CDS and progressively we have started working on the commodity, equity, and FX. And as time goes by, we'll be able to actually report the actual notional amounts of open positions for the other asset classes.

CHAIRMAN O'MALIA: Sayee, do you have timetable on whether you're going to be able to be more precise on the next three?

MR. SRINIVASAN: I wish I had, but really it's very, very difficult. As I said, there are very few standards here. We have weekly meetings from my, our office and also from staff from DMO. We are looking at the commodity options

-- the commodity swaps. And the data is all over the place. And even we'll be looking at certain slices of the equity swaps. For instance, we looked at variance swaps, and there is no consistency in the industry in terms of how they report the values.

So not making any commitments, but as I said, we spent over a year working on IRS and CDS. And in those two markets from what we understand, there was already a lot of standardization within the industry, so we could leverage off it, but as for the other assets classes, from what we understand, there isn't enough standardization within the industry. So we can just sort of work off what work has been done by the market participants.

So that's essentially, we have a dependency on the market participants and then coming up with some standardization. But right now our main point of contact on these things is the SDRs. So we talk to the SDRs, and the SDRs in turn work with the market participants.

CHAIRMAN O'MALIA: Can you briefly summarize the process in which you receive this data?

MR. SRINIVASAN: Sure.

CHAIRMAN O'MALIA: Do you go into the SDR and just pull it, or do they prepare it? What is the process that leads up to this? Briefly.

MR. SRINIVASAN: So initially we spent some time, initially we downloaded all the raw data from the SDRs. And then we worked with the SDRs and they actually collate the data for us at some level of aggregation and we download it from them. We go to the websites, and we download the data. So there are three different SDRs now, and we sort of download from each one of them. And then we have standard code which we are using to process the data. And there are a number of checks and then we do some data validation, and if we have issues with it, we sort of, if we need to go back to the SDR, typically it would be something where somebody does, say a 10 million Korean -- 10 million U.S. Dollar Korean Won swap, but the market participant would have reported it as a large, the Korean Won denomination would have been in the U.S. Dollar field.

So we find issues like that. There are times when the SDRs will find issues which they will sort of flag to us, and so we sort of work both ways. So it's, the SDRs do some -- they collate the data, they generate reports for us, we download it, and then it's a process of collating the data, cleaning it up, and putting it out. Where we are, it takes us, there have been some reports in the press that it takes two staffers a full week plus to sort of do this report. We have been working with ODT to automate the process as much as we can. As I said, we have full -- two staffers working full time on it. And the plan clearly is to sort of automate it as much as possible.

So this is sort of, you get the gross notional. And then I'll sort of talk about the transaction volume, which is sort of also very interesting. For transaction volume, we give both the number of trades, the trade count as well as the notional amount that's traded on a weekly basis. So this is the number of trades that happened, and this is, the break up is similar to what you saw earlier for notional. So you see that there were about 21,000 transactions that happened for interest rate swaps and about 14,000 plus of them were cleared.

And similarly we do the calculations for total currency IRS and for total credit. We also give information by participant type. And participant type, essentially we break it up between SDs, MSPs, and others. And as you can see, say for interest rate swaps on January 24th, most of the volume was by SDs, MSPs, and others.

Nope, I don't want to give any feedback now. The swaps of assets class is also available. So once again, we give only for interest rates and credit default swaps. I'll sort of take a moment here, the, there's a challenge we face when we work with the, through the data in terms of the taxonomy that's in place for identifying different swaps. From what I understand, there is this ISDA taxonomy that market participants are using when they report the trades and which the SDRs also follow, but it's not granular, there is sort of the truncation of the description at some point in time, at some level, I guess.

So what we have seen and what we're comfortable with is, you know, aggregating data in terms of basis swaps, cash flows, debt options, exotics, fixed-fixed, fixed-float, FRAS, inflation swaps, OIS, and swaptions. And one of the things that we had to be sort of careful when we put this together is that we have to comply with the Section 8 requirements in the Commodity Exchange Act which basically says that, I'm sort of paraphrasing it here, that we can't be sort of revealing the trading strategies of any market participant.

So we have tried to sort of get more granular at points in time, but if we think that we're running the risk of, if there is just one trade that has happened on a consistent basis by a particular asset class, we run the risk of letting the market know that here's this person who is sort of identifying an individual potentially or individual firm who is doing the trades. So we put it under the other category.

The, we also show by product and currencies. So once again, you can see most of the activity tends to be in U.S. Dollar and in Euros. And this information is sort of useful for multiple purposes. There was a call a couple of weeks ago on OIS and how the OIS could be sort of a good benchmark going forward for the LIBOR for instance. And so the question came up as, do you see any transactions in the OIS. So I just had to sort of go on to our website and say, this is the transaction that we see, the transaction column that we see in the data. So now if you see that on the USD that you just have 73 trades a week, is that good enough? And is the market liquid enough as a benchmark? We also show volume by tenor and by product. And once again, as you can see, I'm just focusing on OIS here, most of the activity is in the shorter tenor.

I’ll show the data for credit default swaps. Once again you have for index Europe, North America, Asia, and others. There is a lot more that we can show in terms of the index and sort of get more granular into the data, but we are at a point wherein the data is not clean enough for us to sort of get more granular. But once again, we're working with the SDRs and as time goes by, we'll be sort of able to show more details. We also show data by grade, by market participants. And we haven't been able to show data by tenor here because I think most of the activity is in the five and 10-year.

And I'll wrap this up quickly by showing the couple of tables we have for the notional volume that is traded. And this is the transaction dollar volume aggregated by the different asset classes. And once again, you can see most of the rates volume is getting cleared, and also in terms of credit default swaps, most of it is being cleared. So if anybody at any point wants to sort of figure out how much of it is getting cleared, you just go to our website and do it. I don't think -- this is data which only we have access to. And I don't think market participants have access to it, so the data at this level of granularity, so I think we sort of encourage folks to sort of use it and have a more informed discussion about what's actually happening in the marketplace.

And swaps by asset class, once again, I showed you the trade count, and you can also see data by product and cleared status in terms of notional volumes.

CHAIRMAN O'MALIA: Sayee.

MR. SRINIVASAN: Yeah.

CHAIRMAN O'MALIA: Can you breakout package trades out of this data?

MR. SRINIVASAN: Good question. The, there's a challenge involved in package trades. And with, even the -- when the package trade -- we understand that there's a lot of transactions which happen which are package trades essentially when you sort of -- let me give you an example, if somebody does a butterfly, a butterfly in terms of a crude oil option trade or a butterfly trade, it has four legs to it; and when you negotiate the trade, it's negotiated at a particular price, and then when it gets reported to the SDRs, from what we understand, the dealers break it up into the individual legs and report the legs to the SDRs.

And there is, there's no field in the data that's sent to the SDR highlighting the fact that these component legs are a part of a single strategy. So once again, we are sort of working with market participants and SDRs to sort of come up with solutions to identify this issue. We have the same issue in the DCM world also. There is a large fraction of trades in, say, the Euro Dollar futures and also the options in the marketplace, which are strategies where people are executing, negotiating these things, trades as a package; but when it gets sent for clearing, they break it up into the individual legs.

In the DCM world, there is at least a flag in the data we get which says that this trade was part of a spread trade. And they might even identify what type of spread it was, but it is impossible for us to say that these three line items were part of a single strategy. So we have that issue in the DCM world, and we are not even close to that level of granularity in the SDR world.

CHAIRMAN O'MALIA: Thank you. Do you have anything else?

MR. SRINIVASAN: No, this is it for me.

CHAIRMAN O'MALIA: Thank you very much.

ACTING CHAIRMAN WETJEN: I just want to chime in real quickly. Sayee, thanks for that presentation. I think it illustrates something I alluded to at the outset which is that there's already quite a bit of good that's come from the reporting requirements under our rules.

And I think what Sayee just went through illustrates that pretty well, I think what we're here to discuss, and through some of these other processes we've begun at the agency, we're trying to figure out how we can improve upon what we're already able to produce and information we're already receiving. So I think Sayee's presentation did a nice job of illustrating that.

Thanks.

MR. RADHAKRISHNAN: Good morning. My name is Ananda Radhakrishnan. I'm director of the Division of Clearing and Risk. And I very much appreciate Scott inviting us to give these presentations, because we are, this may be the first time we are publically highlighting some of the issues the divisions face in getting the data, aggregating it, and trying to figure out whether people are actually doing what they're supposed to be doing. If you step back and think about it, the reason why you have reporting is because statute requires it, our rules require it, it provides information to the Commission so that we can do, discharge our responsibilities, and in some instances it provides information to members of the public.

So let me talk to you about the specific requirements that DCR or the priorities that DCR has and will have, what we're trying to find out, and what problems we are encountering. So first, we need to ensure compliance with the Commission's clearing requirement. As you know the Commission issued a clearing requirement at the end of 2012 with respect to interest rate swaps and credit default swaps. And so our challenge is to find out whether people who are required to clear are, in fact, clearing.

Now there is a fundamental challenge that the statute poses us and it is as follows, there are people who are required to clear, entities are required to clear who do not register with us. So how do you find out? All right. So that's a big issue, so I'm not talking about that issue, but that's an issue that needs to be highlighted. So in other words, let's say you take a financial entity who is not required to register with us, they have to clear. We have no way of knowing whether they are, in fact, clearing or not because we don't have a process for self identification, and that may be something that we take care of in the future.

The second thing we need to do is ensure compliance with the exceptions and exemptions to the clearing requirement. The third thing we need to do is to review the swap market on aggregate product-by-product basis to, with respect to other potential clearing requirements that the staff may recommend to the Commission for the Commission's consideration.

With respect to what we want to do in the future, we want to ensure compliance with other clearing-related rules, for example, straight-through processing. We want to review compliance with the uncleared margin requirements. There was a proposal out there which we have not finalized, but there was an international effort to come up with a broad principles on how we should deal with uncleared margin requirements. And I suspect that before too long the Commission will propose and finalize the requirements for that. And then we need to do risk-based analysis of clearing members and customers' positions across both the uncleared and the cleared swaps market.

So I mentioned to you the clearing requirement. Also up to the subject to the requirement, it must be submitted to a registered DCO unless there's an exception, exemption, or other relief from required clearing is properly elected. The reporting of cleared swaps is in our words, these are my words, the division's words, complicated by the fact that you have so-called alpha swaps, the original swap being reported to one SDR and the beta and gamma swaps, which are the positions that result from clearing, reported to another SDR. And we'll talk about that in the next slide. And what we see is that the so-called alpha swap, the original swap remains open in SDR data. They appear to be bilateral, but they're subject to clearing requirement. So those two things can't happen at the same time. And the data in the SDR must be current and accurate. We have a regulation that requires that to take place.

Here's our working assumption, so let's assume that -- if you look on the left-hand side, you have two parties who do bilateral transaction. That's the alpha swap you reported to, in this case SDR 1, it also happens to be a swap that has to be cleared and both parties are required to clear it. So they send it to clearing, to one DCO. We have a rule that requires the DCO to have rules when they get a swap for clearing to extinguish the original swap and replace it with two equal opposite swaps between the clearing member and the clearinghouse.

And so this is what we call the beta and gamma swaps. And those are reported, and I guess they're reported to a different SDR. So the USI of the alpha swap may not be associated with the beta and the gamma swap. The alpha swap may not be terminated. So swaps that appear to be subject to the clearing requirement appearing in one SDR's bilateral and uncleared open swaps when, in fact, they've been accepted for clearing by a DCO, and, in fact, have been cleared.

This is not rocket science, ladies and gentlemen. I don't see why a swap, which was executed bilaterally cannot be mapped to the DCO with a USI so that we know that a particular swap that was executed bilaterally has, in fact, been cleared. It's mapping exercise, it shouldn't be that difficult. Now maybe the issues I have -- you know, I'd be interested to know what the members of the committee think. Maybe the issues are that our rules are not very clear. Our rules don't say, you must do this, you must do this, you must do that. Because it is very unfortunate, my team and I, let me introduce you to Brian O'Keefe.

Brian O'Keefe, can you stand up. Brian O'Keefe is the deputy director for products.

He may be calling some of you and asking you for information. Because we thought we could get this information from the SDR, we were wrong. So we had to call market participants, who we knew had to clear, to find out this information. We shouldn't have to do that, all right, because otherwise in my view the reporting requirement is not doing the job it's supposed to be doing. After all it's supposed to provide the Commission with information. And the fact that we cannot find information in one source is a source of deep concern to us. So that's why, you know, I applaud the fact that we have this division-wide working group looking at this issue.

And I'm sure there are other issues. You know, as John has highlighted, as Sayee has highlighted, a lot of other issues we are facing, but this one seems to be a no-brainer, but, in fact, it is very difficult for us.

Now entities that respond -- and I'm going to skip the first, entities responding. Let me ask, why is it so difficult, why is it so difficult for us to find whether a particular swap has, in fact, been cleared? And the response has been, well, they've actually been cleared, but you don't know it or they were cancelled or there were errors. And so again, if some of these things have taken place, we should know about it. We should know. Maybe I'm being, you know, unreasonable. At a press of a button, I should know exactly all the information that we need or the Commission should know exactly all the information that we need, but we don't have it.

So some entities have also highlighted issues with respect to how Part 45 addresses cleared swaps and the lack of clarity around responsibilities with regard to the termination of the so-called alpha swap. So it could be an issue with our rules. And if there are issues with our rules, then hopefully staff can propose solutions for the Commission so that we can change our rules so that it doesn't become that difficult to get the information it is that we want.

So we believe that improving data quality is important, but, you know, we need a more practical solution. And again, I talked about the mapping or matching of information that we used. We have attempted to use an automated process using an SAS program developed by colleagues in ODT to try and get the information that we want. And we're actively working with our colleagues in the data office so that we can get the information that we want.

The other priority is the Commission and our staff have issued exemptions and exceptions and people need to elect these exemptions and exceptions and they need to report them to an SDR. So one is the end user exemption, the other is the inter affiliate exemption, the cooperative exemption, and then the Treasury affiliate no-action relief that staff granted. And SDRs are required to monitor, screen, and analyze end user exception claims by individuals and affiliated entities. So the division is working with the SDRs so that we can get the reports to make sure that people are, first of all, people who are not clearing and are entitled to elect one of these exemptions or exceptions are, in fact, doing so.

The third priority is aggregating swap data so that we can decide whether new categories of swaps should be cleared. And this will help us in developing our proposals to the Commission for their consideration. And in reviewing submissions by DCOs, we have looked to Part 43 and Part 45 and other data in order to review the size and scope of a given product's market. And then by working with my colleague, Sayee, and his office, we've been able to, in SDRs and DCOs, we've been able to get a general sense of a product's notional and a number of transactions from SDR data; but as Sayee pointed out, it is not a happy place. So we need to get to that happy place so that we can, in fact, make a recommendation to the Commission that's based on facts.

Because I'm sure you all agree, it would be not a good scenario for us, A, not to be able to do our jobs or, B, to try and do something which is not based on all the facts that are out there. So and we think that the data that we should be using going forward is not BIS data, with all due respect to the BIS, but it should be data that's sent to the SDR, because otherwise why have SDRs in the first place.

So going forward, we will participate in all data-related cross-divisional efforts, including the Commission-wide prioritization of data-related matters. And we will continue to build working relationships with SDRs, SEFs, contract markets, and DCOs, and reporting counterparties to resolve issues that we see. And I'd be happy to take any questions in due course. Thank you.

CHAIRMAN O'MALIA: Thank you, Ananda. For anybody that might be on the phone or anybody interested in these presentations, they are all on the Technology Advisory Committee website within the CFTC.gov website. So all the presentations you will see today, are already up there. Next we have --

MR. MCGONAGLE: Dan.

CHAIRMAN O'MALIA: We're going to switch, right Dan. Dan Bucsa, Office of Surveillance within DMO.

MR. BUCSA: Good morning. As the

commissioner said, my name is Dan Bucsa. I'm an Associate Director in the Division of Market Oversight focusing on surveillance. And I'm in charge of the teams that look after interest rate, credit, equity, and FX swaps. So I've been invited to participate and give everyone my thoughts on the swaps state. And again, they're just my thoughts, they're not the statements of the Commission or any particular commissioner.

Before we get started, just to step back to give everybody some context on what we mean when we're talking about swaps data. Not everyone might be ardent followers of the TAC or directly related to swap data, so I'll give you a frame of reference to what we're actually discussing. The data set, to put it mildly, is massive. It's enormous, and it's incredibly complex. It's comprised of data from hundreds of different data submitters, almost 20 SEFs, over a hundred provisionally registered swap dealers, and it's constantly changing. As you can imagine, swaps are entering and leaving the database, terms are being harmonized and adjusted, and there are countless upon countless rows and columns of rich swap data content.

Now if we were asked to do this a year ago, my presentation would be pretty blank. At that point we had yet to start looking at swaps, we had very little understanding of the data, and we were in a much worse place than we are today. We've spent a lot of time and committed a lot of resources within our division working with ODT and with the SDRs and also look forward to working as part of this interdivisional working group on data to get us to the current place.

Now if we were talk to about swap data status from DMO's viewpoint, the five main tenants that we would hit on, first, I'd echo what John and the others said about the importance of harmonization. It's really important for the harmonization of the deliverable of the data and also the standardization of the actual data in the cells and the inputs, themselves.

Every division that's up here has

different problems. The problems are no better, no worse, not more important or less important than others. From the surveillance view, our problems are different. We don't look at data from a high level or in summary terms or in aggregates. We have to find bad actors, bad actions, potential manipulation, disruption in the market. So we're looking at things that are very granular on a discrete basis.

Now without harmonized data or standardized terms, you can imagine how much harder it is to do this across this massive data set and how hard it is to become efficient or build economies of scale with the limited staff and resources at our disposal. We're also faced with validation and reporting errors. Now by validation, it's limited and there's some constraints that are placed upon it. And by reporting errors, I mean, over reporting, under reporting, duplicate reporting, delayed reporting.

So if you think about it, if you're being tasked with looking at this massive set of data and trying to understand these complex markets, and the data that you're looking at isn't completely validated or there are various unknown errors or bugs with it; it makes your job even harder to really understand what's happening, to answer any questions, to provide any feedback, or do any analysis.

We also have various data reporting interruptions that we've faced the last year. And by reporting interruptions, I mean, the data just isn't there. Some subset of it isn't reported or it's not available for a various slew of reasons. And from the surveillance view, we don't stop. We can't wait for the data to get better. The market doesn't stop trading, prices don't stop moving, bad actions don't cease just for our benefit. So it's really hard for us to do the work obviously if we don't have the data in front of us or we can't get to it.

Another limitation is the lack of a transaction and position database, a single transaction and a single position database. Now I don't bring this up to allude or to say that we should be at this point at this juncture after looking at swaps data for a year, it's just a frame of reference for what we do with futures. There's one place where we get all futures transactions and we can look at it, and there's one place where we can look at all futures positions and we can analyze it. Now that being said, that's after tens of years of receiving futures data and working on improving the process, ingesting it, understanding it, and synthesizing it. So not where we are at the moment, but it's where we'd like to be.

The final issue that confronts surveillance when we're looking at swaps are exotics or bespokes, obviously these transactions are complex, structured, tailored, you name it and they have various characteristics such as different cash-flow waterfalls, different reference benchmarks, different underlyings. You name it. When you think about this large data set I'm speaking of and you think about what everybody said about data and the quality of it and then you throw in some sliver of exotics that have even less terms that are electronically reportable that are even harder to understand from a conceptual basis or a risk basis or a market action perspective, it makes it that much harder to really understand what you're looking at when you can't use the same data set and you have to look at a PDF let's say, or some confirm that was sent to somebody through some other means.

Now that being said, DMO still has to do the work today. And mostly from the surveillance hat that I'm wearing, but also from other parts of the division in the systems safeguard team, there are six main things that I'd say we're doing at the moment. The first is, we're hitting the data as often as we possibly can at the SDRs. Accessibility was a really important goal of the Commission the last year and being able to directly get to the data, review it, and access it. And we can do that now. There are several functional SDR portals. So we can analyze market events by looking at swaps data in addition to just futures data.

We can now pursue potential manipulation theories based on this additional information and do more than we could a year ago due to this added transparency. Now our ability to query the data means that we can build some automated reports. For the data that we can see and for the data that's of high quality, we can have staff build some code, model some tools, and create some engines that make it more efficient and timely for us to do our job. And that job, from the surveillance view again, is to ensure that there's compliance with Commission rules.

One of our main tasks is to serve as a referral engine to the Division of Enforcement. So when you think of swaps data rules, we want to make sure that people are compliant with what's on the books. And we do that very simply by looking for anomalies. Anomalies can be lots of different things. We think of it in the most rudimentary of terms.

Does this data point make sense? When we're looking at the transaction record, is it looking for a date, when instead we have a currency? Is it looking for a size, but instead we have a benchmark? Is it a term that you would definitely fill out on a paper ticket back in the day when you're negotiating a swap trade and it's missing? Is it a term that is in the regulations that needs to be there and it's not? Is it a data point that's actually filled out, but it's completely incomprehensible through some code or whatever you have it, you just don't understand what's in the field?

If we reach that point, we invoke our special call process where we reach out to the data submitter or the SDR and we just say, explain. Give us a narrative of what's happening here. Tell us what we're looking at. We don't make any assumptions. We don't have that luxury. We can't give people the benefit of the doubt and say why the data might be missing. We don't know why the data looks a certain way our why it's gotten on to our desks in that format, so we give it, we leave it up to the reporting counterparty to explain what's going on.

And based on the response and what we think of the narrative, it becomes a referral to the Division of Enforcement for investigation. All this work on the Commission rules has lead us to realize that we really need to do a lot of internal analysis and coordination. We've done this throughout the year with ODT and with the other divisions. And like I said earlier, we're going to be doing a lot more of it with this interdivisional working group on data. And what it's really allowed us to do is increase our understanding of the data throughout this year.

What is this data set contain? And what are the definitions of the fields? Not just, what is the field defined as, but what is the purpose of the data point within the field. You need to understand what this massive and complex data set is actually telling you, not just that the field is filled out correctly and it's in the right format and it's got the right information, but if you put it all together with the rest of the fields in the transaction, what is that participant doing? If you put it together with all of their positions, what might they be trying to influence in the market?

Now what we've also realized is that through this internal work we really to have to focus on data quality. And when we spot these irregularities by hunting around the data or peeling back different layers of the onion, we let people know. We notify ODT, the pertinent SDR, or the data submitter to get these things fixed. And we have gotten better data over time. That being said, there is no silver bullet. It's not a panacea. It's not a one-stop shop. There's no guarantee that if you fix a field once for one data submitter on one SDR, that will never happen again with the same participants or it will never happen with other participants in the same SDR or it will never happen with other SDRs.

And again, to continue the theme of a

really large data set, you fix one data point, how does the next one look? How does the one after that look? How do they fit together? It's an incredibly iterative process that will take a considerable amount of time and resources to get the data right. We feel like we can get there, but it's not going to be a short-term solution.

And finally, one of the things we're doing is looking at Commission regulation 49.24 in particular. I don't want to prioritize or emphasize one rule versus another, but we do want people to promptly report the system disruptions and planned system changes within their SDR to DMO. It's much better to be proactive and for you to tell us what's happening than for us to see something wrong and to check in with you to see what's happening. We have noticed that the SDRs have gotten better about this recently, and we really hope that this continues in the future.

And then finally, DMO's other data interest in addition to swaps, we don't just look at swaps, we look at futures as well obviously and we have to look at the market as a whole. So we were hoping to bring up these three topics to get some feedback and advice from the TAC on how to challenge them going forward in the future. The first is ownership and control reports. These are near and dear to our heart because they'll help us further understand futures markets. We'll be able to link a trader's transactions in futures to their futures positions. We'll understand how a position was built and by who and what were the steps that happened in between to get to the final point.

We also care about messaging data as well. Right now the only data that flows in are the consummated or executed trades in futures. Now this is obviously very useful and high-value information, but there are certain times where we would want to know messaging data. And the additional visibility into the market behavior and the signals people might be sending via their messages, and how that influences price, supply and demand, you name it.

And finally, we're interested in visibility into our discrete data sets. This could be underlying prices of selling instruments, participants in these other markets, or benefitting positions across other markets. Again, I'm only speaking from the surveillance side of the world. So we care about what people might be doing to impact our markets that violate our rules. So clearly there are some jurisdictional swaps and there are some non-jurisdictional swaps, there are cash markets that are non-jurisdictional; however, everything is related to a certain degree, whether it be some correlation, high or low, to price or directly related such as impacting the pricing or the settlement of a swap. For us to be able to say we're doing oversight on these markets and we understand somebody's behavior, we'd like to know at certain times, if not continuously, what is happening in those other markets and how our participants are behaving in those other markets.

And in conclusion, it's, to continue

what I said earlier, the data is better. It's not what we'd like it to be. We're further along than we thought we would be, and we're going to keep working together with other divisions and the SDRs to improve it going forward. Thank you.

MR. MCGONAGLE: Great. Thanks, Dan. I think that, I'm going to say from the presentations that you've heard so far this morning, at least from my perspective I get the sense and I know that there's an appreciation within the divisions of the challenges that we face. And so, you know, I started with the Division of Market Oversight just a few months ago. Well, one constant theme of conversation that I've had within the division and people coming up to me has been focused on the data and how can we get the data to a state that we can effectively evaluate and do our jobs, frankly.

So when the Commission announced most recently this interdivisional working group, I see it as an opportunity to leverage the resources and in some instances the conversations have been going on, frankly, for quite some time, since these rules were initially thought about and put out for review and comment and now on the implementation stage. So we have an interdivisional working group that involves each of the operating divisions from within the Commission. We have members from the Division of Market Oversight and I've put as many staff as I can get my hands on, on this group because we want to be effective.

And we see also from the other divisions, you know, sort of a state of volunteerism, the Office of General Council, the Division of Enforcement, DSIO, the ODT, and our Office of Chief Economist have all come together in the past few weeks to have substantive conversations, to sort of think about the priorities that they've seen over the course of time within their units, but also as they communicate with each other.

And so in looking at where we are going, I think in the first instance, we have a lot of information just internally to think about and to help us prioritize, and I think that's a good place to be. The working group was charged with its, the primary oversight responsibility for the working group is to evaluate compliance with Part 45 reporting rules, related provisions, and consistency in the regulatory reporting by market participants.

And so that's broken down into four subcategories or prioritizations; review of industry compliance, data field standardization, guidance and regulatory improvements, and technology improvements. So taking each in turn, industry compliance, my expectation is that market participants are aware of their reporting obligations and are diligently executing their responsibilities to timely and accurately report, period. My expectation, I'll say it again, is that market participants are aware of their reporting obligations and are diligently executing their responsibilities to timely and accurately report.

The divisions are charged with identifying those major compliance failures and will recommend best, and will recommend next steps. So where the regulations are clear, the obligation to report is clear. If there are areas where there can be more clarity, the divisions are taking on the responsibility to identify and provide guidance and recommend rule changes as appropriate, but a number of the issues that you've heard this morning, validation errors, failures to report, inaccurate reporting don't necessarily or don't at all relate as to whether the rule should be fixed. They relate to entities and individuals who have a responsibility to accurately capture the information that's before them and provide that information forward.

Data field standardization, we've heard from John Rogers in particular about harmonization efforts. The interdivisional working group team, it will be looking to prioritize those harmonization comments so that we can look forward to high level, what are the areas that we feel will have the most significant impact with respect to data standardization. This conversation of course doesn't happen without the registered entities, the swap data repositories. Their role and their obligation here is clear. Our expectation is that the swap data repositories will continue the hard work that they've been doing to effectively communicate with the division and market participants so they can efficiently and effectively comply with their obligations.

And I look forward to continue to working with the swap data repositories as part of this working group's efforts. We are interested in identifying any data reporting gaps for execution of our surveillance and oversight responsibilities. And Dan gave an excellent presentation concerning how our Division of Market Oversight appreciates and evaluates its surveillance challenges and the steps that we have undertaken and plan to take in the future.

Finally, and I talked about this, this structure isn't any different than the example we used this morning with respect to Part 20 guidance. We evaluate where the issues are. We look to see how reporting obligations by entities and individuals can be enhanced, where the information needs to be clarified. And then our expectation is to get back out to industry with those clarifications so that we're able, all of us to get information that's readily usable by the Commission and by market participants.

The working group is in the process of compiling questions which we'll put out for comment. In formulating this working group, I took on the responsibility to report back to the Commission by Spring on recommendations for next steps as it relates to Part 45. The members of this committee, outside of the working group now, I'm talking about the TAC, can be instrumental in forming our opinions and recommendations. So I request that you please take the comment period seriously, be diligent about the information that you provide.

As I've seen in my short time within

DMO, all of the information that comes in is seriously considered and certainly is helpful to us in making recommendations. In evaluating some of the areas that we've received feedback already within the working group, we have a bullet list of a couple of dozen topics that the group is considering. And I'm not going to go into specifics in terms of identifying, because that will be part of the question period when we go out probably, well, we have a due date in mid-March, so within the next couple of weeks, but by no later than mid-March; but the idea at least in the conceptual focus is looking at reporting of cleared swaps continuation data.

Are there transaction types and workflows that might require further discussion? A review of course in Part 45, including all appendix and tables attached there to. What are the other SDR and counterparty obligations? Where is CFTC with respect to implementation? And where do we see noncompliance? And internally of course, where should there be referrals?

Going forward within the Division of Market Oversight, we're also looking organizationally to restructure our program so that we have an appropriate emphasis for swaps data and data and reporting obligations within the division. And I hope in the next coming weeks that we'll be able to formally announce steps that we've taken organizationally to address this very important topic within the Commission.

Gary.

CHAIRMAN O'MALIA: Hey, Vince, can I ask you a question?

MR. MCGONAGLE: Sure.

CHAIRMAN O'MALIA: Gary was too slow getting over to his chair.

MR. BARNETT: Sorry.

CHAIRMAN O'MALIA: So when you chimed in with John Rogers about Part 20, you had a very pro-conformance, we want to make sure that everybody understands the rules, how do we help you understand, we want to get compliance higher. This presentation you came off and said, you know, we're going to make referrals, everybody knows what the rules are. How does that reconcile? Is it only the Part 20 where you're going to be lenient, or are you going to have a very strong, you know, enforcement bend to this rule compliance?

MR. MCGONAGLE: Right. So coming from enforcement people, we're always going to have an enforcement bend. My expectation always is that the time and more effort that's gone into the rules, the expectation is that those rules are clear. And so if there are, if there is, if you have an obligation or failure to meet an obligation within the Division of Enforcement and anywhere frankly, you first evaluate how clear is the obligation, where was the understanding of the reporting party or the entity that you're looking at; and then you'll make a determination whether that violation is something that sort of warrants further review maybe by the Division of Enforcement or warrants an action.

So taking that sort of vantage and

looking at obligations within the DMO, I don't see it as a Part 20. I used Part 20 as an example because frankly the discussions that I've had with the team are much more concrete to me and just my evaluation where it was, it is clear that, you know, there are issues where parties are not reporting, for example. But there are also questions about how they report. And so if there is a reporting error and are they over reporting because they want to be a good citizen, sort of, how do we evaluate that sort of over reporting?

That doesn't sound, it might not sound like an enforcement referral, someone is over reported. But if someone has not reported, that could be an area that we could get into. So I take, I sort of take that experience and then look to these other areas such as Part 45. Why is it that if there's a particular reporting field that's required to be, information is required to be input, why is that blank? And then why is that information being sent along to the Commission which then requires us to go back and sort of do some validation?

Who has the earliest opportunity to ensure that the information is being accurately reported, and then what steps do we have along the way to capture that information? So I'll start with referrals or we'll think about referrals always in the first instance where we see the violation as being very clear. As you move away from clarity, you get to questions about, is guidance appropriate, are rules, additional rules, should they become contemplated? So that's my, you know, that's my thinking.

I don't see sort of one-stop process for any type of evaluation, but if we do see that there is an obligation to report and people aren't doing it, I do want to get away from the hand holding that I think in some instances has occurred for a period of time during the transition. We want to step back, recognize who has the responsibility, and give those individuals and entities the responsibility, you know, make sure that they understand that they need to comply.

CHAIRMAN O'MALIA: You also indicated the SDRs are going to play a role in this. Are you going to hold the SDRs responsible for reporting compliance of the entity, or is it the fault of the entity if they don't comply?

MR. MCGONAGLE: So in the event we get to talking about failures, absolute failures by the SDRs, I think that's part of it, that would be a conversation later; I think in the first instance, you know, the discussions that we've had with the SDRs relates to a lot of the challenges that you've heard so far this morning, with the consistency and the accuracy of the reporting. There's been a number of conversations on, you know, on a day-to-day level as instances have come up. If there have been errors in the reporting or systems have gone down, I want to step back and have a view sort of on a macro basis what has happened over the last several months or the year.

What's our trend with the SDR sort of going forward? Is it -- are there issues that I need to be concerned about as a director within the program? Are the questions that we have and the plans that we've already implemented -- and I think the SDRs have been very good partners in terms of some instances very proactive in self reporting, and I want to continue that dialogue. So I'm not in a position to answer the question in a short form now to say whether or what steps need to be taken to fix the SDRs or say that the SDRs need to be fixed. I think it's more focused on a dialogue ensuring that we have a consistency of communication between us about expectations.

CHAIRMAN O'MALIA: Gary.

MR. BARNETT: Okay. Gary Barnett, DSIO. DSIO regularly participates in the swap data harmonization meetings. We're working with our colleagues in ODT, OCE, DMO, and DCR to ensure that swap data provided by swap dealers to SDRs will meet the needs of DSIO. We're also working to develop methods for integrating swap data, SDR data into our swap dealer and MSP compliance program to test for compliance with swap dealer reporting requirements, into our CPO and CTA program to test the accuracy of funds reporting of swaps exposures and into our exam program as part of our examination of swap dealers and FCMs and other intermediaries to examine for compliance with our regulations.

For instance, focusing on SDR data and swap dealers, seeking to ensure that swap dealers are demonstrating compliance with CEA and CFTC regulations, generally, but including more specifically things like ensuring that a market participant doesn't act as an SD or an MSP unless they're registered as such. Ensuring that SDs or MSPs maintain full, complete, and systematic records of swap activities. Ensuring that swap dealers and MSP swap transactions and pricing data are available to the public in real-time, and eventually confirming that swap dealer and MSP compliance with capital margin requirements is occurring.

With those important aims so dependent on good information, good data, and good technology; we're very interested and connected to the group, the SDR and other swaps data reporting efforts and beyond to the other issues in our space. Everything you've heard basically applies to us in our efforts. But, in addition, we've been asked to play cleanup batter and to discuss some of our other data and technology needs. We have a different orientation. We want to talk to you for a few minutes about the swap data -- sorry -- the data and technology needs we have in the pursuit of our mission and the use of those technologies.

So for instance in addition to our SDR efforts, we're also involved in the swap dealer registration process which entails the submission by swap dealers and our review of mountains of policies and procedures which are provided under the Commission's rule 3.10 to demonstrate compliance with 4s or the swap dealer requirements under Title VII. Without technology, without our technology, it would be a nearly impossible task.

And in the process of receiving and

viewing these large volumes of submissions, we use two basic systems, Concordance, which is actually an electronic discovery management software that allows us to gather, manipulate, and search the data, but also, and also Case Map software that allows the management of facts and the issues that arise.

The fund space is another area that DSIO covers for which we foresee heavy reliance on technology. In terms of the technology focus in that space, disclosure documents are filed by CPOs and CTAs with NFA. We have access to them with Fax 2000, which is the program through which we access NFA's database. They're uploaded in Word. We can download to our PCs. We also have access to NFA's review documents. But we can't have policy scope review and issue spotting driven by NFA. We need to develop our own systems, our own issues list, and criteria points for which each of the relevant points, topics, sort of like an audit module, but for reviewers of legal documents. So we have that to do as well.

In addition forms PQR and PR, are uploaded to our servers by NFA as raw data. And we're working with ODT on developing a database for it. The SDR reporting data is, gives us, you know, very granular swap information; but when conjoined with the reporting, the reporting in a sense will put together the swap information, but we can test whether that information, to some extent, we can test the accuracy of that by looking to the SDR data. We'll eventually be able to do that.

As the division that has compliance and examine oversight of intermediaries, in particular FCMs and swap dealers, our heavy technology needs relate to reporting and examination of those entities. And so in that regard, we use two primary types of software, RSR, which is a database for maintaining firm information and TeamMate, which is audit software, basically electronic working papers for accountants or auditors.

RSR is a database that intermediaries send info into via WinJammer. So if they're sending us financial reports, risk reports, notices or the like; they can scan it, attach it as a PDF, and send it. It goes straight into a file for that submitting dealer or intermediary. TeamMate as mentioned is auditing software. Once set up properly to cover our standardized audit programs, this software facilitates the reviews of firms by requiring standardized minimum steps in obtaining required documentation and collects it in a way that helps make the supervisory review process more efficient.

In terms of our strategy in using these two key tools as part of our exam oversight in examination, RSR is one-stop shopping for all information on a firm. The examiner can go in, quickly access all of the financial and regulatory information about the intermediary and others across the Commission can access it, too. It's very important for, given the fact that we lack staffing, that the staffing we needed, it enhances our efficiencies and helps us fill the gap of examiners, but obviously, you know, it's a hurdle, a burden, but the RSR is a definite help.

We use RSR to perform the initial analysis of firm filings. For instance filings that indicate under seg. or under secured situations, our less-than-early-warning capital requirements will trigger a red flag that comes to staff. And we have developed some red flags to help in that regard, and we use that data to help develop our wash list.

Also, as part of our strategy is the hardware. Obviously on-site visits are an important part of what we do, so laptops and remote access, remote system access is very important to us to support the software. Those are in need of upgrade, but we're in the process of doing that, so we're grateful for that. In terms of strategy, we've had some successes. We've upgraded TeamMate to a current version. We've developed some financial analytics for the financial data we received from FCMs including some trend analysis on an institution-by-institution basis, but we're looking to try to develop more of an industry-wide trend view so that we can find outliers.

In terms of our technology path forward, you know, we need to gain a handle on the SDR data for the reasons expressed at the beginning of the talk, but in addition, in terms of the tools we're using, in terms of examination and oversight, RSR, we need to continue to work with ODT to assess effectiveness of the database. Is there a more efficient method? It's very useful, but it's very difficult to upgrade and revise given the changes that are going on. And a lot of changes are needed.

Also we need to develop the industry-wide dashboard that I mentioned before. We need to continue to evaluate TeamMate and update hardware and remote access capabilities. And then we also need to integrate the swap dealer data into RSR. So that's a little bit of an overview of what we're doing from the technology and data perspectives in addition to our participation in the SDR harmonization efforts.

Thank you.

CHAIRMAN O'MALIA: Gary, are you using SDR data at all right now?

MR. BARNETT: We're not, we're not. We're just at the very beginning of that.

CHAIRMAN O'MALIA: Are you responsible having the swap dealer filings? This looks like compliance, right?

MR. BARNETT: Yes, it is.

CHAIRMAN O'MALIA: Are they filing the forms? And I understand we have all, what is it 180,000 pages of SDR filings, and this will all go into that separate database?

MR. BARNETT: It will, if I understand your question --

CHAIRMAN O'MALIA: This RSR database?

MR. BARNETT: It will go into RSR.

CHAIRMAN O'MALIA: Okay.

MR. BARNETT: Correct.

CHAIRMAN O'MALIA: So are you going to use SDR data to develop risk reports and bilateral systemic relationships, things like AIG, London

Whale, or are you going to use this separate RSR platform?

MR. BARNETT: Eventually we would use it to test our database and then probably manipulate in some other ways. So the SDR reporting gives us granular information, but looking for trends and things of that sort and funny patterns, we haven't gotten our hands around that. We would think of testing that against the SDR data. But, you know, if John tells me that we can do something directly from the SDR data or with an additional tool that straps on, that would be -- but we're not at that point yet.

CHAIRMAN O'MALIA: So would you have the responsibility for evaluating and kind of identifying risk in the OTC data? Isn't that for a swap dealer?

MR. BARNETT: On an intermediary basis we would.

CHAIRMAN O'MALIA: A swap dealer?

MR. BARNETT: Yes.

CHAIRMAN O'MALIA: Right, so but you're

not using the SDR data currently?

MR. BARNETT: Not yet.

CHAIRMAN O'MALIA: All right. Do you have a timetable when you're going to be mining that data for risk, bilateral systemic risk in the OTC market?

MR. BARNETT: No, no. I mean, I know that it's an imperative. We're a member of the committee. We're working on it, but I don't have a fixed timetable to give you for that yet.

CHAIRMAN O'MALIA: In terms of priorities where does it fall?

MR. BARNETT: We're still in the registration process with the swap dealers. We're still reviewing their 4s submissions and their -- you know, so we need to get through that and we need to continue to coordinate with John and figure out, you know, what tools are available to us. We are working on something similar to that in the funds space, but we have not yet turned to the swap dealers space. At this point we're just looking to use the information to help us when we look to see the compliance with our recordkeeping rules and things of that sort.

CHAIRMAN O'MALIA: Well, thank you very much to the panel for your thoughts, your concerns, the issues you've identified. I think you've given us a pretty good, but high level oversight of the challenges we have. And obviously harmonization was a theme that everybody touched on. I'd like to open it up to the TAC members' thoughts, concerns, observations, questions, further questions. There's dozens of questions I'd like to ask, but I'd really like to get your thoughts on how we tackle harmonization.

For example, nobody has touched on a UPI, what would a UPI, this universal product identifier, would that enhance things? Is there, are there things in the industry that would benefit our efforts in terms of accelerating our standardization process? I want to talk a little bit about international. You know, Wednesday we have SDRs going live in Europe. The obligation is for anybody over there to report both to the U.S.

SDR and to European SDRs. Where do we stand on recognizing, assimilating, harmonizing that data?

There's obviously some, a little more discussion I think we can have on enforcement, risk management analytics. Obviously, I think we have clearly a long way to go there. So I'd open up to the floor, and if there's no questions, I've got about ten. So and but I don't want to have to ask them, because it's really your thoughts and observations that would be useful here.

MS. VEDBRAT: So, you know, I just wanted to make a comment about, you know, the tools that are available, you know, perhaps the end users. You know, currently if I were just to look at our trades, they are being reported to three different SDRs, and we don't actually, we're not giving any tools where we can receive the information regarding our trades. And one advantage for that would be that you'd be able to find any discrepancy in data, you know, and perhaps lead to some form of harmonization without, like, the CFTC being, you know, the first body that identifies an issue.

You know, this is something we've been asking for from day one, and we have yet to see this come to fruition. On your question on international for Wednesday, the requirements for reporting from a buy-side perspective, you know, it's quite different just because the reporting party or the responsibility for one side of the trade does reside on the buy side. You know, historically we've been dependent on the sell side or the swap dealers to do most of our reporting. So we, you know, expect in the coming weeks or months that process to be a little bit bumpy. The market has to get used to a two-side reporting structure.

CHAIRMAN O'MALIA: Maybe I can ask Vince could address this issue. We've heard this from the end users quite a bit on how do end users validate what's been sent to SDRs, how do they know. There's a good article on Risk last week that appeared in our clips. You probably saw it. End users really addressing the issue of, where's my data and what if it was misreported, what do I do about it? This obviously touches on some of your enforcement thoughts. What do you recommend for end users?

MR. MCGONAGLE: Let me consult with my experts here behind me, so just two seconds.

MS. GUSSOW: Good morning, Commissioner O'Malia and TAC. Some of you already know me. I'm Laurie Gussow with Division of Market Oversight. And Vince asked me to take this question.

Could you rephrase it, please? I mean, could you repeat it, please.

CHAIRMAN O'MALIA: Just pull it closer and repeat your question.

MS. GUSSOW: I am so sorry. Can you hear me now?

MS. VEDBRAT: From an end user perspective, one of the beneficial tools would be if the SDRs provide us with the ability to reconcile the information that's being reported on our behalf. Currently, like if we were just to limit ourselves to, you know, cleared swaps or swaps in general, there are three SDRs where we're reporting our data, but there's like zero insight into what's being reported on our behalf.

MS. GUSSOW: Right. So the SDR rules require that they reach out to the counterparties to confirm the accuracy of the data. The methodology that the SDR chooses to do so, it, you know, that's incumbent on the SDR to develop that technology. And the services they provide to their users is also a business decision of the SDRs, and the rules aren't prescriptive with respect to the services they have to offer except that they have to confirm the accuracy of the data and make their data available to the counterparties to ensure accurate data and provide for error and omission corrections, which of course through the rules indicates that comes through the reporting counterparty.

So, you know, that might be a conversation you want to have with your independent SDR or SDRs.

MS. VEDBRAT: Yeah, we've had discussions with them. And, you know, I'd just like to, you know, make a comment because you mentioned it's their business decision, but this is a regulatory requirement and, you know, there's been a lot of emphasis throughout this process by the CFTC, which, you know, we believe in on straight-through processing and timely delivery of information. So, so far what we've seen if you want to receive information, it would be a very manual process and almost impossible for us to reconcile.

MS. GUSSOW: And which regulatory requirements which are you referring?

MS. VEDBRAT: For the reporting for mandatory trading and then eventually, you know, the information of that trade being reported to an SDR.

MS. GUSSOW: Right. And so that there is a reporting counterparty chosen interaction, and then that reporting counterparty submits the data to the SDR. Then the SDR reaches out to the counterparties to confirm the accuracy of the data. And again, that's the SDR's, you know, decision on how to implement or comply with that regulation. And so each SDR has a different methodology in which may have developed to do so.

So again, if you have an issue with respect to that, you know, you may want to talk to your specific SDR. And of course, you know, Division of Market Oversight is always, you know, happy to discuss this with participants. And, you know, many of you know we do spend a lot of time on the phone discussing issues. And again, it may be something that would be appropriate to comment with respect to the interdivisional data working group.

CHAIRMAN O'MALIA: Bob.

MR. GARRISON: Yeah, I'm just curious to know, a lot has been mentioned about harmonization, which I think is great and it's produced as the panel has stated, a lot of good results; but that's been focused primarily on the output of the information. And I'm just curious to know, you know, the output obviously is dependent upon the input that's coming into the SDRs, I'm curious to know if there's any form that exists that allows consistency of approach back to the other market participants on a way to ensure that that consistency is coming into the three SDRs that exist today or whether the harmonization effort is just focused on the output between the CFTC and the SDRs.

CHAIRMAN O'MALIA: That's a great question. I mean, we've, John Rogers has used the SDR effort, he's been quarterbacking to harmonize what comes from the SDRs to the Commission. I know a lot of end users are worried about standards of harmonization going into the SDRs. We've relied on the SDRs to be our Rosetta Stone, if you will, to harmonize this data; but some of this issue, and maybe this is what we can address as part of our working group to fix the fields. Right. We had our appendix in our SDR or Part 45 reporting that said, you know, fill it out this way. And if there's any uncertainty about how you fill that out or enough of the fields, maybe we should address that.

And I think maybe that's going to be a question that the working group and then the public comment period will consider. I mean, what are you considering to help end users conform?

MR. MCGONAGLE: I think that's right. That is one of the areas that we are considering. You talked about the Appendix 2, Part 45, so that is, we see that as part of the process, sort of the information. And as it gets to the SDR, it isn't just the SDR being reportable information to us, it's the utilization of the information that's coming into the SDRs. So you know, that is a place that we do want to cover. So I appreciate that comment.

CHAIRMAN O'MALIA: And I know there's a rush, everybody talked about harmonization, but I don't know that harmonization means the same thing from every division. And is it harmonization from the three SDRs that have different data architecture and therefore it's a challenge for us to download it from them and arrange it appropriately, or is it the quality of the material being reported? Can anybody reflect on where harmonization must occur to make it better for us?

MR. MCGONAGLE: So I hear it right, it's all of the above in terms of the types of and the manner of information or the types of information that's reported, just sort of some simple questions about, you know, the identification of a particular interest rate swap that, you know, is reporting in different fields, and so people are sort of capturing sort of effectively the same swap in different ways, which makes it a challenge for us to handle that information. And so we say harmonization. I do think, you know, we are looking not only at the standardization of the fields, we're also looking at, you know, what are the priorities with respect to each of the divisions and then taking those priorities across the Commission and saying, well, what is it of these top three for each division, what is the top three for the Commission.

And so, you know, we want to cover as much grounds as we can. And I know I'm being very high level, but we're not looking to kick things out currently. We're trying to bring stuff in and try and get it ranked and be responsive.

CHAIRMAN O'MALIA: Walt. You had your card up.

MR. TURBEVILLE: Thanks for the presentation. The whole issue of complete uniform data, it just strikes me that maybe the original rules on SDRs should have been much more aggressive to create a tremendous amount of leverage from the Commission from the get-go as some of us had suggested, but that's water under the bridge and that's not my question. The question I have is, especially with Ananda and Dan having talked a bit about uses of the data beyond just strictly compliance with a rule that exists, but more of a broader understanding of what's going on in the marketplace, my aspiration for this data is so that the Commission and staff will have a comprehensive understanding of the market and what's going on beyond just what's an existing rule.

And the way this is set up is that the divisions are talking about their particular needs. I'm wondering is anybody talking about the overall needs of the Commission to understand the marketplace in an integrated and comprehensive way. And what are the data needs so that you can get, not only the data that you need, but how you might be able to manipulate that data to have a more comprehensive understanding of what's going on in the markets?

MR. RADHAKRISHNAN: I think that's the whole objective of the interdivisional working group. If you think about it, it should be a wish list, right, all the divisions, this is what I want, this is what I want to look at and then you vet it with the Commission and then you go out for comment and say, you know, this is what we need. Now with all due respect to the industry, you can suggest things to us, but I submit that the divisions are sometimes in the best place to know what it is we want, right?

So it seems to me that it is information that we need to do our jobs, right? Market surveillance has a particular function, risk has a particular function, and then trying to figure out whether people are clearing or something else. And then the other issue is, all right, what do we want? How do we get there? Meaning, you know, what template do we have, right? And this is where, you know, ODT colleagues can say, oh, this is how you. How do you send it? FIXML or whatever protocol people use should be one. Choice is nice most times, but when it comes to something like this, I don't think choice is good, all right?

You tell people, this is how you do it, this is the way you do it. And to go to Supurna's issue, anybody who is, has a stake in the data should be able to view the data, right? So I don't understand why, you're saying you should have what, read-only access to your data; is that what you want?

MS. VEDBRAT: Read-only or just, you know, give us the information.

MR. RADHAKRISHNAN: Right.

MS. VEDBRAT: Like, I'm not -- we can reconcile it among the three SDRs.

MR. RADHAKRISHNAN: Right.

MS. VEDBRAT: Not sure if everyone can do that.

MR. RADHAKRISHNAN: Right, right.

MS. VEDBRAT: But we're happy to do that as a --

MR. RADHAKRISHNAN: Right.

MS. VEDBRAT: -- a first step.

MR. RADHAKRISHNAN: Right. So and the other thing that we don't have is we don't have the ability to look at the risk posed by unclear transactions, no clue, right. You've got line items, it's nice, but it doesn't tell you at the end of the day what the exposure of, say, the top ten banks are to each other, right. Now they should know. I'm assuming they will know, but we don't know, right, because all we have our line items. We don't -- unlike the cleared space, we don't have position information, so that's a big challenge for us.

MR. BUCSA: And I think what you said is exactly right. You made a good point and a very good question and I think it's something we'd like to do in the future, the piecing together of the market, of understanding how everything fits as a whole and how things influence each other and the framework or the foundation of all of that is the data and combining the good quality data with people's knowledge and experience in the markets. And the tools we can build will get us there, it's just answering that really complicated question is something we're not nearly in the place to do at the moment if you consider all the data issues that we're having.

CHAIRMAN O'MALIA: Irene.

MS. ALDRIDGE: Hi. Thank you. I actually am very impressed with the market reporting tool and somebody who deals with that on a daily basis. I wonder, are there any plans to extend the history of the data that's reported to the public? Because I noticed right now only five weeks are reported, I believe. And I know I understand you're trying to increase the granularity over time. Thank you.

MR. SRINIVASAN: Sorry. It's my mistake. We do have, I should have pointed it out, there's an archive section. So if you look at the weekly swaps report on the columns on the left, there is a link to the archive section. And this is a query which came from one of the market participants, you know, can you send it and can we download it in an Excel format? So our weekly swaps report can be downloaded in Excel also.

Somebody asked for CSV. I said, give us some more money and we'll give you CSV and any other format you want, but right now you get it on HTML and on Excel, so and you can get all archived data also. So --

MS. ALDRIDGE: Thank you.

MR. FISHE: I'm sure I have more of a

comment than a question, and I think it relates to what Dan was saying. And I wanted to commend the staff that it sounds like you're taking a very careful approach to analyzing the granular data that you need for your role. And I just wanted to say thank you. As an industry participant, we have to deal all the time kind with the spurious conclusions that come out of, you know, I'd say publication of other people's analysis of that granular data. And sometimes it's published, you know, in nanoseconds, you know, quicker than we make trades, but I just want to say thank you for what you said. And it sounds like you're very carefully looking at that granular data.

CHAIRMAN O'MALIA: Brian. And we'll just go down the row after that.

MR. DURKIN: Thank you. I just wanted to compliment the panel for their presentations and would ask us all though to reflect back, it was really just a few short months ago as these requirements kicked into effect, and the adoption of a swap data reporting regime was a monumental effort on the part of the entire industry, and I think what you presented today shows that while there's still some challenges, it's come a long way in a relatively short period of time.

And, you know, I only ask that we continue to try to take a pragmatic approach as we continue to evolve and further develop the progress that's about made to date. There were some comments, though, that were made that I just, I did want to clarify. With all of this that has been placed on the industry and the Commission, itself, at the end of the day, you know, I can assure you from the CME's perspective, we're deeply committed to its swap data reporting offering and to providing the Commission with the capabilities and the facilities that it needs for the purpose of effectively monitoring systemic risk.

There are, you know, a number of areas I think that were raised today that seem to point itself back to maybe a missing link, which is a missing product system. And that's been, I think, an ongoing source of consideration on both the part of the Commission, Commission staff. And, you know, there seems to have been an intensive, you know, focus on that for a period of time; but now that seems to have kind of lapsed. So, you know, I think that if we could, you know, possibly come back to getting to a unified product system, that might help clear up a number of issues that, you know, many of us are dealing with.

There was also some comments with respect to the missing of data or inability to link up certain data components. And I think it was Ananda had mentioned the linkage of the alpha portion of transactions to the beta and the gamma. First of all, you know, all of the data on cleared transactions reside in the clearinghouse. So we have all of the data in the clearinghouse. And when you start referencing the connectivity between the alpha portion of these transactions to the beta and gamma, I know our SDRs shows that linkage between those various components.

With respect to the gaps associated with the terminations of the alpha, I thought I had heard earlier in one of the reports, we've been sending that information since I believe it was December of last year. So my point is, there is a lot of progress that's being made as we continue to evolve together as an industry. I can't implore the efforts enough on harmonization and what we've been trying to do together, working together, as we learn a bit more about the progress that is made to continue our focus and emphasis on harmonization, because again, I think that helps all of us involved in this very important program to be even more effective as we go along in producing and providing the information that's needed.

When we get to the issue of standardization of data, you know, I would also ask that we give some consideration to standardization at what point, and how do we help, you know, the Commission teams, themselves, to get to the point where they need to be in the context of the data as it's sent back into the systems and brought to the Commission for its review. And so, you know, I would just suggest that emphasis be more so on the back end of the SDRs being able to submit that information in a very accurate and standardized format. That might be an area for us to focus more heavily on.

CHAIRMAN O'MALIA: Evelyn.

MS. FUHRER: I'd just like to focus my comments on the harmonization that's been discussed. And, you know, the fact that we're talking about harmonization this year as opposed to data gathering that we were talking about last year, you know, demonstrates the progress that we've made in actually gathering the data. But, what I really would like to suggest is possibly rather than work on harmonization, which if you think about it from the life cycle of the data, you're really dealing with the issues at the back end at the end of the life cycle of the data; I'd like to suggest that possibly we start thinking about rectifying and fixing the data, making sure it's correct as it comes into the system at the beginning of the life cycle of the data.

And because no matter how much you harmonize data, you iterate around it, you're constantly working it, you get closer to the right answer; but it will never really be perfect unless it's perfect when it goes into the various systems. And I know there's been a concern about not being too prescriptive, but maybe at this stage of the maturity level of the industry, there's a recognition that a little bit of prescription or maybe a lot of prescription goes a long way to saving the industry a lot of money overall. And hearing the conversation around the global groups that are in progress, I mean, you know, I think we have an opportunity now to learn from what we've done over the course of the past year and say, you know, if we have to do it all over again, can we inject some standards earlier in the process, it would deal with some of the issues we talked about, that Supurna has been talking about and also all the costs around this.

And if we were to think about doing

that, I mean, the way I think we would do it is do an analysis all the way at the back end and see how the data is going to be used and say, okay, for me to be able to use this data in the most efficient way possible, how would I ideally like to see the data? Okay. What kind of controls would I want around the data, how accurate those need to be, and come up with a list of standards around that would get injected into the industry. Thank you.

CHAIRMAN O'MALIA: Pierre.

MR. LAMY: Yes, thank you. And thank you all for the very good presentations and the different point of view that you have brought into the discussion. I have two questions. The first one relates to misreporting by reporting participants, which I think is part of the problem and probably all of you talked in some way, shape, or form about that dimension; the thing is the resolution path for that is probably to have stricter validation logic at the point of collection. And progress is being made in that respect. But until we get that, the question I would have for the CFTC staff is, when you find issues, for example, this question of the Korean Won swap with the notional being reported in USD currency, do you systematically come back to the reporting participant and say, well, there is a mistake, can you please adjust? Yeah, go ahead.

MR. SRINIVASAN: So we go back to the SDR, and the SDR speaks to the market participants. So there is, and there's a coordinated process between the Euro process within the currency sort of around these questions with the SDR. The SDR in turn speaks for the market participants. So --

MR. LAMY: Because I believe that with the process that we have as of now, there is a number of situations where the reporting participants, even themselves, they do not realize that they are just misreporting some data, once again because of progress that we need to make in terms of validation logic at the point of collection.

The second comment and question --

MR. BUCSA: Sorry. If I could just --

MR. LAMY: Yeah.

MR. BUCSA: -- interrupt briefly. It seems that that approach in a way places the onus on the Commission first and the submitter second, third, or fourth in that chain. So but by systematically, I think it's hard to say that there's any systematic approach to do that based on what we all presented about the tools at our disposal, the staff that we have to work with, and the data as it is. I think if you were to send the confirm to a client of yours, you would make sure it was right before you sent it. You wouldn't really want the client to tell you that it was wrong.

I think the same methodology or attention to detail could be applied in the things sent to us so we're not the first line of defense to say, by the way, this doesn't make any sense.

MR. LAMY: I agree with you. And I'm not suggesting that the CFTC should be the first line of defense, it should probably be the last one. But in terms of the fact that you have hundreds, if not thousands, of reporting participants reporting according to different technology, in my view, the first line of defense should be the SDR. And with the protocols that are being used, there is a way to validate the data using the Part 45 rule that you have developed alongside with the different protocols that you're using. I'm familiar with FpML. And FpML's rule of validation would go a long way with a stricter validation logic to ensure better data quality.

The second comment that I have, I was interested by the discussion about notional computation for commodity equity swaps and those type of things. Is -- what I would suggest, and I'm sure that, I'm hopeful that you do that already, is compare notes and confirm the methodology with existing agency in the U.S. and outside of the U.S. in terms of the way to compute the notional. Because I think there is no right or wrong for those type of products. And what you do not want to do is have a methodology that would not be comparable with the one already use because people already report notionals in currencies with other agencies. So that would facilitate the work down the road.

MR. SRINIVASAN: Yeah, that's a useful comment, I guess. And we also face a similar situation for which we have a solution in the futures world. So there are a huge amount of options activity and we need to compute the notional terms so we have a structure in place to do that, but that's something that we're working on as you have suggested.

MR. LAMY: Thanks.

CHAIRMAN O'MALIA: Michael.

MR. ATKIN: Yeah, so from my perspective is, this is kind of less a rule problem as it is a data manufacturing on understanding of the data manufacturing process problem that the industry has to go through. So the current model that we describe of fragmentation, lots of participants, lots of complex instruments, lots of transformation processes, lots of relationships; it's going to always be challenged if what you're trying to do is harmonize just structured data against meaning. So I think it was Ananda who described the problem correctly, this is about understanding relationships in the context of the structure of these instruments. And there is a better way, I think that we have to start thinking about this problem.

And, Scott, I think you talked about a true Rosetta Stone. And the Rosetta Stone that we're looking at, not only aligns data, but it has to align meaning and it has to be comparable and it has to include the relationship processes that exist. And currently the way we're doing harmonization ignores that side of the problem, and we have to be able to model those relationships. And it is possible to do that, and it's a different way of approaching it, but that I think is the only way you're going to solve this problem.

CHAIRMAN O'MALIA: Adam.

MR. LITKE: Yeah, when we go back to when the committee on data standardization was meeting, the TAC and the CFTC accepted a number of principles around data reporting and there were three of them that were pretty important that it doesn't -- that I was involved with, but there's others as well, and I'm asking a general question as to whether the principles that were accepted are actually being followed in the work that's being done afterwards. In other words, are people going back and reviewing it?

And I'll give the example. One of the things we said was that the SDR was responsible to report to the Commission in whatever format the Commission required, but that the SDR was going to set its own rules to the street for how it was going to collect the data. And part of the reason that was done was because even various firms couldn't agree on what format they wanted to report the data in, and so that was supposedly being left open to the SDRs to allow them to provide better service to their customers. And then the last piece was that the data that was reported to an SDR was supposed to be freely available for editing and correction to any party to the swap transaction and freely available for any correction that was envisioned that there would actually be APIs that people could get to, which it sounds like are not there.

So I'm sort of asking the staff members here, to what extent are you going back, when you look at these data problems and say, we adopted these principles for data gathering, are we actually following them?

MR. ROGERS: So I can't speak to the second one, but I can certainly speak to the first one. And the answer to the first one is absolutely yes. We are looking at the data from the perspective of how the Commission would gain access to it. I won't necessarily say receive it, because there are really two elements to that. There is the data that is actually at the SDR in a portal that the Commission can get access to, and then there's the data that would flow back to the

Commission so that it could comingle with other data including futures data and that sort of thing.

Regardless of what the method is, we want the data to look the same and be, you know, harmonized across the different SDRs, that means that people have to have a common understanding for particular elements and how it's used, have a common sense of values, and all sorts of other different things around the data. But in terms of the first item, regardless of whether it is at the SDR or being sent to the Commission, we will determine the form and manner of the data flowing to us, but we are not talking about the form, the manner in which the data is flowing into the SDR. So I think -- and perhaps somebody else could speak to that.

MR. MCGONAGLE: I want to follow the point. And I see, if there's an industry standard or an industry practice about how entities are executing transactions, then subject to the vagaries of a particular SDR that these transactions are reported to, who wants, you know, to recast it or rename it in some way, I would view that as problematic. I mean, I think our staff here would be looking at sort of an apples to apples review of what's happening on the street and would be concerned that harmonization or the application of a naming convention by SDR, that would give the potential for a lack of consistency and makes it more confusing.

MR. LITKE: Yeah. I was specifically alluding to, there was a bit of a knockdown drag-out fight whether people should have FpML or FIX reporting. And essentially it was decided to leave that up, you can have the same data in either format, but depending on where the swap was executed, there was a marked preference for one format or the other.

MR. ROGERS: Sure. I'll just add in, I mean, I think that what you're asking and the way that I answered it, I think are in alignment. We, I mean, we are -- when we get to the point we are receiving data, just like we do with Part 20 data, we will decide the particular schema that is used. Because we've heard, you know, very similar conversations. And in the case of Part 20, we actually support, since it's data that we're ingesting here on a regular basis both FIXML and FpML because we can.

We'll be focusing on those kinds of questions down the line as it relates to data flowing back here, but we're not dictating the actual message structure as it flows into the SDR. And each one of them we know does it differently for particular reasons of their own. At the end of the day, we need to make use of the data regardless of the mechanism that the messages, or the methods in which the messages flow in. And that's what we're focusing on.

So to get to that point where we can look at things in like terms across the SDRs is really more of that content and semantic, you know, analysis that we would do more so than the particular message types that would flow into the SDRs.

MR. RADHAKRISHNAN: If I could just make a point. There's a technology issue, and then there's a content issue. So if as long as the technology does not interfere with the content of the information that we are getting for our regulatory purposes, then you can say it shouldn't matter, right? But I'm not sure, and I'll defer to my colleague, John, I'm not sure whether that's the case. If the manner in which the information is being sent, if there's one better way than another, why shouldn't we choose the better way?

And if it means, you know, we prescribe something, maybe that's the way we do it. Because again, I've got to stress, at the end of the day, I think a critical function of reporting is so that we can do our jobs. If we cannot do our jobs, then something is going wrong.

MR. ROGERS: Yeah, I guess, if I may.

CHAIRMAN O'MALIA: Yep.

MR. ROGERS: I would liken it to what Dan Bucsa said a moment ago thinking of us. I mean, when I look at the harmonization activity that we're talking about, I look at the people that are sitting next to me as basically customers. They're the users of the data, they might have particular purposes, so we are looking to make sure that the data, the content, itself, satisfies those purposes. And insomuch as it is necessary to harmonize that content so that they can get the business value out of it, that's what we're going to do and that's where -- in harmonization we've had lots of conversations with the SDRs about what this means to us and about the value that it provides to the Commission.

And if we need to be prescriptive in that regard, we have been.

CHAIRMAN O'MALIA: We're getting way over time, but I'm going to hit Karel, Chuck, and Bob for kind of last observations. So keep it tight.

MR. ENGELEN: Okay. Thank you. The taxonomy and product identifiers have been mentioned a couple of times during the presentation, so I kind of wanted to pick up on that. So when the ISA taxonomy was developed and that is taxonomy that is used for most of reporting, we kind of deliberately kept it fairly high level. And I think what's needed in particular in something like taxonomy is really a dialogue with the CFTC. Because as mentioned a couple of times about more detail, but from industry perspective, I think there is need for better understanding of where do you want the detail and what is the detail that you want. So I think this is certainly an area where more input is required.

My second point on the taxonomy is that we see the whole taxonomy discussion as a discussion that should take place on an international level, meaning ideally you have one taxonomy, not just for CFTC reporting, but for global reporting; and so my point is, we are having discussions with other regulators, but all regulators have kind of their own requirements. And so my question to panelists, in taxonomy rules in other areas, if you could give a little bit more detail about what the plans are.

And I realize this is kind of almost the next step after harmonization of the data you receive here, but what are some of the plans to work on harmonization on taxonomy on other levels with other regulators internationally?

MR. ROGERS: So I can tell you that it is very much in our interest to coordinate both here in the U.S. and internationally, and we've been doing some of those things already. We are significantly constrained by resources to be sure, but we have heeded the advice from the SDRs that have actually come out and said to us, you know, please don't invent your own taxonomy and develop a system for the CFTC only to then have us have to do something differently for other jurisdictions.

And so we are trying, we are working, we are coordinating where we can with agencies like OFR, also coordinating internationally with groups like ESMA on the development of a taxonomy, and we'll plan to continue to do so. And when such time as there is an international group that focuses on UPI similar to what is already going on with LEI, we would hope that the work we are doing would fit within that and so that there would be a global UPI initiative.

MR. ENGELEN: Thanks a lot.

CHAIRMAN O'MALIA: Chuck.

MR. VICE: Thanks. A few comments I suppose. One, I would say the interdivisional working group, I think as an SDR, we've felt like in the last few months, that group is, you guys are, the coordination and the communication going on that you're doing collectively with the SDRs and individually is helping us, the industry work through these problems, it's just going to be a slog to work through. I think Dan made an important point in his presentation, the large trade reporting system for futures took tens of years to get to the point where it is, and I would argue that it's not nearly as complicated in terms of the problem that it solves where much more fragmented OTC swaps market, much less standard instruments, and on top of it, rules that require real-time reporting and movement of data around in real-time between multiple entities.

I mean, it is a complicated thing. So I think some of this is to be expected and I think we just have to work through it as an industry and we'll get there.

The second point I would make is, I think it's important to talk about cleared and uncleared swaps separately. I agree wholeheartedly with Brian in that for cleared swaps, that data is the clearinghouse, there's no under or over reporting, there's margin calls on that data every day, so it has to be 100 percent correct. The fact that there is a trade that exists, there's a position, who is the buyer and who is the seller, so, you know, there is, it should not be rocket science, as Ananda alluded to, for those cleared trades to get into an SDR with whatever USI audit trail that we need and whatever alpha trade termination message is being received and processed. So that is incumbent upon, I think, the three SDRs and the working group to make that happen as quickly as possible.

From an uncleared swaps standpoint, we, for the commodity asset class, ICE operates a, one of the large or maybe the largest, I don't know, commodity swap data repository, primarily uncleared swaps in the asset class that potentially has the most variation in data. And I can tell you there, it is going to ultimately be incumbent upon the SDRs, hopefully on the back of some standard UPIs or some other type of industry embrace of taxonomy, to enforce the requirement that quality data get in the SDR.

We've taken our knocks with our customers sending us data that we've rejected because it was improperly formatted or it was incomplete or it didn't meet the standard field definitions. They had to go back and fix it and send it to us again, but we've been fairly strict about that. We've been very strict about that, because if -- garbage in is garbage out. So I think on the uncleared swaps base, I think it's important that the SDRs have a common approach in that regard.

The last point I would say is, of course end users need access to the SDR to be able to see the trades that they are parties to that are there, correct, edit any information that may be wrong. I think we're kind of crawling before we walk and run in that regard. I mean, I suspect, I know ICE does, I'm sure, I would think any of the SDRs have the ability for users to log in to those systems and see those trades, probably export data. Are we at the point of APIs? No, I don't think we are. For somebody as certainly as sophisticated as BlackRock, I'm sure we'll get there.

No question they're necessary. There's no reason not to have them. But I think it's early days in that regard. And I'm, you know, as we operate a couple of SDRs, and I can tell you, even though making it available for end users to access that data and review it, very few avail themselves of that at this stage, but again, I think it's early days. That's it.

CHAIRMAN O'MALIA: Bob.

MR. GARRISON: Yeah, I just have a quick comment and then an ask. And the comment is similar to what other people said that, you know, in the little more than a year to be able to get up and functioning what this industry has been able to get up, with a situation where you have immensely complex data and as a result immensely complex systems, really is quite a good place to be when you step back at a high level and look at what's been accomplished. That's not to minimize at all the issues that we have going forward.

The ask is around the cross-divisional working group, which I think is a tremendous step forward. The ask that I would have is, you know, as we have each division head, they all have different seats, different requirements, things that they want to see; I think it would help to have things approached in a very formal way and prioritize the work that you'd like the industry to focus on. We can't solve everything all at once, so to have a sense of what's most important to the CFTC to move forward, I think would be very important.

As Dan said, this is an iterative process, we'll work through those things in the priority order that gets set, but I think having that working group be formal and come up with priorities and collaborate very actively with the practitioners of the data across the market participants, I think is also very important.

CHAIRMAN O'MALIA: I completely agree with that, especially when it comes to our own budgeting, because if we can't figure out what their priorities are, it's tough to spend the money based on their priorities which I think will dictate our investment. Any final comments from our division directors? We greatly appreciate your thoughtfulness, your directness, and willingness to answer all of these questions. So thank you very much.

We obviously look forward to having a very effective cross-divisional working group. We are over time. I'm going to try to keep that 1:15

timeframe, which only gives us 45 minutes for lunch. For the TAC members and witnesses we'll be taking you upstairs for lunch. And I apologize for running over, but a lot to get through. So thank you very much. See you at 1:15.

Can we start panel two, please. Okay. Panel two, we're going to have a discussion about something we've been kicking around on this TAC committee for the past three and a half years and that's what are appropriate pre-trade controls in the market and how do we think about them and what problems are we trying to solve. So to kick us off, we will have Sebastian Pujol Schott, our Associate Director of the Division of Market Oversight, who was largely responsible for drafting the concept release. I think he's going to present what it is the proposal does and maybe some of the comments, an overview that we've received thus far.

And we've received dozens of very good comments, some extraordinarily long comment letters. And so, you know, at least somebody has an opinion about this stuff, so this should make for an interesting discussion. And then we have, what do we have one, two, three, or four panelists afterwards. A sampling of some of the comment letters that will give us, you know, to help frame this debate a little bit, and then we can have a full discussion. So after Sebastian, I'll recognize the panelists.

I don't know, have you guys decided how you want it in order? All right. Well, it will be ladies first.

Sorry about that, Caitlin. So, Sebastian, please kick us off.

MR. SCHOTT: Thank you. Good afternoon, Commissioner O'Malia and members of the Technology Advisory Committee. Thank you for the opportunity to update the TAC on the Commission's concept release on risk controls and system safeguards for automated trading environments. As you may recall the concept release was published in the Federal Register on Thursday, September 12, 2013. The

Commission offered a 90-day comment period that closed on December 11th of last year.

The Commission subsequently reopened the comment period from January 21 through February 14th. All comments received are available on CFTC.gov, and new comments are posted as they arrive. To date as you mentioned, Commissioner O'Malia, the Commission has received 33 comments. And in addition staff has met with several industry parties. Persons and entities submitting comments include trade associations, public interest groups, futures exchanges, an array of trading firms, members of academia, a U.S. Federal Reserve Bank, and consulting technology and information service providers in the financial industry.

Many of the comments received are detailed and thorough, including some comment letters that addressed all 124 questions presented in the concept release. One commenter conducted surveys of its member firms to gauge existing risk management practices. Other commenters provided academic papers in support of their points of view. And some focused on elements of the concept release that are of particular interest to them.

Staff is appreciative of all comments received and of the work that went into preparing these comments. Currently an interdivisional team of Commission staff is studying the comments and will make initial recommendations regarding any next steps that may be appropriate. My statement today will recap the structure and content of the concept release as well as provide a high level overview of the comments received and reviewed thus far.

As members of the TAC are aware, the concept release asks whether existing risk controls and automated trading environments are sufficient to match the technologies and risks in modern markets. In this regard the concept release focuses on the totality of the automated trading environment, including the progression of orders from the automated trading systems that generate them to the clearing firms that guarantee customer orders and onto execution by registered trading platforms.

The concept release also addresses ATSs, themselves, including their design, testing, and supervision, as well as change management practices. Finally, it raises a number of related issues ranging from the underlying data streams that are used by ATSs to inform their trading decisions to special considerations involved in trading via direct market access and whether terms such as high-frequency trading should be defined by Commission regulations.

The concept release was informed by a number of factors, including controls already in use by one or more industry participants such as trading firms and exchanges; existing CFTC regulatory standards, particularly standards that have been developed over the last several years of rulemaking; best practices developed by expert groups, including the Technology Advisory Committee, FIA Principal Traders Group, IOSCO, and others.

The concept release begins with an overview of the automated trading environment, including the development of automated order generation and trade matching systems, advances in high-speed communication networks, the growth of interconnected automated markets, and the changed role of humans in markets particularly in the risk management process. It also highlights the importance of ATSs as tools for the generation and routing of orders. These developments were addressed through a series of 23 potential risk controls and other measures broadly grouped into four categories.

The first includes pre-trade risk controls such as controls designed to prevent potential errors or disruptions from reaching trading platforms or to minimize their impact once they have reached platforms. Specific pre-trade risk controls include maximum message rates, execution throttles, and maximum order sizes among others. Depending on the measure, pre-trade risk controls could be applicable to all trading firms, to trading firms that operate ATSs, to clearing firms, or to trading platforms. The concept release includes a total of eight pre-trade risk controls and sub-controls.

And in that regard I do want to emphasize that even though a lot of discussions is around ATSs, when you look at the specific entities that contemplates, do, or might implement a risk control; there are instances in which does not discriminate on the nature of the order generation process. It can be automated, it can be high frequency, it can be manual. It's not necessarily calibrated to that particular parameter.

A second category of safeguards includes post-trade reports and other post-trade measures. Examples of this category include reports that promote the flow of order, trade, and position information across market participants. It also includes uniform trade adjustment or cancelation policies and standardized error-trade reporting obligations by market participants. These measures could be applicable to all trading firms, to trading platforms, or to clearinghouses. There are a total of five post-trade reports and other measures or sub-measures in this category including post-order, post-trade, and post-clearing drop copies.

The third category of risk control is discussed in the concept release is termed system safeguards. These include safeguards for the design, testing, supervision, and change of management of automated trading systems as well as the measure such as kill switches that facilitate emergency intervention. Such safeguards would generally be applicable to trading firms operating ATSs, and depending on the control, might also apply to trading platforms and others. The concept release presents a total of seven system safeguards, some with subparts.

Finally, the concept release also presents a fourth category of measures that could be relevant to risk reduction in modern markets. These include, for example, the registration of firms operating ATSs and not otherwise registered with the Commission. And policies and procedure for identifying related contracts across markets, for example, securities and derivatives markets.

As a threshold matter, the concept release recognizes that orders and trades in automated environments pass through multiple stages in their life cycle, from order generation, to execution to clearing and steps in between accordingly it solicits comment regarding the appropriate stage or stages at which risk controls should be placed.

Focal points for implementation of risk controls described in the concept release include ATSs, prior to order submission; clearing firms; trading platforms, prior to exposing orders to the market; clearinghouses; and certain options, other options such as third-party hubs to which orders or order information could flow to uniformly mitigate risks across various platforms. The concept release recognizes that the appropriate focal point or points for a risk control may depend on the type of control or on its intended purpose. Accordingly, it specifically seeks comment on this question, and on the desirability of a layered approach that places the same or similar risk controls at more than one stage of the order and trade life cycle.

Now moving onto the comments that the Commission has received thus far. I think, given the variety and complexity of matters raised in the concept release, it's understandable that commenters expressed a range of opinions. And my intent today is to provide an overview of that range of opinions based on what the staff has determined thus far. However, I do want to emphasize that the inclusion or the omission of a particular topic or comment should not be interpreted as being of special significance or as foreshadowing any particular direction. I'm speaking only for myself.

Many commenters expressed satisfaction that the Commission has undertaken this review of risk controls and system safeguards in automated trading environments. A number of parties support some degree of Commission action in at least some areas. For example, eight commenters expressed general support for coordination between the Commission and other regulators. Several specifically noted that coordination in the securities space to better address circuit breakers and trading halts across markets would be helpful.

Most commenters also expressed support for a multi-layered approach to risk controls. One commenter stated, for example, the holistic approach, I'm quoting, with overlapping supervisory obligations offers the most robust protection by engaging all levels of the supply chain and eliminating the possibility that a single point of failure will cause significant harm to the market.

At the same time other measures contemplated in the concept release drew opposition by a majority of commenters. For example, of the seven parties who have thus far commented on the idea of risk control through a centralized credit hub, five were opposed to the idea and two were supportive. Those opposed cited costs, complexity, and the potential concentration of risk.

Certain questions in the concept release drew a very divergent opinion across comment letters. For example, commenters disagreed on the need for a regulatory definition of high-frequency trading. Of the nine parties who commented on this point, five were opposed to a definition while four were in favor. Those opposed to defining HFT suggested that no clear metric distinctions could be drawn between automated trading and high-frequency trading or that any definition of HFT would become obsolete over time. Those who favored the definition generally also favored controls that were specifically aimed at HFT firms.

A commenter's opinion as to whether HFT should be defined typically ran in parallel with its opinion as to whether risk controls should apply equally to all automated systems or whether HFT deserves special regulatory attention. Those requesting HFT specific measures logically saw a need to define HFT.

At least one commenter; however, noted that some pre-trade risk controls contemplated in the concept release would apply even to orders placed manually. More fundamentally, academic commenters, some academic commenters, discussed concerns around the speed of trading, including within exchange order books. They suggested steps to slow trading.

I do want to note as you're aware and the TAC is aware that, you know, the concept release has made every effort to be an agnostic document. It did not include rule proposals. So the comments, you know, sometimes were bouncing off of specific items in the concept release and sometimes they were extrapolating to things that might not necessarily have been present there.

One recurring theme across comments is whether pre-trade risk controls and other measures should be principles based or whether they should be more granular. Many industry participants stated that if the Commission were to pursue rulemaking in this area that any rules should be principles based. These commenters argued that prescriptive requirements will become obsolete as technologies advance, that prescriptive requirements may not account for the unique characteristics of different market participants, and that prescriptive requirements could result in participants designing around such measures, in particular if rules required specific benchmarks, there was concerns that participants might specifically operate one tick, one measure beneath that benchmark.

Similarly, some commenters noted that the best way to achieve any desired standardization of risk controls is not through prescriptive Commission regulation, but rather through implementing best practices developed through working groups of DCMs, FCMs, and other market participants. Opinion was divided on this point, however.

Other commenters did express a need for more prescriptive rules. One commenter, for example, argued that prescriptive rules are necessary unless the Commission receives documentation that the risk controls implemented by firms and exchanges are consistent and effective. Another commenter questioned whether the incentives facing industry participants would permit them to "sacrifice speed for prudent risk controls."

Finally, as with the high level of questions discussed above, many of the specific pre-trade risk controls, the 23 enumerated controls and other safeguards discussed in the concept release, drew divergent opinions, usually around the question of whether there was any need for a regulatory action with respect to that control or if an action is appropriate, how granular or principles based a regulation should be.

Through the comments received, the

Commission is now in possession of more detailed information regarding individual risk control practices at both trading firms and at the exchange level. This was one of the important objectives of the concept release. And again, staff is grateful for the comments received that will help us understand the current practices better. As I noted previously, an interdivisional team continues to review all comments received and to refine its thoughts.

Thank you again to members of the Technology Advisory Committee, and to Commissioner O'Malia for having this dialogue and for continuing and for allowing staff to participate so that we may refine our thinking further.

CHAIRMAN O'MALIA: Good. Thank you, Sebastian. As I mentioned it earlier, but the comment period for this concept release has been extended until the end of this week, Valentine's Day. Send your comments in by Valentine's Day, and you'll be loved. So if there are any additional comments people have. But it was largely to accommodate this discussion to make sure we had this on the record and part of the discussion is to inform that record. So those who believe they might have missed it, there's still time.

Caitlin, can we ask you to go next, please.

MS. KLINE: Hi, thanks. Can you hear me? How is that?

I appreciate the opportunity to discuss the concept release on automated trade environments. The release is ambitious in its attempt to catalog and consider the extent to which modern markets operate outside of existing regulatory frameworks. And these were designed to oversee markets that were operationally distinct in every meaningful way from our current marketplace. And the release focuses on the value of prescribing a definition of high-frequency trading as independent from other automated systems.

And we see a value in a holistic

definition, particularly in its ability to identify firms for registration with the Commission and bring them under regulatory oversight, but it's equally important to reconsider the way we think about related trading practices in the context of automated markets since they, too, were defined with a manual market in mind. And specifically, reconsidering the conventional understandings of market making and liquidity provision, stability, and front running, and whether current market definitions of these practices continue to be applicable in a high-speed algorithmic environment. With respect to liquidity provision, true liquidity is a difficult concept to meaningfully quantify, but generally there's agreement about certain features of liquid markets in practice, like market depth and tradeable bids and offers and prices and spreads that are reflective of market risks. Without a doubt high-frequency traders almost by definition create tremendous volume in their markets, but volume on its own is of course not equivalent to liquidity.

For example, to the extent that an HFT programatically retreats when market activity falls, it doesn't provide useful liquidity to the market. So to the extent that an ATF works to demonstrate tight bid offers, but uses its speed to avoid execution at the bid of the offer or moves its tight bid offer away from a detected flow, it doesn't provide useful liquidity. And to the extent that a strategy amounts to penny jumping, rebate harvesting, quote stuffing, churning, spoofing, layering, hanging, order book feeding; it doesn't provide useful liquidity and it's almost certainly abusive.

With respect to stability it's important to note that while the market's understanding of what constitutes short term may have decreased significantly in recent years, but it's understanding of long term with respect to investors hasn't changed. And it's unclear how a market where average holding times are measured in seconds, provides a stable platform the allocation of capital.

Importantly, the potential for dislocations to propagate rapidly between unrelated markets suggests that our current market structure might not, in fact, be able to provide stability for our current market activity. And the sheer level of complexity in the release speaks to the possibility that retrofitting an antiquated marketplace with adequate risk controls, to the extent that it's possible to responsibly do so, could far exceed the cost of redesign.

Finally, with respect to front running, the conventional understanding of front running encompasses a broker positioning himself to profit from information that he has yet to be given to his clients. In the context of manual markets, that nonpublic information is thought of as other client flows or research, but in all cases it's using advanced knowledge of market information to profit from your clients.

When HFTs receive and digest market

information many times faster than investors, they effectively are able to see the future. And in most meaningful ways, latency arbitrage often amounts to programmatic front running. And of course it would be correct to argue that these aren't technically front running when applying an outdated understanding of it, but it's unclear how many of these high-speed strategies are not functionally front running.

With respect to the release, the crucial point to note is that these types of modern front running behavior can't be caught by looking at trade data alone. Bids, offers, and crucially order cancellations would all be required to reconstruct a manipulative trading pattern. And as the release shows, many of the issues are pretty complicated when we're looking at automated markets. But strategies that amount to illegal manipulation when performed over the course of minutes or hours, should be permitted -- should be prohibited when they take place within milliseconds as well. And practices that are illegal when performed by humans, should be equally illegal when done by computers. And if their regulatory framework isn't able to effectively account for these, then there is an urgent need to adapt the rulebook to match the playing field.

One final note with regards to the question of what this release aims to achieve. The release asks a lot of important questions about how to approach new regulation, but it fails to ask whether the public does, in fact, continue to be served by millisecond increment increases in the speed of trading at potentially great systemic risk, or does the public continue to benefit from the slight narrowing of bid offer spreads in more volatile and less stable markets? It's critical that the Commission doesn't lose sight of the bigger picture when implementing important and urgently needed reforms. Thank you.

CHAIRMAN O'MALIA: Thank you very much. Stuart, I guess we'll just go right down the line.

Stuart Kaswell representing MFA.

MR. KASWELL: Thank you. I do have a PowerPoint. I don't know if this is set up, or if I should just go ahead and --

CHAIRMAN O'MALIA: It should be set up. You can go back to the -- it should be preloaded on there, but maybe we can get our technology -- if you reduce this screen, it should be loaded on the home page.

MR. KASWELL: I can go without, but if it's here. Okay. So now that we've had the tryout for technology. Thank you very much, Chairman O'Malia and members of the TAC. Thank you very much for inviting me. I'm Stuart Kaswell, and I'm General Counsel of the Managed Funds Association. And with me today is my colleague, Jennifer Han, who is Associate General Counsel. We appreciate the opportunity to make comments today and to elaborate on our comment letter. We filed one of those painfully long letters, which I'm sure you enjoyed reading, but do very much appreciate the chance to make our comments to the Commission and to TAC.

MFA represents hedge funds, managed future funds, and fund to funds. Our members serve pensions, university endowments, and other institutions. Our members are active in the derivatives markets, so we have a strong interest in ensuring that the derivatives market's regulatory framework is robust and evolves to meet the needs of our investors. Okay.

Yeah, there we go. Oh, okay, now I'm just going to keep clicking away? Yeah. Oops. You know what, I'm going to just keep going. Okay. Now we're on the technology page.

Markets and technology have evolved together over centuries. Today's electronic trading platforms are simply the latest step in the evolution of markets. Technological developments have created more choices and lower costs for all market participants. MFA believes we should embrace these changes as positive. We should not fear technological developments any more we should fear the move from dial-up to high-speed Internet.

So we go to the next slide. If technological change is good, we must recognize that new technology has changed the risks we face. In the age of electronic markets, we believe it is more important than ever to ensure that there are appropriate risk controls and system safeguards in place. We believe, however, that it would be a mistake to frame the discussion of risk controls and system safeguards solely around automated trading, instead we really should focus on electronic trading. We note the SEC staff has found that old-fashioned human mistakes and not some HFT super computer have caused sudden price spikes or so-called mini flash crashes.

We've reviewed the current safeguard -- I'm sorry. We have reviewed the current framework for risk controls and system safeguards, and we have a few recommendations which I'll get to shortly. Generally we believe the CFTC already has adopted the right framework. The CFTC has rules requiring FCMs, swap dealers, MSPs, and SEFs to have risk controls in place. We believe the regulatory --

Okay, all right. I'm just going to keep going. We believe the regulatory framework best addressed and mitigates risk by, one, centralizing risk controls and system safeguards at the trading platform and intermediary levels and, two, requiring such entities to require real-time post-trade reports that market participants can use to enhance monitoring of their trading activities. This approach optimizes customer protection and market integrity, promoting responsible innovation and fair competition. It also would be consistent with the Commission's prior rulemaking.

Trading platforms and other intermediaries are the gateways to trading activity. They're in the best position to block inappropriate or erroneous orders entered by customers. Market participants are customers that operate or use automated trading systems already employ various risk metrics and trading parameters that are congruent with their trading and investment strategies. They have a strong self interest in ensuring that they have robust risk controls.

Problems arise when a market participant's risk controls fail or experience a software malfunction. The most effective way to mitigate such risks is to require external real-time risk controls at the FCM, swap dealer, or MSP levels, and at the trading platform level. With this framework in mind, I'll now discuss some of MFA's recommendations.

Generally, we believe trading platforms and intermediaries are in the best position to determine which pre-trade risk controls are necessary and appropriate. Intermediaries or trading platforms should manage and implement such controls because the controls need to be fine-tuned to market characteristics. They are in the best position to adapt and modify controls to ensure that the controls evolve with market practices and can avoid disruptions to orderly markets.

Nonetheless, we do have two specific recommendations. We believe that intermediaries or trading platforms should implement two crucial pre-risk -- pre-trade risk controls, maximum order size and credit risk limits. The maximum order size or fat-finger limit is the first. Manual or electronic traders are more prone to fat-finger errors than automated trading systems in which the size of an order is programmed as a parameter. Some FCMs already offer their customers fat-finger limit controls which allow customers to customize and set their preferred default levels, including order limits that apply to each individual direct order and so on. We believe all FCMs should offer such order size functionality to customers at the trader level.

The second recommendation is credit risk limits. These are an effective pre-execution filter. And like maximum order limit controls, FCMs in the trading platforms should offer credit risk limit controls and work with customers and members in agreeing to a maximum credit limit. Market participants employing automated trading systems build credit limits into their platforms and external control at an FCM trading platform would help mitigate a customer or member software malfunction.

Another issue that the concept release raises is price collars and trading pauses. We believe price collars and trading pauses can be effective risk mitigation tools. Price collars have long been effective in the futures market. The benefits of price collars became especially apparent after the flash crash. And we've submitted comments to the SEC and others to implement a limit-up, limit-down mechanism. Interesting the joint CFTC-SEC Advisory Committee on emerging regulatory issues was not the first task force to recommend the implementation of a price collar.

The presidential task force on market mechanisms created to investigate the October 19, 1987, market crash recommended that across the stocks, futures, and options markets there should be coordinated circuit breaker mechanisms such as price limits and trading halts. We believe trading platforms should coordinate price collars for linked equity products. With respect to trading pauses that since the equity markets have adopted circuit breakers, we believe it's important to consider whether a related exchange-traded derivative product should also be paused or halted from trading.

Regarding post-trade reports, we recommend the CFTC should amend and broaden its regulation to require real-time post-trade reports. These reports would allow customers independently to confirm orders and trades sent to their FCMs and to confirm their overall positions, assist with the clearing firm's ability to assess customer risk, and potentially mitigate the impact of malfunctioning pre-trade risk controls or algorithms. By comparison, when I shop online, I immediately get a confirm that says what I bought and can tell me how to track it on FedEx. We think that the CFTC regulations could require something similar.

On the -- oh, you're a little ahead of me. Okay. Trade cancellations and adjustment policies. One lesson from the flash crash is that uncertainty around marketplace trade cancellation and adjustment policies likely contributed to market participant’s confusion. We believe it's imperative that trading platforms have clear and objective trade cancellation and adjustment policies that limit administration discretion and instill accountability. Especially in terms of market distress, rules need to be predictable.

Next, I move to kill switches. As a system safeguard, we believe that market participants operating in ATS trading platforms and even the market participant's clearing firm should each have the capability to disconnect the ATS from trading platforms in the event that a software glitch or some other unforeseen reason makes it necessary. Although trading platforms should have clear objective, policies, and procedures detailing circumstances that warrant the use of a kill switch; we also believe they should have some flexibility in using it based on experience with the trading style or strategies of each market participant or instruction by the market participant at issue.

Moreover, if a trading platform is aware of a critical ATS systems issue, it should have a responsibility to disconnect it, to protect market participants, market integrity, and the public in general.

Regarding design and testing and supervision, we support a more robust and more routine testing of trading software. Trading platforms should offer market participants and intermediaries the ability to test their automated trading systems with trading platform software. Trading platforms also should offer integrated or holistic testing where a firm's software interacts with others. As an aside we note, and I know we're getting to SEFs at another time, but we question whether the accelerated implementation of mandatory SEF trading provides the appropriate time for testing with respect to ATSs.

We would caution against a one-size-fits-all approach. Policies and procedures for market utilities or service providers may not be appropriate or effective for market participants or customers with respect to the testing programs.

I have a couple of final comments to wrap up. On minimum resting periods, we don't support these because they would reduce the ability of market participants to react to changing market conditions and make them susceptible to having orders that become stale and get picked off. We think that would overall hurt market liquidity and market participation. I would note that EU, policymakers, have decided against a 500 millisecond resting period in Mifid II.

Regarding high-frequency trading on HFT, we believe that a new definition would not be the effective way to go. We think that technology, technological means are the best ways to address technological challenges. We think that market manipulation is illegal and we shouldn't tolerate it whether it's committed electronically or with carbon paper, but we urge technology to address these challenges.

Thank you for the opportunity to present our views. I appreciate the assistance of MFA's trading and markets committee and my colleague, Jen Han, who tried mightily to make the PowerPoint work.

CHAIRMAN O'MALIA: Thank you very much. So, Eric, you're going to go next.

MR. BUDISH: Yes.

MR. KASWELL: Maybe you'll have better luck.

MR. BUDISH: Yeah.

MR. KASWELL: We'll see. I'll trade with you.

MR. BUDISH: Oh, thanks. Great well, thank you very much. Eric Budish from the University of Chicago. Commissioner O'Malia, distinguished committee members, thank you very much for the opportunity to present my research. It's a great honor. This is joint work with Peter Cramton at the University of Maryland and John Shim also at the University of Chicago. We hope our work will be a useful input into your policy debate on automated trading.

The concept release is quite broad. We focus our research on the arms race for speed because it is the root cause of many of the issues and the concerns raised in the release. I want to start with an example that will be familiar to many in this room, which illustrates the high-frequency trading arms race. In 2010, a firm called Spread Networks invested 300 million dollars to dig a high-speed fiber optic cable from New York City to Chicago, and the salient feature of this cable was that it was dug in a relatively straight line. The straightness shaved round-trip data transmission time from 16 milliseconds to 13 milliseconds. And three milliseconds doesn't sound like much relative to the speed at which the economy evolves. Just to put in context, blinking your eye takes 400 milliseconds.

Industry observers called three milliseconds an eternity. The joke at the time was that the next innovation would be to dig a tunnel so it will go through the earth rather than around the earth to further shave data transmission time. And that joke isn't funny to Spread at least, because their cable is already obsolete. Not due to tunnels, but microwaves. First 10 milliseconds, then 9 milliseconds. The state-of-the-art microwave connection between New York and Chicago is now at 8.5 milliseconds. And there are analogous races occurring sometimes measured in millionths or even billionths of seconds in various corners of the financial markets estimated at consuming billions of dollars a year in physical resources not to mention substantial human capital.

We look at the high-frequency trading arms race from the perspective of market design. And what I mean by that is that we assume that high-frequency trading firms are acting in their rational self-interest with respect to market rules as they're presently given, but we take seriously the possibility that we have the wrong rules in place. This approach gets us around the good versus evil debate which seems to dominate the public discussion of HFT and instead allows us to ask at a deeper level, what is it about market design that is incentivizing arms race behavior and is this market design optimal?

Our central point is that the HFT arms race is a symptom of a basic flaw in modern financial market design, and that flaw is continuous time trading. We propose to make time discrete. More specifically, we propose to replace continuous limit order book trading with batch auctions conducted at frequent but discrete time intervals such as once per second or once per hundred milliseconds.

I'm going to go through three years of work in about 15 minutes. So I ask you to bear with me if I sacrifice breadth -- if I sacrifice depth for breadth and cover the material rather quickly. Let me go right into our argument.

Our first set of results shows that continuous time markets don't work as expected in continuous time. This is a plot of the price paths over the course of a trading day for the two most liquid securities that track the S&P 500 Index. The E-mini future which trades in Chicago on the CME and the Spider which trades in New York on the New York Stock Exchange and the various other equities exchanges. This is millisecond level data over the course of a full trading day. We use the same direct-feed data that high-frequency trading firms subscribe to.

And over the course of a trading day, these two securities are very highly correlated as we'd expect. Here's an hour of data, again, the securities are very high correlated. A minute of data, again, very highly correlated. And this is what the market starts to look like when you zoom into high-frequency time scales. So this is a 250 millisecond slice of the day. And what you start to see when you zoom into high-frequency is that the correlation between assets falls apart. Price relationships that are implied by basic asset pricing theory fall apart when you zoom into high enough frequency.

This is a fancy way of showing that this phenomenon isn't going away. On the right-hand side of the graph, we see that in each year of our data from 2005 to 2011, the market is getting faster in the sense of incorporating information from New York and Chicago prices and from Chicago into New York prices. And that shows up as the hundred millisecond correlation getting higher each year. But on the left-hand side of the graph, we see that in all years at high enough frequency, the correlation between assets is always approximately zero.

So why does this correlation breakdown phenomenon matter? It matters because it creates purely technical arbitrage opportunities, which in turn creates an arms race to exploit these opportunities. For instance, when the price of ES jumps and SPY hasn't reacted yet, there's a race to buy the cheap one and sell the expensive one. In this part of our paper, we use the CME and NYSE millisecond data to compute the arbitrage opportunity and look at how it evolves over time.

The first thing we find is that the duration of these arbitrage opportunities has been declining dramatically over time. And in 2005, the median opportunity was in excess of 100 milliseconds. By 2011, the median was less than 10 milliseconds. And the right-hand side shows the distribution of arbitrage length duration by year, which is a more sophisticated way to show that the market is getting faster and faster.

The profits for arbitrage opportunity; however, have stayed flat over time, they're not being competed away over time. And the frequency of arbitrage opportunities does fluctuate over time, but we find that this frequency is driven mostly by market volatility as opposed to market forces competing away the arbitrage. So to summarize, competition does raise the bar for how fast you have to be to capture arbitrage opportunities, but competition does not eliminate the arbitrage or even reduce its total size. These results suggest that we should think of the arms race as a constant of the continuous limit order book market design. It's never going away as long as we have continuous markets.

We calculate that the annual value of this one trade, ES-SPY is on the order of 75 million bucks a year. And of course this one trade is just the tip of the iceberg in the race for speed. There are many other trades that are very similar to ES-SPY, highly correlated, highly liquid. In equities markets fragmentation creates arbitrage opportunities that are even simpler than ES-SPY. You can arbitrage a security against itself. Three, there are statistical patterns that are subtler than ES-SPY, but still exploitable by HFT firms. And then, four, there's the race to the top of the book, which is an artifact of minimum tick sizes.

We don't want to put a precise dollar value on the prize in the arms race, but common sense extrapolation from our estimates suggest that the annual sums are substantial. So why do we care about the arms race? We show that the arms race ultimately harms liquidity. The key idea in our model is to ask, who are the profits in the arbitrage coming from. And we show that the profits ultimately come out of the pockets of liquidity providers which ultimately are passed on to real investors.

So to see why, consider the race from a liquidity provider's perspective. Suppose there's some publically observable news event that causes my quotes to become stale. This can be a jump in the price of ES that causes quotes in SPY to be stale or something more dramatic like a Fed announcement. There's one of me trying to adjust my quotes to reflect the news. So I see the news event, send a message to the exchange to adjust my quote to reflect the news, but at the same time many other market participants see the news event and try to pick off my stale quotes before I can adjust, so we have a race.

And in a continuous limit order book, messages are processed one at a time and serial. And since we all have access to the same kinds of information and all use the same kinds of technology, liquidity providers frequently lose the race even if liquidity providers are just as fast as other market participants. So the takeaway is that in a continuous limit order book, any time there is public information, there's a race to respond. And this race ultimately comes out of the pocket of liquidity providers.

This technical cost of providing liquidity, we show as incremental to the usual fundamental costs of providing liquidity such as asymmetric information and inventory management. In a competitive market, picking-off costs get passed on to real investors via wider-than-necessary spreads or thinner markets. Ultimately, all of the dollars spent on the arms race come out of the pockets of investors.

Let me make a few additional remarks about our model. First, we show that the arms race is an equilibrium constant of the limit order book. It doesn't get competed away as speed technology improves. It doesn't matter whether speed technology -- speed advances are measured in seconds, milliseconds, microseconds, nanoseconds, et cetera. This tells us that the arms race isn't going away unless we change market design just like we saw in the empirics.

Second, our model provides a useful conceptual insight into the role of high-frequency traders. In our analysis they perform two functions, a positive useful function, which is liquidity provision and price discovery, and a negative rent-seeking function, which is racing to pick off stale quotes. Frequent batching, our proposal is going to preserve the useful function, but eliminate the rent-seeking function of high-frequency trading.

So I'm a Chicago guy and I have to ask the Chicago question, what exactly is the market failure here? Isn't the arms race just healthy competition? So there are two answers to that question, at least two answers to this question. One is that our model highlights that high-frequency traders are stuck in a prisoners' dilemma. And the second answer, and I think this is especially interesting in light of this year's Nobel Prize to my colleague, Gene Fama, on the efficient market's hypothesis, is that our model shows that a violation of the week-form efficient market hypothesis is built into the continuous limit order book market design. It's an equilibrium feature of the market design that traders can make money from purely technical information. Markets are efficient in the short run, but they're not efficient in the extremely, extremely short run.

The last part of our paper shows frequent batching is an attractive market design response to the HFT arms race. Changing it from a continuous time design to a discrete time design is a direct solution to the problems we've identified with continuous time markets. What I mean by a frequent batch auction is that there's a discrete time interval, say one second or even 100 milliseconds, during that batch interval traders submit bids and asks as price quantity pairs just like current limit orders; at the conclusion of the of batch interval, the exchange batches together all of the bids into a demand curve and all of the asks into the supply curve; if supply and demand intersect, then all transactions occur at the same market clearing price; if they don't intersect, no trade occurs.

Information policy is that bids and asks are kept hidden during the batch interval and are reported to the public only after the auction is run. So this is analogous to current practice in the continuous limit order book in which I send a message to the exchange, it's processed by the exchange, and then the outcome is reported publically. An historical aside is uniform price auctions were invented by Milton Friedman, suggested in the 1960s that the Treasury adopt them for bond options. They were subsequently adopted in the 1990s. This is, these are supply-and-demand curves. They either cross or they don't.

There are two reasons why batching eliminates the arms race. One, is that batching reduces the value of a tiny speed advantage. If the batch interval is a second, then a one millisecond speed advantage is only one one-thousandth as useful as in the continuous market. Second, batching transforms competition on speed into competition on price. So for example, this past September the Fed made an important no taper announcement at 2:00, 20000.00 p.m. In the continuous market there was a race to react and there was a controversy over whether the race was as fast as legally possible or faster than legally possible. In the batch market competition simply manifests in price competition. At the next batch auction a second later, competition simply drives price to its new correct level.

There are also important computational benefits to discrete time over continuous time. Conceptually the problem with continuous markets is that they implicitly assume that computers and communications technology are infinitely fast. Computers are very fast, but not infinitely so. And discrete time batching respects these limits. More concretely, there are important computational benefits for algorithmic traders, exchanges, and regulators. For algorithms, in the continuous time market, there's always a small amount of uncertainty about the current state and there's temptation to trade off code robustness for speed.

In a discrete time market there's certainty about when I'll receive information, when others will receive information, and by when I have to make decisions. Everybody sees information from the time T-auction in time to make T-plus-one decisions, use information from the time T-plus-one auction in time to make T-plus-two decisions, et cetera. For exchanges, the continuous market creates a computational task that is mathematically impossible. Latencies and backlog are inevitable, and subtle details about the order in which messages are processed can be economically meaningful.

In the discrete market the computational task for exchanges becomes trivial. For the regulator in the continuous market, the audit trail is difficult to parse in one market, let alone across markets. Latencies make it difficult to figure out the basic order in which events occurred, as in the several months it took to piece together the sequence of events on the day -- on the day of the flash crash. In the discrete time market, the audit trail is much cleaner. Stuff happens at time T, at time T-plus-one, et cetera.

So to summarize, frequent batching has several important benefits over continuous trading. It enhances liquidity, it puts an end to the arms race, and it has substantial computation benefits. The cost is that investors and trading firms have to wait until the end of the batch interval to transact. And we can debate that whether waiting a second or a tenth of a second is a big cost or a little cost.

Another cost is the potential for unintended consequences. One should always be humble and cautious when proposing a new market design, though we would also note that the continuous market has, itself, had numerous undesirable, unintended consequences. And that's part of why we're here today.

So with that let me conclude. In a nutshell, we show that continuous time trading is a fiction. So you -- and it's a costly fiction. It induces an arms race that harms liquidity, is socially wasteful, and will never end as long as we have continuous trading. Discrete time trading stops the arms race, transforms the nature of competition. Competition on speed becomes competition on price. The incentive to be faster becomes an incentive to be smarter. And we preserve the useful function of HFT while reducing the rent-seeking function of HFT. And third, discrete time trading is computationally realistic.

We'd encourage the CFTC to carefully examine a move from continuous time trading to discrete time trading. Thank you again for your time and attention.

CHAIRMAN O'MALIA: Thank you very much. We'll go to Rob Creamer. Do you have a PowerPoint?

MR. CREAMER: No, I don't.

CHAIRMAN O'MALIA: All right. Perfect.

MR. CREAMER: So on behalf of the members of the FIA PTG, I'd like to thank the Commission and the members of the TAC for the opportunity to express our views here today. The FIA Principal Traders Group is composed of firms that trade their own capital on exchange traded markets. Our members engage in manual, automated, and hybrid methods of trading and are active in various, in a variety of asset classes, such as foreign exchange, commodities, fixed income, and equities. We are a critical source of liquidity in the exchange traded markets allowing those who use markets to efficiently manage their business risks.

The FIA, the FIA PTG, and the FIA European Principal Traders Association have been in the forefront of efforts to strengthen risk controls and system safeguards across the futures marketplace by identifying industry best practices with respect to risk controls that were to reduce the risk of market disruptions due to unauthorized access, software changes, system failures, and order entry errors. We observed that many of the safeguards discussed in the CFTC's concept release have been in place for many years and continue to be improved by the industry.

Our system safeguards have suggested that, suggested in FIA and FIA PTG white papers that, go beyond the risk controls and safeguards discussed in the concept release. The FIA PTG supports the CFTC's efforts to improve market infrastructure through effective risk controls and system safeguards. As we've noted in the FIA's response to the concept release, we believe that risk control requirements are most effective when they are principle-based. Any risk control that is overly prescriptive may quickly become obsolete as markets, technology, and trading strategies evolve and as a result may introduce rather than reduce risk.

Although we believe the current infrastructure underlying the futures marketplace is very strong, FIA PTG member firms will continue to work further to strengthen that infrastructure. The FIA PTG stands ready to support the work of the CFTC, to better understand where it thinks improvements can be made. The FIA PTG supports efforts of the CFTC to use state-of-the-art technology to more effectively monitor markets and protect market participants from trading abuses.

The FIA PTG believes that automated trading technology has provided many benefits to the overwhelming majority of futures market participants. Market quality metrics have been improved across the board as trading has become more automated and competitive. Trading costs are lower, markets are deeper and more liquid, discrepancies in prices across related markets are reduced, and prices better reflect information about the value of commodities underlying futures contracts.

The FIA PTG, therefore, believes that any regulatory effort to improve market infrastructure must at a minimum preserve the quality, market quality improvements that have occurred as markets have become more automated and competitive. If the CFTC determines that further regulation in this area is warranted, this determination should be supported by solid empirical evidence and rigorous economic analysis. The FIA PTG believes that in order to prevent market disruption due to a malfunctioning automated trading system, it is pre-trade risk controls, not credit controls, that should be used.

Such controls can use various approaches and act on a very granular level to detect unusual activity and to prevent unintended trading. We believe that kill switches if implemented and used properly can serve as an effective last-resort means of risk control, but stress that they are not a panacea and should only be used during extreme events when other courses of action have been exhausted.

In a recent survey of FIA PTG firms showed that all responding firms indicated that they used some form of pre-trade maximum order size limits, data reasonability checks, messaging throttles, and self-trade prevention controls. In addition, all responding firms indicated that they were either using or considering using some form of drop-copy functionality to aid with risk management.

The FIA PTG does not believe that a clear distinction can be made between high-frequency trading and automated trading. In fact, high-frequency trading, however defined, is a subset of automated trading and should not be used interchangeably with the term automated trading or as a way to arbitrarily identify a type of market participant.

The FIA PTG believes that instead of adopting a formal definition of high-frequency trading, the Commission's efforts would be better spent focusing on addressing potential risk of automated trading according to the principle that all market participants should be subject to risk controls. The FIA PTG supports a principles-based approach regarding registration, certification, and identification of automated trading systems.

We believe that it should be left to the individual DCMs to define these policies for their market participants. U.S. DCMs have used their own rules regarding identification and registration of an ATS. Such rules are designed to allow the DCM to identify orders generated by automated trading systems and know the supervisor or supervisors behind these systems.

We welcome the opportunity to discuss additional information the Commission may seek regarding from the participants that is not already included in the DCM's audit trail. The FIA PTG believes that any type of market-moving data and statements produced by the Federal Government should be governed by processes and released through systems that ensure the accuracy of such data as well as guarantee a broad and timely delivery of that data to market participants.

With respect to privately developed information, including information that may potentially move markets, we emphasize that this type of information is an important component of the price discovery process. We do not support government intervention into private enterprise in this context, but we do encourage transparency with respect to the policies and mechanics of information disclosure.

I thank you for the opportunity to be here today.

CHAIRMAN O'MALIA: Thank you very much, Rob. I'm going to recognize Richard Gorelick. He asked to make some brief remarks. Any other TAC members, subcommittee members who wish to make opening remarks, just put up your tags, and I'll recognize you kind of in order.

Richard.

MR. GORELICK: Thank you very much, Commissioner. I'm Richard Gorelick, CEO of RGM Advisors, a principal trading firm based in Austin, Texas. I support the Commission's work on the concept release and appreciate the opportunity to participate in this important dialogue on the Technology Advisory Committee. I'm not here to defend the status quo. We can always do better, and we should always strive to improve the quality and resiliency of our markets.

I've consistently supported a regulatory environment that promotes fair competition, encourages innovation, enhances transparency, manages systemic risk, lowers costs for investors and hedgers, and gives regulators the tools they need to detect and deter abuses.

It's important to note that moves

towards open electronic centrally-cleared markets further these valuable objectives. In recent years computers have become ubiquitous, transforming everything we do, from our cars to phones to shopping, so too with financial markets. These changes have been broadly positive, but also unsettling for some. In the markets, computers, automation, competition, and indeed even high-frequency trading, whatever that is, have improved market quality saving investors and hedgers billions of dollars.

The evidence also shows that as markets have gotten faster, market quality has improved. The evidence is clear and overwhelmingly positive, although some critics have tried to claim otherwise; but don't just take my word for it. I urge the Commission to make its own assessment of the record and not rely on partial readings and mischaracterizations. The evidence also shows that increasing automation, competition, and transparency have made markets on balance less risky and not more so. This may seem counterintuitive to some.

The media often reports on technology glitches disrupting our markets. All market participants, exchanges, trading firms, and clearing firms, have the responsibility to continually focus on ways to reduce different risks; however, we must not lose sight of the fact that crashes, panics, and trading errors have always occurred in the markets whether manual or electronic and our nation's exchange-traded centrally-cleared markets have proven to be remarkably resilient; therefore, any regulatory effort to improve market infrastructure should preserve the automation, competition, and transparency that have benefited investors and hedgers.

The concept release, itself, creates a useful record of the many safeguards that have been put in place by the industry, often for many years and that continue to be improved on a continual basis. We appreciate the Commission's work in cataloging these important efforts.

I also urge the Commission to review results of the survey conducted by the FIA and submitted with its comment letter that shows that best practice risk controls are widely used by both proprietary trading firms and FCMs. Some might attempt to construe the concept release as being preoccupied with high-frequency trading, defining it, registering it, and singling it out for special scrutiny; but a better understanding shows that it's not about a narrow class of market participants at all. Electronic systems and automated trading are widespread and used by all classes of market participants.

The evidence overwhelmingly shows that neither the flash crash nor recent high profile technology glitches were caused by HFT. Furthermore, there's simply no way to make a reasonable legal distinction between high-frequency trading and other forms of electronic trading. Rather regulators should focus on risk controls for, and surveillance of all, market participants, rather than just an arbitrary subset. Risk controls should apply to everybody with market access regardless of latency, frequency, or the like. Why create loopholes?

The markets are dynamic and constantly changing. So rather than codifying specific risk control practices, it would be far better to focus on key principles and standards of care. Hold market participants responsible for their conduct, but give them the flexibility to manage risks in ways that make the most sense. It might feel good to create checklists and rulebooks, but in reality that won't make markets safer or more resilient, it could instead create risky new distractions.

The best way to stay on top of technology is to use technology. Commissioner O'Malia recognized this when he restarted this Technology Advisory Committee several years ago. Regulators need to know what's going on and should use computers to understand and surveil markets. In many ways electronic markets with their detailed electronic audit trails should make this responsibility much easier. I applaud the progress regulators have made so far in this area such as the CFTC's work through this TAC.

I'd also urge the CFTC to study the SEC's MIDAS system and website, which has enabled the SEC to investigate and share with the public information about activity in the securities markets. I recognize the funding challenges, but believe the CFTC should consider rolling out similar systems in the markets under its supervision.

Criticizing HFT has become a cottage industry dedicated to putting forth frightening narratives that might make for good storytelling, but are not related to how markets actually work. I'm confident that the CFTC Commissioners and staff will see through fear mongering and hype; however, I am afraid that many members of the general public might be unduly alarmed and manipulated. I urge the CFTC, with the detailed audit trails and other resources available to it, to act as an expert agency, to sanity check the claims of commenters and to report to the public what it actually sees going on in today's markets.

There are many reasonable critiques of our markets today, and many ways to indeed improve them. I urge the Commission to use its expertise to encourage a rational evidence-based and constructive discussion of these important issues. Thank you.

CHAIRMAN O'MALIA: Thank you, Richard. I think we'll just go down the line with Keith and Irene and then Chris, et cetera, and then start on this side.

MR. FISHE: Sure, no problem. You know, it took me back, listening to some of the discussion that the panel presented, to when you first formed the subcommittee on automated and high-frequency trading, which I want to note was automated and high-frequency trading, because there's a lot of concepts that came up and were presented here and are on the public record and yet they come up over and over again and need to be addressed. And one of those is the issue of, you know, what do automated trading firms do when they provide liquidity?

And, you know, why does, you know, a firm potentially, like maybe a firm like mine, why do we withdraw our quotes sometimes? And sometimes we do, we do withdraw our quotes in the face of uncertainty. And we have no benefit to providing liquidity other than trying to participate in the market like everyone else. And when things are happening that we don't understand, you know, that's a potential loss for us.

But one of the things that you said, Caitlin, that was really interesting was that, you know, an automated trading firm or HFT, as you called them, you know, detects a large order and they back away. Well, yes, you know, a large order has a potential price impact, and not knowing the potential size of that order is a risk that another market participant shouldn't take. And if they're going to be required to take it, they should be compensated for that risk.

Now in our markets there is no specialist. There is no firm that we're competing with that gets a special taxi token for being that liquidity provider. So the idea that they should stand there and get run over by a large order is just unfathomable to me in a competitive marketplace.

The other thing I wanted to mention is the idea of, that you mentioned about blurring the legal definition of front running. That's something that actually did come up in our panel discussion over a year ago. You know, what is functional, as you call it, functional front running? And that's really, to me, what you've presented is a really dangerous concept that there's some line we can draw that somebody who processes information might be doing something wrong, but we don't know where that line is. They did it faster than somebody else, but we don't know how fast is too fast; and we're going to be, we're going to arbitrarily and potentially capriciously determine that they did something wrong. And that gets into an area of, you know, thought policing that I think, you know, would be a complete waste of time for the regulator.

The other thing I wanted to mention, and just one small point in your presentation, Eric, is the, you put a slide up about the Spread Networks going from Chicago to New York and how much they invested and how microwave has supplanted them as a faster way of getting information. But one thing to remember in that is that that's not an issue for a single matching engine. That's an issue that information happens in New York and information happens in Chicago and people are trying to get that information from one geographic location to another as fast as they can. And no matter what methodology you change the matching engine to, people are still going to want to try to get that information from one geographic location to the other as fast as they can.

So that, you know, that example, I don't think necessarily justifies your case of changing the methodology, but I'll leave it at that.

MS. ALDRIDGE: Thank you.

CHAIRMAN O'MALIA: If you want to respond to that, but if not then we'll just keep going. Okay. Thank you.

MS. ALDRIDGE: Thank you, Commissioner O'Malia. Thank you, the panel, distinguished panel for the opportunity to share my thoughts on this. I think this is a fascinating subject and I think this is fantastic that we're discussing this because this will undoubtedly stimulate further public discussion and hopefully eventually we'll reach a consensus on this issue at some point.

My name is Irene Aldridge, and I run an HFT firm. And what I do as part of the HFT firm, I develop high-frequency trading models, as well as risk management systems, as well as market access systems and market execution systems. And my clients tend to be billion dollar hedge funds and broker-dealers and lately family offices. There are actually quite a few of them all of a sudden interested in high-frequency trading. So much of my research, however, not only is devoted to developing the fastest most profitable high-frequency trading system, but also to promoting market stability and determining what construes the most optimal stable market and et cetera.

And I actually tend to debate Eric almost every month, it seems like we cross paths all the time, so I'm quite familiar with his research. And I have a few points I'd like to address with him as well, but first I'd like to mention that I completely agree with the representatives of MFA and FIA in their opinion. But also I'd like to mention that there are two main points, I think, around which this discussion is structured. First of all, this is a technology issue, I think, as we all agree. And second, is that when we consider opinions of people and we should really consider the sources and the backgrounds from which these people come from who deliver their opinions. So I'll get to the latter point shortly.

But about the technology, so Eric has, first of all, brought up this interesting chart to show that at very high speed that correlations breakdown between financial instruments. So he showed two-pair, a pair of instruments that are, move in tandem over a relatively, I would say, medium-term horizon; but when you get into a really high-frequency, then this correlation breaks down. And basically the prices do not trend together, they kind of separate.

So I would like to propose an analogy that Eric has already heard from me a number of times, but essentially consider an orange grower in North Carolina -- or not grower, forget it -- an orange seller, okay, we'll just be very simple. So this orange seller in North Carolina all of a sudden goes to Florida for a vacation and discovers that oranges are cheaper in Florida. All right.

So he puts his money down, he takes a risk, he hires a truck, he rushes to Florida with his truck, he fills it up with oranges, he brings it back to North Carolina and he sells it at a profit; but he still provides lower prices to North Carolinian consumers because oranges are cheaper in Florida and he's making a little bit of a cut, but he's still delivering better value to North Carolina orange consumers than would be otherwise.

So this is an example that's analogous to what high-frequency traders do in the market that Eric has shown us. So they detect very small changes, price discrepancies in the markets, and they take advantage of them. They buy and they sell, ultimately providing to consumers a lower more stable price across the board, but at the same time making profit on these very isolations. So the question is, what do we call these consumers, do we call them high-frequency traders or traders? Do we call them arms race people?

I mean, you can call the North Carolina orange seller also an orange arms racer, in a way simply because he was the first one to find out about the orange price discrepancy, he was the first one to think about hiring a truck, and he was the first one to drive these oranges to North Carolina and actually takes the price advantage and make some money off it. So do we call him an arms race dealer as actually Eric happened to call me in our previous discussion, or would you actually call him an entrepreneur, you know, somebody who is fulfilling his American dream and making the world a better place? So this is kind of obviously is subject to interpretation, but this is just one sour point.

Now another point, I think another very striking thing that struck me about the data presented earlier this morning, the data on swaps from SDRs is that over the last five weeks, and I'm just talking five weeks of trading in SDRs that we were shown this morning by the Chief Economist of the CFTC, the data that's available on the public website, the CFTC under the, I believe, market trading information, something like that; what it shows there, that over the past five weeks the volume, the aggregate volume of swaps traded in SDRs has stayed relatively constant. Okay. It has increased a little bit, but generally it was pretty flat; however, if you look at the number of trades, they have quintupled over the last five weeks. So the trades, I believe, they definitely have increased. I think the number was they increased fivefold over the past five weeks.

So if you take, just do basic math, you take the same volume of trades, okay, and you divide them by five times more trades, okay, do you get higher size or lower size of trades on average? Lower size. You get at least five times lower size per trade. Okay. So you have, and because of this, you also have, well, as I just said, you have five times more trades coming through, so obviously they have to occur faster, right? So we're now, over the past five weeks since the SDRs have been in business in just five weeks of the data that we saw this morning, we have five times increase in the speed of the markets, just this one particular market that's completely just been introduced and it's a test market, all right, it's clean. We can assume that there's zero manipulation going on simply because people have not yet figured out how to manipulate this market.

So what I'm trying to get at is that this is a perfect test case of how technology works in markets. And what technology does, it basically increases the speed with which people trade. And that's what technology does, okay? And it's not only that I think that, it turns out that there is a host of research that's been generated over the past several decades in computer science and operations research of which unfortunately many of our financial colleagues are not aware.

And I know, Eric, this paper that Eric presented, I think, was part of his PhD thesis. He just graduated last year. And the point is there is an amazing amount of research that has happened in the past 30 years that highlights, not only studies the arms race and the implication of networks, of speed of data networks in various locales, okay, but also it definitively declares that there's no arms race in these situations.

And just to give you the context of why this research originated and what was going on, similar issues were posed when Amazon was building networks, for example, to deliver faster information to its consumers or when other companies were investing, completely unrelated to finance, were investing millions, not billions of dollars, into building faster Internet speed access ways.

And people were wondering -- the latest paper that I have in mind is dated 2003, it was published in 2003, so it probably started development in 1999, circa time; and the latest paper is, really the question is, is there any social value to continuing this process, something that Eric posed as well, and whether there is really any purpose for people to pay for advanced Internet when anybody can get it at the same speed at the same price. And the definitive answer that that paper has produced is yes, there's an absolute, various -- and it's at Harrison Habib 2003. So there is a definite reason why people should pay, why given their cost structure, obviously business, et cetera; but there is a definite reason why people should develop these networks, and there is social value in doing so. Okay. This is an example that's not directly related to the markets, but nevertheless a very fair example.

Now another point is the solution that Eric proposed here has actually been implemented by the Boston Options Exchange, and it has been implemented since I believe 2003 if not 2005. Okay. So Eric did his PhD in Boston. And this company, which is also a Boston company, has actually encountered significant difficulties in implementing this model. And they have actually been running it for money over the past 10 years. Okay. And one of the interesting outcomes, well, they have very low levels of interest in their products, but another one of the interesting things is that they're forced by their clients to continuously increase the speed of these mini auctions.

So I think they started, I'm not sure what they started with, maybe one-second intervals, and then they went to one-tenth intervals, one-hundredth intervals, and another hundred millisecond intervals; and they're still, it's -- they're still not there yet. So they're being pushed by customers, by the marketplace into a continuous timeframe work. Okay. And it's not only, this Boston Options Exchange is not the only example. I mean, universally there were many, many models of different market systems including Singaporean Stock Exchange, et cetera, that tried all sorts of alternatives for their markets; and they all concluded that continuous time markets, the one we have today, is really the dominant model and it's the most practical one and therefore it's the best one that is there for the market. Okay. So --

CHAIRMAN O'MALIA: Irene, Irene.

MS. ALDRIDGE: Yes. I'm wrapping it up.

CHAIRMAN O'MALIA: Wrap it up.

MS. ALDRIDGE: Sorry, sorry. Thank you. I get a little overenthusiastic about this. So the issue is basically these are my main points. Now on the last point I'd also like to mention that I have personally been offered money from an organization that sounds very academic and but really to write extremely negative research about high-frequency trading. And so I would like to ask Caitlin how she makes her money because it's not exactly clear to me. Thank you.

MS. KLINE: Sorry. What is your question?

MS. ALDRIDGE: How do you make money?

MS. KLINE: How do I make money?

MS. ALDRIDGE: Yes.

MS. KLINE: I don't know. I don't understand what you're getting at.

MS. ALDRIDGE: I'm just, what's your source of revenue?

MS. KLINE: At Better Markets?

MS. ALDRIDGE: Yes.

MS. KLINE: We have, we're a donation fund.

MS. ALDRIDGE: Okay. Well, I was basically offered a similar situation and that's what I'm trying to say, that to write extremely negative research about high-frequency trading, which I obviously refused because I don't believe this is the way to do that, but to set up is essentially a similar organization. So that's --

MS. KLINE: Wait. Can I ask what the --

CHAIRMAN O'MALIA: Irene.

MS. KLINE: -- what would the incentive be for someone to do that?

CHAIRMAN O'MALIA: Let's, this is a --

MS. ALDRIDGE: That's not --

CHAIRMAN O'MALIA: -- little bit off topic. So let's --

MS. ALDRIDGE: Sorry.

CHAIRMAN O'MALIA: -- keep moving.

MS. KLINE: Thank you.

CHAIRMAN O'MALIA: Chris.

MR. CONCANNON: I'll try to keep my comments brief. The, you know, I was going to talk about an apple grower in Upstate New York and how that relates to -- [laughter.]

First of all, I just want to thank the panelists. I think all of you did a fantastic job. These are not easy issues. They are complex issues. And I think to reiterate what Rich said was, this concept release is around risk controls. We're all going to debate the high-frequency trading debate. It will continue for years to come, it likely won't be solved; but when it comes to risk controls and protecting our market, there's some very basic things that we can do.

And I think most people in the comments that I read, most of the comments supported mandated risk controls. So it's very simple, pre-trade controls mandated by the CFTC or exchanges, for that matter. We have the exchange credit controls that work phenomenally well and they have proven themselves over the years. And then mandated post-trade controls. In that world where we have mandated pre-trade controls, credit controls by the exchanges, and post-trade controls; we're going to be in a much better place than we are today.

I do think the comments around the batch market were interesting. I encourage you to go forth and build an exchange and try that model. I think there's a simpler solution to the socially wasteful behavior that we've all had, and that's, and I've been pressuring Brian Durkin on this proposal, and that's simply, if he could move to New Jersey, we would all be in a better place. Thank you.

CHAIRMAN O'MALIA: So can I ask you, the crux of this whole concept release is really that, what are the appropriate -- if there are already controls in place at the industry level, right, CME, ICE have them at the exchange level; what does mandating them at the Federal level buy us?

MR. CONCANNON: Well --

CHAIRMAN O'MALIA: And especially, you

know, considering our rulemaking process, how nimble we are. Can you reflect on that?

MR. CONCANNON: Sure. I mean, I think what it does buy you, I think that mandating pre-trade controls, so before an order enters the exchange system, it has been filtered for credit for a large order or a mispriced order, sort of some erroneous order, and there's a series of other checks that it can have; but having that mandate in place is that extra protection that even the credit controls of the exchange may not pick up. And the erroneous order is one where you can have a filter that does pick up those erroneous orders which obviously create disruption in our market.

It could be mandated at the exchange level. Exchanges could have a rule that requires, before any participant physically connects to an exchange system, that they have pre-trade controls. And those pre-trade controls can be based on the activities of that participant and appropriate for those. So if it's a manual trader, maybe they have oversized order protections and price protections. But mandating at the exchange level or at the CFTC level, I don't think it's that difficult, and I don't think you'll get that much industry pushback.

CHAIRMAN O'MALIA: Greg.

MR. WOOD: Thanks, Commissioner O'Malia. What I was actually, I was actually going to say a lot of the same stuff that's already been said, but the main thing I want to make a point is that as a co-author of the FIA response to the concept release, that document took into account, not just the thoughts and views of the Principal Traders Group, but also the FCMs and ultimately the views of our client base, which, you know, is increasingly using automated trading themselves and that's covering asset managers, investment managers, family offices are becoming more common now as people start opening up funds, corporates, et cetera.

And there's a wide range of market participants with different trading objectives who are increasingly using the same sort of tools that we're trying to classify here. And yeah, it's important to try and avoid defining participants without -- based on how they trade, but without looking at why they trade.

So all of these market participants have a fundamental responsibility for implementing effective risk controls regarding the development and implementation and use of automated trading tools to ensure that the market integrity is protected. Now where the CFTC can help there, it's not by layering, sort of one-size-fits-all requirements around risk controls, but taking the principles approach that risk controls should be in place, and if there is a lapse or a failure, then someone should be penalized because they didn't have the appropriate controls in place, as opposed to mandating one type of control over another, whether it's current controls, fat-finger controls. All of those controls have parts to play in part of the process of protecting market integrity and the integrity of the participants.

Now one of the messages we've tried to get across throughout the life cycle of the subcommittee on automated trading and high-frequency trading is rather than focusing on types of trading activity, we feel regulatory emphasis should be on identifying and stopping disruptive or abusive trading practices. And as the markets have become increasingly technology focused, any advertent disruptive behavior due to technology failures should be understood and prevented for an increased focus on both risk and quality management at the user and/or provider of the technology and the people providing access to the markets well.

So just in summary, you know, based on the feedback you get from the concept release, the FIA, you know, sort of welcomes the opportunity to work with the Commission to create a framework around automated trading environments that addresses the needs and concerns of all participants. And we would like to take the opportunity to help the Commission to craft rules that are straight forward in their intention and unambiguous in their implementation. Thank you.

CHAIRMAN O'MALIA: Larry.

MR. TABB: I want to thank the panel. Very interesting ideas. I'm not necessarily sure I agree with all of them, but I think they are very interesting and thank you for presenting them. I generally agree pretty wholeheartedly with what Greg and Chris had said in terms of your discussion as to why should controls be implemented at the Commission level. My view is really more about consistency. And while the futures markets traditionally aren't that fragmented, depending upon how the SEF framework rolls out, you want to ensure that risk controls are implemented at least on a policy base horizontally and so that they can't be gamed or gotten around, that's my major issue. Thank you.

CHAIRMAN O'MALIA: Wally.

MR. TURBEVILLE: I've got a couple of things to say. First, having worked at Better Markets and now at Demos, I will assure the entire audience that nobody works at either place for the money. [Laughter.]

Right, Caitlin? Thank you, Professor. Oh, if he is a professor, you did graduate?

MR. BUDISH: Yes, I did graduate.

MR. TURBEVILLE: Good, that's good. [Laughter.] Thank you, Professor. Thank you, Professor, for pulling back the veil, if you will. So much of this discussion is based on ill-thought-through notions of what is liquidity, of what is technology, technology in the hands of market participants is not designed to make the marketplace efficient; it's designed to make the market participant efficient to make money often from inefficiencies in the marketplace. Thank you for suggesting that if, in fact, all of this, there's a class of activity that does, that costs society money, that doesn't cause society benefits, and definitionally is riskier, it creates risks that wouldn't exist if that activity didn't exist.

What in the heck are we doing talking

about risk controls to try to avert a catastrophe when it costs us money every day? That's the point. And thank you for doing something. By the way, the most recent study that sort of catalogs all of the information about, all the positive studies supporting HFT was a professor named Charles Jones from Columbia University last year. And you should check out who paid for that study.

But aside from all of that, let me just ask the professor a question. You say in your paper that the batch systems address the issue of what you call exchange processing anomaly and address the issue of incentives for sacrificing algorithm robustness in favor of speed. So both of those things are issues associated with risks at the exchange level or the infrastructure level and at the trader level.

If that is the case, wouldn't under the kind of system that you're suggesting, which is definitionally something which views that a continuous order system, limit order system is one in which speed actually matters and is valued inappropriately or not for the benefit of the public, so since those two things are addressed and in your suggestion, doesn't that suggest that slowing down the speeds changes the actual benefits and costs associated with any kind of system of sort of prophylactic measures to try to avoid the risk controls that we're talking about here.

In other words, it changes the whole relationships of risk controls since it changes the risk relationships at both the exchange level and at the trader level. Is that true?

MR. BUDISH: Thanks for the question. Let me do my best to address it. So our point is, I think some of the, there are some proposals in response -- there are some proposals that are covered in the concept release such as minimum resting times. And to my co-panelist, Stuart Kaswell's point during his discussion, we agree that minimum resting times are a bad idea, that to us -- so here's the metaphor I would use, the arms race is like a fever that tells us that the underlying market design is sick.

And there are some proposals that are like throwing the fever patient into a bucket of ice as a way to cure the fever. And our approach is to try to go at the underlying cause of racing behavior, which is continuous time trading. And we point out in the section of the paper that you referred to, that continuous time trading in addition to incentivizing, inducing a speed race which we show harms liquidity and it's wasteful, also continuous time trading is computationally unattractive.

For exchanges, exchanges are put in a position where they're given a computationally task to perform. Algorithmic traders are put in a position where they are, they face an incentive to trade off code robustness for speed. And in a discrete time market -- and please keep in mind that we're proposing discrete time at extremely high-frequency. So if we run discrete time auctions once per hundred millisecond, there would be 234,000 auctions per security per day. This would still be a market in which algorithmic traders or automated professional traders would continue to play a critical and fundamental role in price discovery and liquidity provision process.

Our point though is that discrete time trading enables algorithms to better do their job. We're trying to preserve the useful function of automated professional traders, which is liquidity provision and price discovery and eliminate or reduce the rent-seeking function of automated professional traders, which is picking each other off in a race to pick off stale quotes.

One other comment is that relocating the CME to New Jersey doesn't address the underlying problem, which is continuous time markets. It would make the problem harder for us to detect as academics. So our data is at the millisecond level, which is fine enough to detect arbitrage opportunities between New York and Chicago because these arbitrage opportunities last on the order of

8 to 10 milliseconds, whereas the analogous kinds of arbitrage opportunities that exist within equities markets occur at sub-millisecond levels. So there's just, there isn't data that we can obtain as academics that would allow us to do the same kind of work, but the conceptual point is the same.

And just to give you, just to, you can see the correlation breakdown phenomenon in equities markets just like you can see in this Chicago-New York arbitrage, so the underlying failure of continuous markets is there, we just can't detect latency arbitrage in equities markets with the kind of data that's research available.

CHAIRMAN O'MALIA: Cliff.

MR. LEWIS: Mr. Commissioner, this has been a fun topic, and I won't thank anybody, but I'll make one general observation, one demagogic observation and then maybe one substantive observation. The general point is, I think it's very important to note that CFTC as one of the implementing agencies of Dodd-Frank is engaged in a great enterprise. And that enterprise is to introduce to OTC markets the efficiency, transparency, liquidity characteristics, risk management characteristics which have been synonymous with, shall I say the Chicago, not New Jersey, markets. No dig against New Jersey.

But the fact of the matter is, those markets were very resilient during the crisis. They were not a cause of the problem. They worked. Now there are alternative models, no question about it, in terms of how to run a market. Maybe the extreme example of that are what are euphemistically referred to as fixings, discontinuous, in theory, auctions; but like Libor, gold fixing, there are a variety of different approaches, alternatives to the Chicago model. I would just say that unfortunately the Dodd-Frank legislation has decided that the Chicago model is the better model.

And one of the key principles that the CFTC has in that model is the idea of central limit order books, but, you know, I'm commending you guys. So it's only appropriate that it's so farfetched that somebody would say CFTC has got it right. But the problem is as much as the CFTC has it right -- as is reflected in the Dodd-Frank legislation, this mixing of clearing and liquidity, this incredible democracy effect, which frankly is to introduce high-frequency traders in swaps to people that previously had no access to them. That's really what you're engaged in today. And it's exactly the right thing. Now we can show statistics about dysfunctional aspects of various markets and the continuation of arbitrage, but I would argue as we've said before, the principle problem here is not with the fact that CFTC has some problem, because I think you guys have it just right and I don't think you need to do anything more than what you're doing now.

The problem is with the SEC, the reason why you see that arbitrage example is because Reg. MNS is nuts and it's obviously nuts. So I'm, apologies to people from the equity market world, the fact of the matter is, don't abandon what's worked well for what hasn't worked. Keep with what's worked and keep reinforcing it. That was not yet my demagogic point. The one substantive point before I go completely demagogic is remember, too, that one of the basic principles of the futures is not that they're perfect surrogates for the underlying cash market, on the contrary, they're not.

The idea is that they move in parallel and eventually converge. But the fact of the matter is that futures entail basis risk and because of that fact, there are opportunities to arbitrage. Indeed that's what makes the markets work. That's what makes the markets work particularly in agricultural commodities, which is where the CFTC first developed this framework, and extended it then to financial products.

And now as I slide into purely demagogic, let's posit a world where the SEC, maybe the Fed, too, ruled, where the Chicago markets had not developed, where high-frequency traders had not taken up the mantle of what we used to call scalpers or locals or market makers in the previous environment of the pit where Brian and I used to work, and instead we continued to operate where basically Wall Street got to decide the price of everything. Do we honestly think the buy-side would be better off in that environment? No.

Now is my positing of sort of a manicky choice inappropriate? Of course it's inappropriate, but it's no more inappropriate than guys that go after high-frequency trading.

CHAIRMAN O'MALIA: Chuck.

MR. VICE: I'm not as eloquent as Cliff, but I'll try to make a couple of points anyway. I do think on the market structure point, there's a lot of benefits to the markets as they work today, continuous market as Cliff described some of that. I'm not -- I don't -- I'm not under the illusion that there's some panacea. There are merits to all markets. There're pros and cons. To an auction market, I mean, one of its cons is you don't, you have no pre-trade price discovery. That's what happens in dark pools and other markets where you don't have resting bids and offers. So even in absence of transactions, people don’t have some indication of where value is in these markets.

So we can debate the pros and cons of that endlessly. And I think, you know, to the extent that there are markets and market participants that prefer a different type of structure, there's an opportunity for an existing exchange or a new exchange or whoever it might be to meet that need. So I think that's something market evolution naturally addresses.

More at the nuts and bolts level, as far as the whole HFT concept release, I think we've had an issue, I think a lot, there's a lot of good things on the table that are already being done by the exchanges and the FCMs and the principles, themselves. So the question really becomes, do we mandate that by law and do we require HFTs to register which begs the question of defining an HFT. And I think that's where we immediately start to have heartburn, because as operator of an exchange, we see that continuous spectrum of automated trading.

Yes, there are guys who invest in microwave and COLO and all of that, but then there's a whole gray area of people who have all types of automated trading algorithms that humans do not intervene that have various degrees of latency mitigation around them, some as simple as Excel spreadsheets, that from an operational risk standpoint of operating an exchange or from a market manipulation standpoint operating an exchange, we're just as concerned about things like layering, spoofing, runaway order messaging, all the same things that people talk about with regard to HFTs.

As an exchange operator, we are just as much, or perhaps even more so, concerned with all of the customers from that standpoint. So, you know, we're not going to win any marks if we have a non-HFT create problems manipulating a market or creating operational risk and our defense is to say, well, they weren't an HFT and we prevent HFTs from doing that. So from an exchange standpoint, irrespective of what definitions and rules may come out of this, we will continue to paint a same brush for all participants in terms of the risk controls that they will have to go through in the surveillance and compliance that they'll have to comply with.

MR. DEWAAL: Thank you. Because there's a lot of repetitive statements here, I'm going to try not to be repetitive. I think the one thing we will all agree on at this session is that the folks who came in with certain views will leave this meeting with the same views, because I think this is a highly emotionally charged topic and at least regarding the, you know, the basic questions of the front end, what I call the front-end-type issues, I don't think there's going to be resolution among the members. I tend to put myself in the camp of folks which, who say that you shouldn't go after a particular type of trader. Problems are problems. Market offenses are market offenses. Front running is front running. Fraud is fraud.

That being said, and I, and the one thing that hasn't been mentioned is that since the last meeting of this Technology Advisory Committee, there hasn't been another example of an algorithm gone bad over in Korea. The Hanmag security situation, which has resulted in, what, I think about $48 million of loss and a hit to the guarantee fund there, so a lot of the FCMs are actually sharing the pain of the circumstances.

I do think that, you know, if the emotionalism can be eliminated and people step back, you know, the one area where I think that really does deserve some attention is the algorithms gone bad and what kind of better controls and better thought needs to be isolated about there. But I also do have one question for the professor, because I'm a little struck about what I thought, by the way, was a very interesting intellectual conversation of another theory of a better market, you know, I'm regrettably probably not up to know whether it's good, bad, or indifferent; but thinking about the Chicago market, what strikes me though is that most of the exchanges, in fact, all of the exchanges these days are for-profit institutions.

And, you know, the debate about good liquidity, bad liquidity, you know, I'm a little confused, because if, in fact, the exchanges which are for-profit institutions are acting in their best interest, aren't they the ones who are best able to assess whether the markets, as contributed to by the algorithmic traders or the so-called high-frequency traders are good, bad, or indifferent, aren't -- the fact that they stand by the systems and they're for-profit, doesn't that suggest that they're operating in their own self interest in saying that the status quo is, in fact, okay, and the liquidity on the markets is generally okay?

MR. BUDISH: Thanks. That's a very important question. So let me offer a few thoughts. So one thought is, before we get into the, I think the question you're getting at is, to the extent that we're right that discrete time trading is a superior alternative to continuous time trading. And again, discrete time at very high frequencies, we're talking about discrete time faster than humans can perceive. If we're right that discrete time is a superior market design to continuous time, then your question is, is that something that market forces will discover on their own or is that something that requires a regulatory mandate or some blend, some regulatory push short of a mandate.

And that's a hard question that I don't have a clear answer to, but stepping back, one thing we are trying to do with this paper is shift the debate of that -- there are a lot of ideas about high-frequency trading that we think are a bit muddled. And as I mentioned, a lot of the public discussion about high-frequency trading has this good versus evil flavor. And I took some criticism from the good camp and the evil camp over the course of these discussions and that's fine and expected and I'm used to it and have thick skin. We're trying to refocus the debate on what we view as the core issue, which is continuous time trading versus discrete time trading.

And a lot of the other market design proposals circulating, we think are non-constructive. Minimum resting times being one example. Message to trade ratios being another example. Tobin taxes being another example. Message taxes being another example. So there's a lot of muddled thinking about high-frequency trading which we're trying to clarify and help to refocus the discussion. So it's possible that we're right that exchanges will decide to do this on their own, but that will still be a useful input into their decision-making process and also into the public and the industry's understanding of the benefits of discrete time trading over continuous time trading.

That said, the question is, how do we think about the question of whether market forces will get there on their own versus whether there's a justification or a requirement for regulatory intervention. There are a few frictions, which even if we're right, might prevent market forces from reaching discrete time trading on their own. One friction is that markets involve coordination problems. Markets are a classic example of a business with network externalities.

And setting up a new market design based on discrete time trading versus continuous time trading would have to bring on board market participants, investors, et cetera. So while I appreciate the suggestion that I should set up my own discrete time exchange, network effects is one serious obstacle to overcome.

A second potential obstacle is just regulatory ambiguities. So on both the equities side and the futures side I've heard -- and I'm not a lawyer, I'm not a regulatory expert, this is just what I -- what I hear, there's certain ambiguities in current regulation that call into question whether it would be easy for an exchange to adopt frequent batch auctions on their own.

And so the topic of pre-trade transparency came up, that's an important topic. We think of the pre-trade transparency in a discrete time market as exactly analogous to the pre-trade transparency that exists in a continuous time market, but that's a regulatory ambiguity that would have to be clarified, and that might pose some risk to an exchange attempting to adopt discrete time auctions.

And then the third potential friction is that there are interests in the current continuous time market structure. What we're proposing is not what economists call a parade on improvement. Moving from a continuous time market design to a discrete time market design does not universally benefit all participants in markets. Guys digging high speed fiber optic cables or microwaves would lose from this or building state-of-the-art microwaves would lose from this proposal.

The high-frequency trading firms that I've spoken to have distinguished between research-based strategies and mechanical strategies. And mechanical strategies being trading strategies that only are profitable if you're slightly faster than the competition to execute. Research strategies being strategies that are based on insights that others don't have. So think of the first category as speed, the second category as smarts. Speed-based strategies are no longer going to be profitable under this market structure, so that's another example of a potential loser from this proposal. Of course the smarts-based strategies would continue to flourish.

So there are, that's a third source of friction. So again, a coordination problems, regulatory ambiguities, and then interests in the current market structure. But it may well be that exchanges decide to do this on their own one day. And we'll be patient.

CHAIRMAN O'MALIA: Thank you. Brian, which will probably be the final word unless somebody has got something else to say.

MR. DURKIN: So I'll try to be very,

very brief, but I'm going to go back to a comment that I made when the initial concept release came out. And I'm going to again compliment Sebastian for putting together a very comprehensive questionnaire that I think was very thought provoking for, you know, many of us that responded; but you know, the compliment is that it was labeled concept release and risk controls and system safeguards for automated trading environments. And, you know, this is something that the CFTC, and I think all of us sitting around this table need to take some pride in, in the context of the work that's been done over the course of the last three, three and a half years, Commissioner O'Malia and the team that has been put together here to look at these issues.

And you know, when you take a step back and you see what has transpired between the efforts of the Technology Advisory Committee, the CFTC, the CFTC staff, FIA PTG, all of us working together as industry constituents to help this global marketplace that has evolved over the years continue to grow, evolve, and operate with the highest degree of competence, integrity, and transparency.

So when you take a look at what has been achieved in that regard, let's talk about some of these risk management protocols that have been adopted as a result of the fine work of your efforts and the team's efforts around this table. Many of the aspects of that report have been already well addressed in the context of risk management protocols, pre- and post-trade protocols, requirements and mandates by certain exchanges, ours being one of them, that you must utilize our credit controls in order to be able to do business on our exchange.

Messaging policies, the ability to identify automated trading participants. Granular audit trails. You know, I have to address one more time when I hear about flash crash and the inability to reconstruct an audit trail, I happen to be the person that was responsible for doing it and getting this information to the CFTC before midnight the night of the flash crash. And I can tell you that I was able to say down to the individual participant, down to the individual message, what transpired in the futures markets. Can't say the same for the other marketplaces.

And so, you know, what I ask people to bear in mind as you get into a lot of this other discussion about high-frequency trading and whatnot, you know, I think the fundamental premise of what we've been talking about is having risk safeguards, adequate controls in place to be able to maintain the confidence, the integrity, the transparency, and the vibrancy of these markets.

And I think that we've come an awfully long way to accomplishing all of those things.

CHAIRMAN O'MALIA: Thank you. Let me make a comment. Since we started down this road of defining HFT and we have the subcommittee members here, it is interesting, Sebastian, I think you mentioned that five commenters said, don't need HFT definition at all and then the other four said you did; but as I recall reading those, they were all saying, yeah, but you need to define all of the different threshold levels that the HFT group couldn't define because they are very either market or asset specific.

So it is quite interesting that no matter what we say about HFT, it is tough to define and then most people kind of say, well, that's not relevant in this debate anyway. What you need is good robust controls or you need to, you know, to the professor's point and Caitlin's point, you know, get rid of latency, some of these arbitrage opportunities.

So I appreciate everybody's hard work on the HFT definition. It seems as though it may not be as useful as we may have thought before.

And, Professor, when you designate an HFT, do you have your own criteria or threshold level for what one is or isn't?

MR. BUDISH: So no, we don't have a definition that I would propose to you. The distinction I would draw is between, I guess the conceptual distinction, I would call to your attention, is between the information technology revolution on the one hand versus the speed race on the other hand. And to some of the commenters' point, there's substantial evidence that the information technology revolution has been a positive force in financial markets, my read of the academic literature is that there's substantial evidence that IT has been good for financial markets just as IT has been good throughout the economy; but there is evidence that the speed race, per se, has been beneficial, and particularly as we think of the last, the current kinds of speed increments that are currently in place.

So we don't have a definition of high-frequency trading that we'd offer to you, but I would draw a distinction between automated trading using sophisticated computer technology, which we applaud and which the empirical record has kind of -- there's considerable empirical evidence that the technology in financial markets has been beneficial, and trading strategies that are based on tiny speed advantages.

And so it's that latter that we are trying -- we're trying to do with this discrete time proposal, reduce the profitability of trading strategies that are based purely on winning a race to react to information that many observe are at once. And so if -- those kinds of trading strategies are what I would lump together, but that's short of a definition you can use.

CHAIRMAN O'MALIA: All right. Any other thoughts? We're a little, again, over time. Let's switch out the panels. We'll take like a 10-minute break and be back in here. Thanks.

Okay. Panel three, SEF execution facilities. We're going to focus a little bit on this made available for trade determination that we have coming up that obviously makes a big difference to these markets on the 15th. We have Vince McGonagle for a repeat performance, the Director of Market Oversight, and we'll explain kind of the Commission position right now. And then we have, what do we have, four other participants to talk about package trades in the market, their impact to help us understand them trade by trade and some of the challenges, whether it's technical, operational, or jurisdictional.

And then we have Scott Fitzpatrick to kind of remind us of MAT is not the only issue facing SEFs and that there are some other, a handful of issues that he's going to touch on, and then we're going to open for discussion. And we should be done about 8:00, 9:00 o'clock tonight. [Laughter.] So I apologize for running over, but we'll try to keep this tight. If your presentations can be tight, we'd greatly appreciate that. Thank you.

Vince, all yours.

MR. MCGONAGLE: Thank you. Good afternoon. What I'm going to discuss, I'll just briefly touch on the registration process, the made available for trading determinations, and the package roundtable that we have scheduled for Wednesday morning. And before I even get there, I think the first place to start is to point out and thank the staff within the Division of Market Oversight and other divisions that, you know, were confronted with a pretty big burden in the Fall of 2013 during the time of government shutdown and then subsequent furloughs here within this Commission, but particularly, you know, stayed focused on the fact that we were looking at a temporary registration process for at the time was 19 SEFs and then applications for -- or determinations, self-certification for contracts that have made available to trade mandate.

And the teams have been working continuously evaluating, not only those determinations, but the issues that relate to a good and steady progression towards the transition to compliance with the trade execution requirements, which are currently starting on February 15th. So I very much appreciate the work of the staff and their ongoing work as we go through working on these issues and hopefully getting to an area of smooth transition in the coming days and weeks.

With respect to the MAT applications, the Commission received five made available to trade determinations via, which is part 40.6 of our rule, for certain interest rate swaps and certain credit default swaps. Four of the five MAT determinations have proceeded. There's one application for self-certification, which is open for a 90-day window pursuant to Commission rule, which will hit that window in the beginning part of March.

The review process for a made available determination is fairly discrete. The staff are, or presentation rather requires that one of six factors for a SEF to meet under 37.10 or for a DCM 38.12, those six factors are whether they are ready willing -- ready and willing buyers and sellers, frequency or size of transactions, trading volume, number and type of market participants, bid-ask spread, usual number of resting firm or indicative bids or offers. So the Commission's regulations require only one factor to be considered on each of the MAT applications, their filings address multiple factors.

The standard review with respect to the MAT determination process is to evaluate whether the filing is inconsistent with the Commission's regulations or the Commodity Exchange Act, otherwise the swap becomes subject to the trade execution requirement. The division upon receipt of the application stayed those applications for a period of 90 days citing the complexity of the questions presented. By staying the applications, that allowed there to be an open comment period, which was the mandatory time period for 30 days, approximately 20 comments were submitted with respect to the MAT applications.

So at this part I want to touch just a little bit about process and the communications that we had with the, which staff had with the applicants, which was focused on, you know, we conducted our evaluation of consistency with the Act and regulations. We evaluated the comments that focused on those factors for determination, one of those mandatory six factors. We also ask questions of the SEFs. And we particularly requested that those, that the SEFs respond to the comments, so that we were able to have a dialogue with the SEFs that took in questions or comments that we saw, but also incorporated those that came in through the public comment period, which was very important for us then to ensure that, to the extent that the public did have comments, that they filed those or got those to us in a timely manner as part of the process.

The majority of the comments received by the Commission emphasized the need to limit the MAT determination to certain benchmark tenors. So there was some conversation or communication surrounding the scope of the products that were subject to self-certification. During the course of the Fall some of the certifications were revised, and the scope of those certifications were narrowed somewhat. There were several comments that we received that were sort of outside of the MAT process.

I know the Commissioner asked this morning about, sort of what determination we had in play with respect to how we evaluated the comments. I'm reading a little more into his question than what he, how he articulated it; but getting to the point of the division's obligation and the self-certification was very narrowly focused on whether the product as presented was one that could be self-certified. So questions that didn't relate to the six factors were not part of our, sort of internal process, although they informed the division operationally about how we should be looking at trading on these complexes and questions that we had about transition.

And what I'm getting at is sort of questions surrounding whether there should be a phased-in implementation schedule, packaged transactions, which I'll touch on in a minute, operational concerns, whether the SEFs were in compliance or not in compliance with the rulebook obligations. And just stopping there for a second, as part of the temporary registration process, the SEFs, of course, are obligated to ensure that their rules are in compliance with the Commodity Exchange Act and regulations.

So starting February 15, we will begin the process of those interest rate and credit default swap products that are now subject to the trade execution mandate. Over the past several weeks we have been in communication, not only with those applicants who had products self-certified, but the other SEFs to the extent those SEFs are interested in also offering products that are subject to the trade execution requirement. So we are looking at operationally those SEFs who are indicating that they have the ability to trade the product set forth in the made available to trade determination.

We then also are looking at this question concerning packages. And to be, and these words matter, sort of, you know, what is a package transaction definitionally is something that we'll talk about a little bit more on Wednesday, but looking at, you know, as presented by various commenters in the application, where you see a grouping of transactions that involve two or more counterparties, two or more instruments, one of which will be subject to the made available to trade requirement, and as collected; that series of transactions are contingent, all components are contingent on the execution of each other.

So loosely looking at that, loosely or specifically looking at those as sort of some guidelines for packages, the question presented to the Commission and to the division in particular is, how do we transition swaps that are going to be subject to the made available to trade determination onto SEF when there are products being traded or relationships that parties have entered into that will have multiple components?

And I'm looking forward to having and hearing more about those issues today and as we get into the upcoming weeks. The division in, under the guidance of the Chairman, is looking at relief for surrounding packages for an interim period so that we can get to transition over the course of the next few months and think thoughtfully about how we introduce those package transactions onto SEF. So some of the questions that we'll be talking about --

ACTING CHAIRMAN WETJEN: Vince.

MR. MCGONAGLE: Yeah.

ACTING CHAIRMAN WETJEN: Maybe I'll just chime in right here.

MR. MCGONAGLE: Sure.

ACTING CHAIRMAN WETJEN: Sorry to interrupt. But we will release a letter later today with, along with a press release that provides some temporary relief in the manner that Vince generally described. So those transactions that include multiple component parts, including a swap subject to the mandate, will have relief from the mandate until May 15th. We'll continue sorting through this book today and then Wednesday at the roundtable to figure out a more thoughtful solution to these types of transactions, but as I said, we'll release the letter later today.

There's a few other things, too, we're going to do, one relates to making it clear that anonymous trading on the SEF will remain anonymous. And so we've done an interim final rule that addresses that, which is to say a party of a trade cannot learn the identity of a counterparty by accessing the trade repository.

We're also going to provide guidance later today related to how consent to jurisdiction can be provided to the SEF. And then finally, I think it might already actually be in the website, but we're going to have a central location on the website that clearly identifies which instruments are subject to the mandate. There have been some questions after these press releases in response to the MAT submissions that have gone out as to which precise instruments, getting into some detail about terms, which ones are actually subject to the mandate. So in an effort to clear that up, we'll have a central place that where that information will be provided on the CFTC website.

So I thought it might be appropriate at this time to announce that to the group here, but look for those three different documents later today. And as I said, I think the website probably has information about the mandated swaps already. So --

MR. LEWIS: Can I ask a question?

ACTING CHAIRMAN WETJEN: Sure.

MR. LEWIS: And is that envisioned a hard deadline or as one that could be extended further?

ACTING CHAIRMAN WETJEN: Well, as I said, I think it allows us more time to figure out what to do or what the right approach is to these package transactions, and so it certainly doesn't foreclose additional action; but I don't want to predict one way or another exactly what we will do that week. We have some flexibility with that date, I think.

MR. MCGONAGLE: Thank you, Mr. Chairman. And I also want to thank the Commission, too, for their input as we go through some of these transitional issues, is particularly, you know, Commissioner O'Malia's office even in sort of discussing a game plan around packages and evaluating how we can build in some time on this front-end to consider, seriously consider these issues so that we're effective in our response, and the Chairman's leadership has been very much appreciated as well on all of the items that we're talking about here today and other issues yet to come out.

On the panel for Wednesday, we've identified some areas, and then I'll stop in a couple of seconds. Clearing of package transactions, the execution, how to, you know, how do we stay focused on the required methods for execution as set forth in the SEF rule? There's been some question concerning whether or how we might use alternate methods for execution. What is a package transaction, sort of how it's defined. And this idea surrounding phasing. Phasing, you know, cleared versus uncleared products, products that might not otherwise be a jurisdictional product, but are nonetheless in the real world dealt with in these package transactions.

So we'll be looking for substantive feedback on these in a number of questions that the team have prepared and planned to have a very robust roundtable on Wednesday. Thanks.

CHAIRMAN O'MALIA: That roundtable is 10:00 a.m.? 9:00 a.m.?

MR. MCGONAGLE: 9:00.

CHAIRMAN O'MALIA: 9:00 a.m. Lots of witnesses?

MR. MCGONAGLE: Lots of witnesses. We have about 16 witnesses, so we try to incorporate -- what we're going to have is one table for three hours and so we can bounce, you know, certain questions off particular witnesses, but then have the panelists, you know, give input, even on those areas of course if they're not specifically directed, directed to answer. And we think that's a way given the time period that we have, would be the best way to facilitate a conversation.

ACTING CHAIRMAN WETJEN: I was just going to add one other quick thing. The purpose of all of these efforts I just mentioned before is, you know, we're trying to figure out what obstacles there are to SEF trading. We're trying to eliminate those where appropriate, because what we're trying to do here obviously is maximize the amount of trading that's happening on these facilities. And where it's appropriate to address something, even on a temporary basis that appears to us at the agency to be standing in the way and keeping people from wanting to trade on SEF or being able to trade on SEF, we want to address that and take away the reasons or excuses or whatever you want to call them that some folks might have for keeping their trading activity away from these regulated platforms.

So I can't promise that we've addressed every last problem that might meet that criteria, but that's certainly been the goal and we'll continue working on other issues as they arise.

CHAIRMAN O'MALIA: Thank you very much

for that. I definitely support the relief and have been working with the Chairman on this. At risk of making your roundtable moot, we actually have four witnesses here that will walk through and explain the challenges or hurdles. And to the Chairman's point, we do want onscreen trading, but I, you know, based on the comments we received and with all due respect to your characterization of how we came up with the MAT, you know, what we can and cannot consider in the MAT determination, you know, it is important we consider some of the technical, operational, and as you pointed out, jurisdictional concerns.

And I believe once we kind of identify the packages and their different attributes and the individual challenges facing each one of them, I think we can tick off, you know, over time and with the appropriate, you know, certainty in the market on timetables or investments or technology requirements that we should be able to take care of these things and bring them on screen as soon as possible. How you MAT a non-jurisdictional product is going to be interesting. I hope the SEC will be there, shed a little light on what they feel like, but I think the market is already solved for that, we can, whether it's MATed or not, but they can certainly trade these things as packages and do so quickly and achieve the price transparency on screen and clearing.

Whether, how we get to the absolute strictures of MAT will be interesting, but let me just start, we're going to go, actually I think we're going to start with Sunil, and then we'll go with Stephen, Alex, and Mark, and then save Mr. Fitzpatrick for last there for the new issues.

MR. HIRANI: Scott, if it's okay, Stephen can go first, he's going to do some foundational work.

CHAIRMAN O'MALIA: Okay. Never mind then, ignore the Chairman.

MR. BERGER: Thank you. I did have a few slides. I don't know if there's a way to get them up, but okay.

CHAIRMAN O'MALIA: They should be

preloaded. Yeah, there you go.

MR. BERGER: All right, great. So I thought just for some level setting, I'd start with the definition of package transactions, provide a few examples, talk about the economic benefits we see to package transactions, provide a quick analysis of the representative transaction costs of being able to do some certain transactions as a package versus having to execute their components on an outright basis, talk about some of the items we feel we need to address, and then our recommendations.

But I guess, you know, based on the news that we just heard, you know, I'd like to say that we're very grateful for the opportunity to have more time to flush out these issues, come up with solutions. We do share the overarching objective of moving these package transactions onto trading platforms where they can benefit from the pre- and post-trade transparency and greater competition that can be afforded. So, you know, we think it's a great first step that we have some more time to think through the issues.

So from a definitional perspective, you know, I think there's probably a more technical legal definition that's been laid out on some of the requests for no-action relief, but generally when we talk about package transactions, we're talking about a transaction that involves the simultaneous pricing and execution of two or more component instruments. For our purposes, one or more of those is a MAT swap and the others are either, another swap that's not MAT or a cash bond or futures contracts. The transactions are a combination of buys and sells or pairs and receivers on a swap. There's a reasonable degree of correlation between the components. And the risk of the offsetting components is approximately equivalent.

And in that context we're talking about, in the rates market, we're talking about the interest rate risk, so we talk about these transactions as being DV01 neutral or duration neutral.

My comments today here are focused largely on the rates market, though, I think analogous, you know, analogies can be made in the credit markets. And I'll let others talk about that. So --

CHAIRMAN O'MALIA: Stephen, could you pull that mic just a little closer.

MR. BERGER: Sure thing. Sorry. Is that better? Okay.

So some common examples of package transactions in the rates market, I've listed here, I won't read them all, but you can kind of bucket them. There's multi-swap package transactions, so that's the curves and the butterflies, so where you're executing a number of clearable swaps. There's swaps versus securities, so swap spreads or MBS basis where you're executing a swap against a government bond or an agency security. There's swaps versus futures. So an invoice spread, for example, is a swap versus a T-note future. And then the last is what I'd call a cleared swap versus an uncleared swap.

So something like a swap versus a swaption. And that's the Delta neutral option packages at the bottom.

Being able to execute package transactions as a package has a number of benefits for market participants; you get a tighter bid offer spread, you only have to cross that bid offer spread one time versus having to cross it multiple times if you had to do separate leg by leg execution, you get more targeted and efficient risk transfer, and you eliminate the legging risk, which is the risk that the market moves between each of the individual executions.

So what I'd like to say is that package transactions aren't some form of financial alchemy, they actually do deliver real benefits to market participants and they're commonly traded and they're kind of a crucial mechanism for the global risk transfer system. I don't want to bore people with the details, but you know, we've done some analysis here to look at what the representative transaction costs would be if you're able to execute a package transaction or if you're forced to split up the execution of legs on an outright basis. So the next two slides is an example of a swap spread, which is a swap versus a Treasury. And after that a swap curve, which is two different swaps at different tenors.

And what we found, you know, using real prices that were quoted in the market is that the cost of executing the two legs separately on an outright basis is triple. So you functionally triple transaction costs if you break up the simultaneous and contingent execution. So that kind of brings us to what we believe is the threshold point, which is that we don't want to break up the simultaneous and contingent execution of a package transaction.

So that bring us to the question of, well, if one leg of the package transaction is MAT and has to be executed on a SEF and the other isn't, what do we do about it? Can we get it all on the SEF or can we not? So as noted in the beginning we're not philosophically opposed to moving package transactions onto SEFs. We see that there would be benefits to that. It's just not going to be ready by, I think as we all acknowledge now, by February 15th.

And so what are the hurdles we have to overcome to get there? One of the first items to address that we saw was for multi-swap package transactions is there a communication protocol and an ability to do credit limit checking at the package level, and there doesn't appear to be today. When people execute a curve or a butterfly, those legs individually go down the execution to clearing workflow. And you can't do a pre-trade credit check at the package level, and the CCP, the clearinghouse, sees the legs come in individually; and so when they're looking at the risk that's presented, they don't appreciate that there's offsetting legs within that package transaction. So that's one item that we identified that needs to be addressed.

For swap spreads, since you're executing a swap and a government bond separately, you want an assurance that they're both going to clear/settle. We've also noted there appear to be some jurisdictional concerns about the trading of Treasuries on a CFTC regulated platform. So that's something that, again, taking some time to think through would be of benefit. Invoice spreads seem to pose another challenge because they involve two separately regulated products in a future and a swap. And something like a swap versus swaption, it appears that, you know, maybe we can look to a model that's existed in the futures space, which is the EFRP model for some kind of off SEF, ability to execute the MAT swap leg off SEF, but still subject to the rules of the SEF and still be able to then pair it with some, with a swaption.

So our recommendations, we're first to do no harm. And again, that goes back to the threshold matter of not breaking up the execution of package as a whole. We think the industry is already, and some of the other panelists will probably talk about this in more detail, the industry is already working to identify solutions. For example, the communication language around multi-swap package transactions. And we think, you know, with some constructive dialogue with the Commission, we can find solutions to address perhaps the jurisdictional issues or whether there could be an EFRP-style solution for swaps.

And thankfully the last recommendation seems to have already been realized to some extent, and so providing a little more time to think through these issues will, I think, will be of benefit to the market. So thank you.

MR. HIRANI: Scott, thanks for inviting us to this.

This is obviously a topic that's near and dear to our heart, it's something that we've engaged the Commission about in the past. So, you know, I think Stephen covered the basic definitions, you know, of packages. And I think, you know, so it isn't, obviously the package is already taking place and those are similar to the ones that Stephen talked about. So packages are obviously taking place in the marketplace. They're taking place, you know, either via RFQ or via spreadsheets or instant messages. So it isn't that packages are not taking place. So what's the issue? What's the issue with packages?

The issue with packages is that you can't just look at it in the context of, am I able to trade it on a screen or not. The question that needs to be asked is, you know, does the infrastructure exist pre-trade, trade, and post-trade that can support the regulatory requirements and the compliance requirements that are required of all of us, you know, to trade these instruments. And as we think about it, you know, the complexity of a risk assessment processing protocols and standards increases, so does the legal and regulatory matters as you go from packages that are entirely composed of MAT instruments. So you have a package of greater than one, you know, package that has a greater than one MAT swaps.

And then it becomes more complex. You

have MAT swaps commingled with non-MAT swaps. And then you take it to a whole other level when you comingle cleared swaps that may or may not be MAT with uncleared swaps. And then you take it another level of complexity when you say, you have instruments that are swaps that are governed by this agency and then non-swaps that are governed by this agency, then to talk about swaps that are governed by this agency and other instruments that are governed by someone else besides the CFTC. So that's the way we think about the complexity of packages.

So, you know, we have come here on numerous occasions to talk about, you know, the technology and infrastructure that trueEX has built for packages under our PTC products. So, you know, as we started interacting with FCMs, CCPs, buy-side firms, market makers, and credit hubs, you know, it came to our attention that there was actually not a single protocol or a language to describe these packages. So the way they're currently done is you could have a buy-side firm that has a package of a hundred line items and each of those hundred line items, you know, are sent to this CCP, are sent to the FCM one by one and there's no intelligence that surrounds the package that communicates to everybody who needs to touch it, whether it's the FCM, you know, for pre-trade credit checks, CCP for clearing it and doing the risk assessments, or the credit hubs in the future to subtract the credit limits; they don't have an infrastructure that can process them as one atomic unit.

They process them in a linear fashion. And we already know anecdotally in the marketplace that numerous large buy-side firms have had issues, operational issues with the FCMs, those, you know, an example might be the first, the first line item you sent, you know, is a trillion dollars pay fixed in 30 years, and the remaining 99 line items, you know, in essence diffuse that risk. So you send the first line item, and for whatever reason, the other 99 don't get processed immediately, so it has a real impact on risk margin and the credit profile of the parties that are involved.

And neither of the credit hubs have the ability to do pre-trade credit checks in aggregate for the package. And the processing at the CCPs, they can process them one at a time, but as I said, it doesn't exist to do them as one unit. And the regulatory framework does not exist, doesn't recognize packages, and doesn't exist to accommodate the time that's required for pre-trade credit checks as well for the clearing from the CCPs. So that is what we feel is missing the in marketplace.

So, you know, as Stephen alluded to, I think there's -- so what's a solution? So someone asked me before the panel, you know, that's great there's going to be relief, but what's the game plan? So the solution is that is there needs to be a common standard protocol, because it's not sufficient for one or some subset of the parties to agree to a protocol. And they need to agree to the protocol on how to describe the container, on how to describe the packages; but to also agree to the workflow, to agree to the SEF / DCM workflow as well as a non-SEF workflow, and also to make sure that the next versions of FIX and FpML take into account the protocols that have been largely agreed to by, you know, a subset.

And so there have been, there's been a group of folks including SEFs, FCMs, CCPs, buy-side firms, market makers who have actually made a lot of progress over the last three months. There's been agreement on the package IDs. There's been agreement on the line item IDs. There's been agreement on the workflows that are going to be required to process on a SEF basis and an agreement on how to process it on a non-SEF basis.

I'm not going to bore you with all of the details of the protocol, but they're available and they take into account the variety of different packages that both Stephen and I have articulated. Okay. So you need to make sure that the IDs are there and the workflows are articulated.

So, what's our recommendation? You know, obviously our recommendation is to not have packages be subject to the execution mandate on the 15th. And, you know, we thank you for already putting that into action. You know, a couple of other things to look at is to look at the time that the FCMs have to evaluate net risk, to look at the time that the DCOs have to evaluate the packages. And then we would have a checklist-like approach to make sure that there's a regulatory framework that has been accommodated and SEFs allow market participants to execute packages and both the FCMs and the credit hubs have the ability to assess the packages as a whole as well as the clearing organizations.

And, you know, this is in our letter that we have previously submitted to the Commission. You know, we would also urge this group and the Commission to look the a phasing in approach. Obviously, you know, look at the most simple packages first and make sure that there's no technology or operational nightmares. And then as we have successes, build on that and increase the complexity. Thank you very much.

CHAIRMAN O'MALIA: Sunil can you go, and your chart on page 2, are they in kind of an order of priority consistent with this phasing? You said address them individually or kind of on a swap-by-swap or package-by-package basis. You have a list of maybe 10?

MR. HIRANI: Yeah, and you know, there's, you know, I'm not claiming they're complete, but yeah, I think the first three are the ones I think that may be in order, but then I don't think they might not necessarily be in order. Because the fourth one commingles CFTC and, you know, a non-CFTC agency. So, I think, you know, clearly two MAT instruments, a fives versus a tens, twos-fives that are both MAT, I think that would be the first one to tackle. And then tackle butterflies. And then tackles twos versus 17s or something.

I think, you know, to deal with integer

swaps, you know, MAT integer swaps first, make sure the infrastructure is there. And I think, you know, there's, as I said before, there's been a lot of good work already done on getting, you know, folks that typically don't work together, they've been working together very cooperatively to come to an agreement on things that have typically taken years in the past to accomplish.

So I would say, start with MAT instruments first. Let's see how that goes. Get the infrastructure working and get the credit -- you know, the most important thing is looking at the riskiness of the package and assessing the risk appropriately, getting all of that to work through the whole transaction life cycle and all the handshakes to work. I think if you can do that in the first phase, if you can sort of kick it down the road, because clearly, you know, you've got the spigot, you can control the spigot. That would be the way I would think about it.

MR. BERGER: Well, just one quick thing

I would add is that the first three transaction types on the list, those are ones where the industry for cleared swaps could solve it with the language fixes, you know, referred to in terms of if the FpML language can be upgraded to communicate package transactions as a whole, that can solve the challenges associated with the first three on this list. Then we get into more, once we get past the first three, we get into more complex actual, like, legal jurisdictional questions on top of the just infrastructure ones.

ACTING CHAIRMAN WETJEN: If that's the case, then I guess we can, we don't continue discussing this, but one of the suggestions there, one of the other slides, one of Sunil's slides was that we have to revisit the 1.73 or 1.74 concerning the speed with which the FCM is to reject a trade or not, if it's -- I guess help me understand that a little better if you can. Why would that be necessary?

I thought if we were to do, just allow for some more time for technological upgrades and making sure the right connectivity is in place between all the different infrastructure participants, it should be easy enough, soon enough for both the FCM and the DCO to assess the risk of a package transaction, especially if it's one just involving swaps.

MR. HIRANI: Yeah, so that's a good question, Mark. So it takes time to message. Some of these portfolios can be quite large. And there's a number that they have been kind of converging to without the benefit of scale automation and technology, and that number is around, you know, 100 to 150. There's, you know, obviously been some packages that trade, you know, in several hundred line items, but there's a reason that the industry has converged to a number like 100, between 100 and 150, because just the system cannot process them, in, you know, in an operationally efficient manner.

So even if you could have a language that describes the packages, which, you know, there's a very good version of it floating around, you still need to communicate it to the CCPs, you need to communicate it to the FCMs, or to the credit hub. So that takes time. And then, you know, and then you have to wait for the turn around time. So and there is a need in the world to do packages, you know, vastly greater than the line items that are being processed here. So there's going to be time that it takes to send it to the, whether it's the FCM, CCPs, or credit hubs and then for them to do their risk assessment and then to communicate it back.

And, you know, we've done some preliminary testing of that. We're, you know, happy to share some of the data. But, I do think that those numbers will have to be reviewed because, you know, that may not allow enough time to process large packages.

ACTING CHAIRMAN WETJEN: Ananda wants to pipe in here.

MR. RADHAKRISHNAN: If you guys have the technology to trade the package, how come you don't have the technology to compress it or send it to a clearinghouse? I don't get it. So you say it takes time, it takes time for a credit hub to figure it out, it takes time for a clearinghouse to figure out how to clear it; shouldn't it take the same amount for you guys to figure out how to trade it?

MR. HIRANI: So yeah, so, Ananda, you're obviously right, the technology exists to trade it.

MR. RADHAKRISHNAN: Right. So --

MR. HIRANI: And the technology exists to communicate it.

MR. RADHAKRISHNAN: Okay.

MR. HIRANI: But what doesn't exist is a common language to describe it. So we can send it to CME, LCH and we can send it to the FCMs, but the infrastructure doesn't exist to evaluate it as one atomic unit. So they can evaluate it on a line item basis.

MR. RADHAKRISHNAN: Okay. But if the trader can evaluate it as one unit, I mean, the example you gave, right, like so many bits is what you pay, why can't you give that to -- I don't get it. I mean, if someone -- are you saying that the trading community is that much smarter than the clearing community? Are they --

MR. HIRANI: No. I mean, the analogy is --

MR. RADHAKRISHNAN: Do they need to come in and figure it out?

MR. HIRANI: So let's say you go to Russia for the Olympics. And, you know, they speak Russian over there. You speak English. You know, you're both communicating, you think you're communicating about the same sport; but you need a translator to get, you know, your language converted into the local language. That's really what we're talking about.

MR. RADHAKRISHNAN: Yeah.

MR. HIRANI: See, everybody can evaluate the risk.

MR. RADHAKRISHNAN: Okay.

MR. HIRANI: But there's not a consistent way to describe the package and there's not a consistent way to keep track of the package and a consistent way to evaluate the riskiness of it. That's all I'm saying.

MR. BERGER: And I think people can communicate bids and offers back and forth to each other about anything you want. I mean, any product or service anywhere in the world. I think the issue is that if we're communicating and market participants are, you know, pretty good at, you know, identifying what they're communicating a bid or offer about; but if we decide, you know, we've agreed on a price for a swap package that's a butterfly and has three legs and for some reason the FCM or the CCP sees the first leg and doesn't know that there's two more coming that, you know, have different risk characteristics than the first leg; they can make an errant decision based on just not having the knowledge that it was part of something else.

So just the language that I think we're talking about is a flag that when someone receives a leg of a transaction, they know it's leg one of three, two of three, or three of three. So --

MR. RADHAKRISHNAN: What's stopping you from sending the whole, the entire package to the CCP?

MR. BERGER: Right now the language doesn't support the wrapper.

MR. RADHAKRISHNAN: The language what?

ACTING CHAIRMAN WETJEN: But once the language is in place, right? I mean, then --

MR. BERGER: Or you know, to get really nerdy, I mean, there's something called FpML. And FpML version 5.7 is due to unfortunately not come out until July and they've agreed on the language upgrades they want to make to include a wrapper and to include the itemization so you can say it's leg one of fifty, two of fifty, et cetera. And, you know, once that standardization of the language is agreed upon, people can start building to it even ahead of the July release date; but it would have been great to solve that a lot sooner, but --

MR. HIRANI: Yeah, so, Ananda, I mean, no work is stopping, you know, so we've already adopted it, but it's, you know, we need the industry to adopt it. And that's really what we're talking about.

MR. RADHAKRISHNAN: So to the extent that anything you do in this package comprises a product that has to be cleared, you are sending it to clearing, right?

MR. HIRANI: Yeah, yeah.

MR. RADHAKRISHNAN: Okay.

MR. HIRANI: Absolutely.

CHAIRMAN O'MALIA: Alex.

MR. ELVIS: Yeah, thank you very much, commissioner, for the opportunity. And also, thank you for the relief. It's relieving certainly. And you'll -- [Laughter.]

CHAIRMAN O'MALIA: I'm glad to hear it.

MR. ELVIS: And you'll also be relieved to here that Stephen and Sunil got most of my points, so I won't be talking for very long. But, I do want to sort of, Sunil mentioned that these packages are already happening in the market today, and I wanted to give a little bit of data as to how frequently they're happening. So swap spread trades, for example, benchmark swaps with integer tenors against benchmark Treasury bonds is the overwhelming majority of the integer dealer swap volume.

Options with Delta exchanged are also the overwhelming majority of the interdealer option volume and approximately 40 percent of our volume with our investor customers. So not only are these transactions happening, they're happening very frequently and they're an absolutely integral part of how people think about and manage risk. And I certainly share Stephen's two goals. You know, I agree that we want to be able to solve this problem and get these transactions on to a regulated venue as quickly as we can, but I think, you know, as important is to ensure the continued ability of market participants to be able to execute these transactions as packages without having to break them up.

Because in my view, the critical aspect of what makes a package a package, yes, it's done simultaneously, yes, there's contingent pricing; but the risks of the package are almost by definition much less than the risks of the individual components, otherwise people wouldn't want to do them as packages. And so what we're seeing, and I think what we're thinking about is not necessarily whether or not these packages should trade on a SEF, but how they should trade and whether or not they should be subject to an EFRP-like regime, a regime that's similar to the block regime, or the order book, RFQ-3 minimum.

And when you think about these trades, if one of the legs is a MAT swap and other legs are not MAT swaps, I think the SEF community and the staff and the Commission have spoken and said, well, look, on this six-factor analysis, these other components of the trade do not have sufficient buyers and sellers or are not subjected to clearing mandate or do not demonstrate sufficient liquidity.

So I think, you know, while we think about how to get those trades onto a SEF and how to process them effectively and ensure that the Treasury leg settles, for example, or that the swap leg of an option with Delta, if that swap is deemed to be void because it's rejected for clearing, we have something consistent to do with the option leg, I think are part of the conversation and something that we need to be thoughtful about.

And then finally I wanted to make one point about transparency. And I know that, you know, when we look at the SDR data, we try very hard to eliminate as much noise as we can from the SDR data so that we can use it for the purposes in for which it was intended. It's very difficult to weed out what is actually Delta risk transfer and what in some cases is not actually Delta risk transfer because that particular swap is done concomitantly with a series of other swaps. So in Sunil's example, you have the trillion dollar tenure swap and 99 other smaller swaps that offset them.

You see the trillion dollar swap on the trade, on the table, you say, that's a big trade, a lot of Delta just went through the market, when, in fact, a lot of Delta didn't just go through the market. And I think we could enhance and we can borrow something from the equity markets, you know, as FpML 5.7 gets rolled out and the wrappers are identified and designed, we could enhance the post-trade price transparency quite a bit as well as the ability for the Commission and staff to make sure that the package trades are not being used to evade RFQ to 3 or order book trading by using something to tie those trades together so that any participant in the market can see the option and the Delta that was exchanged, the trillion dollar swap and the 99 other items and really understand what was happening in the market and when it happened.

And that applies on a pre-trade basis as well. I worry about doing a large out-of-the-money option trade with a client and then both of us having to go into an order book or RFQ folks, RFQ-3 folks each separately in opposite directions in large amounts of duration, sending, you know, almost -- no, not almost -- an actually false message to the market about the amount of buying and selling and interest that's happening. So I think, you know, we support the pre- and post-trade transparency, the benefits of the pre- and post-trade transparency that SEFs and the SDR and reporting rules bring.

And I think that just one thing to keep in mind throughout these conversations that package transactions actually are quite complicated when it comes to that and should be thought about carefully.

CHAIRMAN O'MALIA: Thank you. Mike Hennessy. I believe I called you Mark earlier, I apologize.

MR. HENNESSY: No problem.

CHAIRMAN O'MALIA: Who is Assistant Vice President in Treasury and Capital Markets, Federal

Home Loan Bank of San Francisco. Thanks for coming all this way.

MR. HENNESSY: Yeah, no, thanks for having us. We appreciate the invitation to participate and for the opportunity to talk about the Federal Home Loan Bank's unique version of package transactions which has not really been explicitly addressed by some of the other market participants either here or in comment letters on this subject matter. By way of background, as you may already know, the Federal Home Loan Bank system is comprised of 12 Federal Home Loan Banks and the Office of Finance, its fiscal agent, and was established with the passage of the Federal Home Loan Bank Act in 1932 to provide liquidity to the nation's financial institutions.

Currently, and has been the case all along, the banks are cooperatively owned with approximately 7,000 member financial institutions, which include banks, thrifts, credit unions, insurance companies, and community development financial institutions. So that said, and moving right into package transactions, we agree with the comments expressed here by the other panelists about how important package transactions are and that they need to be preserved for the marketplace. And we generally share the same concerns around package transactions and agree with the Commissioner's observation that in many instances more time for package transactions is needed, especially for those combinations that involve swaps and other swaps.

However, the trading practices of the Federal Home Loan Banks generally do not involve these types of package transactions. Instead, the Federal Home Loan Banks use packages in a unique way, and that is really limited to the negotiated swap to bond issuance package transactions. And, you know, issuing debt in the capital markets in this manner is the primary mechanism by which the Federal Home Loan Banks fund themselves. We included some statistics in our comment letter regarding the MAT submissions, and I'll summarize those briefly here.

You know, since 2008 and through the third quarter of 2013, about 73 percent of all debt issued by the Federal Home Loan Banks on an account basis was done in a package, and on a notional basis that's about 67 percent. So I think, you know, it's obviously very integral to the Federal Home Loan Banks' business strategy. And I think I'd like to walk you through an example of one of these transactions and how they come about and who the market participants are in each of these transactions.

So one of the key features of this type of transaction is that it's multi-party. So the Federal Home Loan Banks are bond underwriters, and our swap counterparties have an open dialogue around, you know, our funding needs. And essentially each business day the Federal Home Loan Banks broadcast to the marketplace where they're willing to issue debt on a package basis. So we are, we generally take the asset side of our balance sheet and convert that to three-month Libor. So we have these synthetic three-month re-pricing assets. And we make the similar asset liability hedges on the liability side.

And so, you know, we enter into these transactions -- we broadcast to the market participants that we need this specific funding level on a 3L basis and bond underwriters and swap counterparties go out and canvas their investor base to try to deliver that type of package transaction for the banks. If they are able to successfully find investors or devote a balance sheet to our debt issuance needs, they'll present us with an opportunity to say, Federal Home Loan Bank of San Francisco, would you like two year debt at Libor less five. And if that's acceptable, a few minutes later, all parties to that transaction will hop on a phone call and read the terms of the bond issuance and execute that issuance, read the terms of the swap hedging transaction, execute that swap. And the Federal Home Loan Banks are left with their synthetic three-month liability at Libor less five.

But we, as part of that transaction,

we're not negotiating the individual prices of the bond or the swap, instead we're solely focused on that net funding target. And this has a lot of advantages for the banks, most of which were already described by the gentleman to my right, but this is the most cost effective way for us to issue debt. And, you know, we use it more than any other strategy as evidence of that. We're able to obtain better funding levels than if we were to just go out into the marketplace and issue a floating rate bond index to three-month Libor. It also allows our debt to trade with greater liquidity as we're able to issue across the maturity spectrum. And it also reduces risks.

It reduces risks for the Federal Home Loan Banks because we avoid legging risk associated with the timing, you know, of issuing a bond and subsequently swapping it; but it also reduces execution risk for all the parties of that transaction, and it does this by increasing the probability that the issuance and the hedging transaction occurs in the first place. If issuance and hedging was split apart, which could be the case as a result of made available to trade, it will increase the likelihood that these transactions do not materialize, because the bond underwriters will be focused on their customers' needs, delivering a fixed rate bond, for example, with a specific coupon target.

And that issuance of that transaction, while it might be suitable for the underwriter and their clients, the Federal Home Loan Banks are going to be focused on what that debt issuance swaps to on a Libor basis. And so the incentives are not well aligned. And so small market moves could cause deals to be turned down or not occur. And so that's an inefficient use of resources.

So, you know, we're concerned basically about the presence of this third party in the package transactions, the third-party bond underwriter, excuse me, it makes it, you know, in our idea unlikely that these transactions will be able to be executed on a SEF. At least in the foreseeable future, there doesn't seem to be much, you know, development around taking bond issuance and moving that into this electronic trading world. You know, it's, you know, yes, we're talking about swaps and bonds, which certainly seems to be in play for mandatory trading on SEFs such as, you know, the swap spread strategy, which is, you know, swaps versus Treasuries, you know, but that's a little bit different than what we're talking about here.

The Treasury note or bond is, you know, available onscreen. And in many instances already trades electronically today. Where when you're talking about a new-issue debt instrument, there's no CUSIP available. It's not really, you can't pull it up and analyze it. And that technology is just not in place today.

So that's really kind of the way that the Federal Home Loan Banks use package transactions. And, you know, we're supportive of, you know, moving towards electronic trading and we think that it's best for the market, but we are concerned about this nuance-type transaction. And we're open for other ideas, because we generally like the functionality and the efficiency provided by SEFs, specifically around the speed of clearing and certainty of clearing and would not be opposed to, you know, a regime that allows us to privately negotiate these multiparty package transactions, but still subject to those, the swap and that transaction to processing on a SEF.

CHAIRMAN O'MALIA: Thank you. In this FIXML 5.7 or, there are a couple of things on the bottom here of this MAT to MAT, MAT to non-MAT; will this also support, be supported in a data repository and be informative? I keep thinking about all the questions, all the data harmonization issues we had in the first panel today and I don't --

Vince, I don't know if you've given this any thought, but maybe as part of your roundtable that, you know, at least we'll ask the right questions about how we designate this. And if they're going to make an if FpML upgrade anyway, does that increase our surveillance capability and our ability to see it in the SDR? I know Sayee mentioned today we don't have a MAT designation. He's over here if you're looking.

MR. MCGONAGLE: No, I wasn't.

CHAIRMAN O'MALIA: Oh, okay.

MR. MCGONAGLE: I was looking for my guys.

CHAIRMAN O'MALIA: Oh, all right. Well, and now you guys are working this cross divisional. You're all one team, right? So --

MR. MCGONAGLE: Exactly.

CHAIRMAN O'MALIA: But maybe you'd ask that question and get some thought. And maybe somebody --

Sunil, I don't know if you have a sense of if that will help us in the SDR context?

MR. HIRANI: Yeah, I think that was a really good point that Alex brought up. And in fact, you know, in the meeting that we had on Friday, there's three, four of the people from this group that are liaising with the FpML folks and FIX and that was a discussion that we eventually got to, which is, you know, we need to make sure that the SDRs -- you know, one of the SDRs was present, the second one wasn't, that they also adopt the protocol. Because I think, you know, the point that Alex raised is very valid, you don't want to communicate, you know, in a misleading fashion what the intent of that transaction was. So the codes that, you know, this group has come up with, you know, we would be very open to share them with all of the SDRs and say, this is what, you know, the FCMs, the CCPs, and the SEFs, and credit hubs have agreed to. And I think that's a great idea, because it's going to mislead, the tape will be very misleading if -- you know, the risk will be grossly overstated if you don't flag it as such.

MR. HENNESSY: Yeah, I agree. There definitely needs to be some data reporting enhancements. I mean, quite simply you're, the swap is not priced as a single-leg transaction. It's inextricably tied to the other leg. And you know, if there's not a way to identify that, it's definitely misleading in the repository.

MR. BERGER: It's interesting and I definitely agree, it would be great to flush it out in more detail. I think that clearly with respect to the real-time post-trade public transparency, it's, it would be a great addition to be able to see things at the package level. Functionally at the CCP and in terms of kind of how things get risk managed, they still ultimately then get risk managed as individual line items because they aggregate across a portfolio, and so there may actually be a distinction between what gets done at the CCP and the SDRs in terms of still keeping it at line item levels, but for the post-trade transparency, there would be value.

MR. ELVIS: Yeah, I agree with that. I mean, they could be clearing at separate CCPs or one could not be clearing at all, for example.

CHAIRMAN O'MALIA: Vince, or anybody on the panel, this cash futures basis, these trades, these futures don't trade on SEFs, how do we deal with that problem? I mean, at least that's within, both are within our jurisdiction. We have rules that say, by the way, you can't trade futures on SEFs, but --

MR. MCGONAGLE: Right. So I don't see, futures on SEFs are not permitted, so that is, I don't know that we're going to be, maybe we'll consider alternatives, but I don't know that we were planning ongoing down that route. And certainly looking at these other, sort of non-jurisdictional products that aren't or cross-jurisdictional issues, I think are some areas where there's room for discussion to see where we're going to go, but we haven't contemplated or talked about doing anything sort of on SEF that involves a futures product.

CHAIRMAN O'MALIA: When you say, we're not going down that route, meaning you're not going to mandate a package transaction with a benchmark swap and a future to be MATed?

MR. MCGONAGLE: So I would be looking at maybe having another conversation about the fact that either you could do it, you know, work the deal packages on DCM, where they could do both futures and the trade executed swap or they're going to have, whether there then be -- if it it's on a SEF, it would have to be busted up.

CHAIRMAN O'MALIA: Okay.

ACTING CHAIRMAN WETJEN: But let me ask a follow-up question. If a trader is looking at a screen and the screen is provided by an entity that's jointly registered as both a DCM and a SEF, first of all, I think that's a possibility, number one. And then number two, as a practical matter under that scenario, it probably wouldn't matter. Isn't that right, Vince?

MR. MCGONAGLE: That sounds right, but that's one of those things that I'd like to come back and talk to my group about.

ACTING CHAIRMAN WETJEN: I mean, if the RFQ is different, but I mean, again, theoretically anyway, if a package were listed on an order book and traded on an order book, it would seem that would be very much possible.

MR. MCGONAGLE: Yeah, we'd want to take

that back.

CHAIRMAN O'MALIA: Anybody else? Oh, Cliff. I'm sorry. And then Supurna. I know you were --

MR. LEWIS: I just have, obviously the timing of the administrative back end processing, the wrapper, the FpML is all important and you have a, I'm not suggesting anything be done precipitously, but I would suggest that ultimately the package trades have to be brought into this framework or the framework makes no sense. And you can't be half pregnant about requiring certain parts of this to be cleared without understanding that fundamentally, and we talked about this before, the sequence of requirements is backwards.

The trading requirement should have preceded clearing requirement. That's water over the dam. But if you guys have a fundamental role of being concerned about systemic risk and not adding to the risk of these instruments now residing at clearinghouses, you're stuck. And every moment that these kind of arbitrage opportunities continue to exist, they will be exploited. I know you've heard of the Cubs grab, right? The new swap product which has a $1 bet attached to it that the Cubs win the World Series. That's not me making it up, that's actually a design to avoid either, any of the requirements, either clearing, SEF, swap data repository.

Now I'm not saying that that's the purpose of this. Obviously it has to be feasible to be able to move these into the environment, but it is not without considerable risk that the day in which you force the hard cut over, big bang, whatever you want to call it, to take place. And by the way, this is not risk unrelated to market circumstances. It is not without precedent that there could be a major interest rate movement.

And, gentlemen, you do not want to be halfway between these two worlds if that happens. You know, when margins are going to be readjusted in a major way. I mean, this is, you know, you're on a path and I just would urge you to consider the risks of not seeing this through as expeditiously as possible. I'm not arguing with whether this was the right way to do it or the wrong way to do it. The legislation is very clear and your purposes have been made very clear in terms of moving as much as you can into the new environment. Good luck. I'll be in Argentina where there's a more stable environment.

MS. VEDBRAT: Yeah. I think, you know, I'd like to thank the panel for giving us, you know, a good introduction into the main type of packages that exist out in the market. I would just like to add like, you know, one comment about the package trades. Like, each package, there's a reason for it, you may be hedging duration risk or you may be isolating vol[atility] risk, so just to keep that in mind. Because as clients as, you know, we're using these packages, there's a reason behind it. And, you know, if these packages are forced to trade independently or separately, apart from the fact that, you know, they exposed us to all the risks that Stephen outlined as economic benefits, it also, you know, breaks our ability to be able to hedge or isolate the risk that we're trying to hedge.

The other thing, you know, that I'd just like to, you know, ask, you know, ourselves, as committee members as well as, you know, our witnesses, we just got 90 days extension and we really do need to have a plan of action on how we're going to get these trades either, you know, MATed -- not MATed -- to trade on SEFs or to make a decision that we may be allowed to trade them off SEF and then just process them on SEF, because otherwise we're going to be back here on day 89 as clients still, you know, facing the same uncertainty of, like, you know premature movement onto SEFs or like an infrastructure that really is exposing us to more systemic risk than reducing, you know, the risk that we're all set out to do.

So I mean, the ones that I'd like to highlight, we need, you know, the SEFs to be able to provide us the solution to trade these as linked packages. You know, that's very important. I know we have some of the SEFs sitting out there and then we also have, you know, some of our dealer counterparties that, you know, provide us liquidity. And then on the back end, you know, whether we consider clearing element of it or the limit checking, all of those need to take into account linking these transactions and looking at them as net risk, you know, versus separate risk.

CHAIRMAN O'MALIA: Brian.

MR. DURKIN: I'd like to thank the panel also and agree with much of what has been said here in terms of the need for time. And thank you very much, CFTC, for granting us some time in this regard. The CME has been working with the industry in terms of coming up with the mapping solutions that are required for these transactions. And I think, you know, the panel here did a nice job of laying out some of the complexities associated with doing so.

But, I also, you know, firmly believe that we can come to that resolution and to that solution. So this room shouldn't leave itself like wondering, can this be accomplished. It can be. And there's very much a focus on making that come to fruition. Now, you know, there is some point that has been made here, and I just need to clarify. We suggest well, you know, use an EFRP transaction, it's been alluded to, let's just, you know, be able to do that as a, maybe as a first approach. And, you know, I need to be very clear that those around this table and those listening have an understanding of what we're talking about in terms of what constitutes an EFRP transaction.

You know, EFRP transactions have been in place for several years. And today that framework for these trades, it starts with core principle nine for DCMs. And that requires that markets provide a centralized, open and competitive mechanism for trading listed contracts ensuring that the price discovery process in the centralized market is protected. Core principle nine grants DCMs the right, but not the obligation, to permit certain noncompetitive trades from occurring. And that is premised on the rules that are adopted by the exchange.

So at the CME noncompetitive trades have historically been and will continue to be a very, very narrow exception to our centralized open and competitive trading in these contracts. Our rule 538, which governs EFRPs in our markets, it limits noncompetitive transactions requiring them to be, one, privately negotiated, and also only over-the-counter contracts, that is they aren't executed or subject to the rules of a DCM or a SEF, nor are they to be used as that related position component.

So across all of our DCMs, the EFRPs account for just over two percent of our exchange volumes. Now, the low percentage of EFRP activity does not necessarily suggest that market participants do not more broadly establish package exposures as has been explained today. That may or may not involve our futures contracts. It means that they most commonly establish those exposures in a more competitive manner. At the CME group, we prefer these methods of establishing package exposures wherever possible because, one, they contribute to the price discovery process taking place in a centralized market and they facilitate a tighter bid-ask spread and they enhance the overall transparency in our markets.

Before the Commission were to consider expanding or permitting EFRP-like-type transactions for SEFs, we recommend the Commission finalize the proposed EFRP regulations under core principle nine for DCMs, which have been proposed -- which have been pending as a proposal for over three years. In our experience over the past three years, CFTC staff has in many instances treated these proposed regulations as final without an informal staff, even an informal staff interpretation.

And we believe that this action in the absence of final regs. has created a lot of confusion in the marketplace. There's a lot of uncertainty in terms of compliance risk for exchanges for FCMs, for brokers, and for market participants. So that's an area that I think we're going to have to tackle more deeply.

MR. MCGONAGLE: If you can just before we go to the next.

MR. MCGONAGLE: Okay. And just to touch briefly on a different tack to the extent that, and I thought I touched on this when we started, that the trade execution requirement talks about two required methods for execution. So to the extent that anyone is contemplating sort of some alternate method, please pay close attention to the discussion. And if you want to challenge whether there was a discussion, the sufficiency of the discussion concerning whether alternate methods for execution are appropriate with respect to swaps subject to the trade execution mandate.

So that's a way of saying, you know, the more legal analysis that folks want to submit to the Commission or to DMO in particular as we evaluate this with respect to what the SEF rule said, what comments were made around the SEF rule, what are the required methods for execution, including whether the DCMs are faced the same limitations as SEFs with respect to required execution methods; and then to the extent that folks want to articulate whether or how there could be an exception, that would be much appreciated.

CHAIRMAN O'MALIA: Pierre.

MR. LAMY: Yes, thank you. First, I would like to thank the panel because it was a very, I would say, fascinating discussion about the value of those package transactions and the fact that we need to adjust the (inaudible) that we have to accommodate those package transactions. The point that I would like to make is the fact that the XML data presentation is probably the easy part of all this. And I think the part of the cross-asset data presentation is a big part, the fact that we will have, as you pointed out, the case of OTCs that we'll have a future as you mentioned, but also security, the U.S. Treasury example. And I think that we will need to think about those in the context of SEF, but also the context of SDRs and Part 45, Part 43 reporting, which scope is currently limited only to the derivatives transaction.

So I think we should focus early on with those assets that are not in the scope of Title VII as to how we tackle those. Because I just have the impression that this will be the difficult part of everything.

And I was also wondering, in the commodity space, do we have also some package transactions that would involve physical commodities or any of those things?

MR. LEWIS: Yes.

MR. LAMY: But that would not include a physical. That would be the OTC and the futures, that would be the easy one.

MR. LEWIS: You're right.

CHAIRMAN O'MALIA: Wally, and then we're going to go to Scott to remind us of the other outstanding TAC -- SEF issue.

MR. TURBEVILLE: I think a lot of people, unlike myself, might be predisposed to saying that if it's happening in the market, it should continue to happen. Unlike you, maybe I missed something. I did not hear why the earth will stop rotating if package transactions are done in their component parts as opposed to altogether. I hear that obviously that if a package deal is done, that means a lot of different swaps are going to get done, which would -- if they were done individually, we'd all know what the price is, and now we'll never know what the price of them individually is.

I understand that if you own a bond and you hedge it with a swap, you know, you're going to have to put a margin on the swap. I understand that you're doing your deals and you have to do three-month Libor swaps, but you can do three-month Libor swaps. The chances of you being foreclosed from the market are very little there. So what I hear is that people sort of want to do these, and I guess sometimes I hear that it's just convenient and somebody has been told there's an execution risk, I got that, somebody has been told that it's a nice thing to do; but I also understand why it obscures the market, and maybe the world won't stop spinning if you can't do these.

There's a roundtable coming up. I'm not asking you to satisfy my personal needs, whether it's based on ignorance or maybe lack of bias, one or the other or both; but I've got to tell you, it sounds to me like enabling a system that isn't, that really is a system that's created to create, you know, deals for folks -- well, for instance, if you -- well, the whole idea about paying three spreads, you come to me and say, I want to do two or three swaps together, and I'll give you one spread. I'm going to go lay it all off, so I'm going to experience those spreads and pass the cost along to you, for instance.

It doesn't sound -- it sounds to me like a lot of this is a discussion that defies the laws of preservation of mass and energy, if you know what I mean. So not today, it doesn't have to be today, I'm not asking people to stay late or to satisfy me and you don't have to satisfy me, I guess; but to me if -- it does sound a little bit troubling that the world will end if you don't do these things transparently in components as opposed to in big wads.

MR. ELVIS: I think I'm willing to stay late to address that. Well, I think there's, what you -- the last part of what you said, it's actually, you know, in many cases in practice quite the opposite. So, you know, I mentioned in my initial remarks that the interdealer-broker market is for interest rate swaps overwhelmingly composed of spread trades.

And the reason why we can price the individual singular interest rates swaps that our clients ask us to perform is because once we have that risk, we have two hedging tools at our disposal. We actually have multiple. We have futures, we have other swaps, and we have Treasuries. And the ability for us to take the offsetting Treasury risk, for example, and then transform that back into the swap that we did for our client is what enables us to make the prices that we do. So it's not even so much that we are passing costs along to customers because we have to go and do each of the individual legs separately and hedge each of the individual legs separately, frequently it actually works the other way and we will hedge using the most available or the cheapest or the hedge that fits our overall portfolio the best.

And then we'll do an invoice spread or we'll do a Treasury spread to manage that risk.

MR. TURBEVILLE: But somebody has to get back to the underlying risk eventually.

MR. ELVIS: Well, that underlying risk has been passed to us, but in my example, that underlying risk has been passed to us by our client already.

MR. TURBEVILLE: Does the guy you do the spread deal with eventually or somebody down the chain has to get to the actual real risk.

MR. ELVIS: Well, somebody may have, you know, capacity for Treasury risk whereas we have capacity for swap risk or that's, you know, that's -- the reason these things exist is because people have different portfolios and different goals.

And I don't think anybody is suggesting by any means that the world will end. I think what we are suggesting is execution costs will rise, risks that neither party to a transaction want, they're going to be forced to have or they will be forced to bear the execution risk, which you minimize a little bit; but I think it's real, particularly in volatile markets. And this is something that happens, you know very frequently in the market.

And many of the suggestions that we've been making are designed actually to enhance the transparency of these transactions. So for example, linking them on the tape is a transparency-enhancing suggestion. The managing the clearing --

MR. TURBEVILLE: Post-trade, post-trade?

MR. ELVIS: Sure, post-trade.

MR. TURBEVILLE: Not pre-trade?

MR. ELVIS: Well, if you have an order book that's available, you can see where the price is. And I would also say that you can't quote a swaption in vol[atility] terms unless you can fix the

Delta leg, otherwise you have to quote the option in price terms. And as the underlying moves around, you're going to have to be constantly recalculating, and it's actually going to be much less transparent I would say. Because I could say, oh, well, I see Treasuries at nine plus, no, I see them at nine, well, my -- you know, if we say, if we agree the Treasury is at nine plus and we're going to exchange the Treasury, agree the ten-year swap is at three percent, we're going to exchange it at three percent, that makes the negotiation between the two parties to swaption much more transparent and much cleaner in my opinion.

MR. BERGER: I would just add, I mean, I think we should all be encouraged by the fact that execution venues are all trying to build better mousetraps for package transactions right now. I mean, Sunil could spend an hour talking about his, you know, portfolio termination and compaction tool. There are a number of SEFs that already stream quotes for swaps, curves, and butterflies, and swap spreads, so and I think, you know, we've discussed already how in the interdealer markets there's probably already great central limit order books for certain types of package transactions.

So there is a mechanism to see this work in, you know, the post-SEF landscape. I think there's just, you know, there's some hurdles to overcome to make sure it works seamlessly.

CHAIRMAN O'MALIA: Thank you. Let's go to Mr. Fitzpatrick here and close this out.

MR. FITZPATRICK: Thank you, Chairman O'Malia. For those of you that don't know, my name is Scott Fitzpatrick. I'm a representative today here as the current Chairman of the Wholesale Market Brokers Association. I'm also representing one of the firms that has a central order book for some of these package transactions. I was going to go into a little bit of preamble, Scott, but -- is that better, okay, all right we're good -- in the interest of time, I was going to go into a little bit of a preamble of how we got here, but I will go straight to the points.

ACTING CHAIRMAN WETJEN: And for the record O'Malia is shaking his head.

MR. FITZPATRICK: I see they acknowledge it from the Chairman, thank you very much. And what I will say is that it isn't all bad news. Obviously, you know, we sat here today and there's been a monumental effort that has gone on across the industry, not only from SEFs, but from swap dealers, major swap participants, ECPs, and also our international colleagues and getting as much of this market efficiently and functionally operational on SEFs as it can. However, in saying all of that, there are still a few issues out there that merit some discussion or some reference in today's TAC meeting.

I've deliberately left off the package transactions knowing the agenda for today obviously and coming up over the next few days. So what I want to do is just focus in on four of these areas. The first one being the confirmation requirement in rule 37.6(b) and more specifically footnote 195 in the obligation that SEFs maintain privately negotiated master agreements between counterparties. Second issue I will touch on is the remaining cross border concerns as they relate to counterparties and execution platforms. The so-called embargo rule we'll talk about as point three and its restrictions on disclosing trade information under the CFTC's real-time reporting rules. And finally I'll briefly touch on issues having to do with post-trade straight-through processing and the pre-trade credit checks with the CFTC's guidance that trades rejected by clearinghouses are immediately void ab initio.

Originally we were going to talk about each one and open it up for discussions, I'm just going to barrel through all four, and if anyone has any comments or wishes to raise discussion points at the end, we can do that. So first of all, I'll touch on the confirmation requirements and specifically footnote 195. Under the final rule 37.6(b), the Commission requires that at the time of execution, the SEF provide each counterparty to a transaction that it is entered into on or pursuant to the rules of the SEF with a written record of all the terms of the transaction which legally supersedes any previous agreement and serve as confirmation of the transaction.

And the preamble to the final rule, the Commission stated in a footnote, footnote 195 that SEFs could incorporate by reference the terms of a separate master agreement as long as the master agreement is submitted to the SEF before execution and nothing in the confirmation terms contradicts the standard terms from the master agreement. As a result of the unexpected implications of this footnote 195, there is widespread confusion currently and uncertainty within the industry regarding how to comply with the final rule or indeed resolve to agree completely on the legal interpretation of this ruling.

While certain market participants have engaged Commission staff on this issue, I believe the industry would generally agree that for the clarification from the Commission is necessary. As a practical matter and speaking on behalf of a

SEF, it would be difficult, to say the least, for SEFs to house a complete and accurate library of the privately negotiating terms of free standing master agreements between customers. Market participants enter into these bilateral agreements separately from SEFs. And as a matter of industry practice until now, these agreements are not provided to other entities including SEFs.

Even if some master agreements, we have provided to SEFs entirely, logistical difficulties would make it impractical for SEFs to ensure possession of all bilateral agreements and, secondly, accurate records as these agreements may be amended and restated periodically, let alone the fact that the industry would be required to manage a vast matrix of which SEFs have which versions of which documents for which products on an ongoing basis.

As I'll indicate on more than one occasion during this brief presentation, this is an example of a situation where the theory is simple, but the practical implementation depending on where you fall in terms of the solution, are potentially complex and time-consuming and arguably questionable in terms of real value to the Commission of requiring SEFs to maintain such a library, thus adding once again to the cost and technological stress points to the function of the markets.

On cross-border concerns, we're understanding that there are a number of ongoing compliance concerns related to the Commission's cross-border interpretive guidance and policy statement, I'd like to focus this particular point on the staff advisory issued by the Division of Swap Dealer Intermediary Oversight in November of last year regarding the application of transaction level requirements to activity in the U.S. and the dislocation between the guidance provided to the trading community versus that of the SEF community.

Staff advisory number 13-69 stated that a non-U.S. swap dealer, whether an affiliate or not of a U.S. person, regularly using personnel or agents located in the U.S. to arrange, negotiate, or execute a swap with a non-U.S. person, generally would be required to comply with the transaction level requirements. Notably, the division believed these requirements would also apply to swaps between a non-U.S. swap dealer and a non-U.S. person booked in a non-U.S. branch of the non-U.S. swap dealer if the non-U.S. swap dealer is using personnel or agents located in the U.S. to arrange, negotiate, or execute such swaps. That was quite the --

CHAIRMAN O'MALIA: Do you want to say that again?

MR. FITZPATRICK: I got it right the first time, we'll leave it there. Earlier, in January of this year, the Commission requested comments on the advisory by providing no-action relief under CFTC letter number 14-01 to extend the time for non-U.S. swap dealers to comply with certain transaction level requirements to September 15, 2014. Though this no-action release provides relief to non-U.S. swap dealers, it leaves open numerous cross-border questions related to SEF trading. At the same time while relief has been given to non-U.S. swap dealers, there has been no corresponding relief issued in the context of platforms operating in an execution capacity for these entities.

To put this into context of TAC and apply the technological concerns, they're simple to describe, again, but complicated to implement. Trading platforms are extremely complex pieces of technology, any changes, even the slightest of them, take time to assess, analyze, define, code, test, and implement for the simple reason that if they go wrong, they can have a significant financial impact on liquidity, and worst case a client position, and as a result run the risk of damaging the relationship between the user of the platform and the provider of the platform.

Having situations like the one I have just described in play currently seriously impacts day-to-day decision making as to how you run your platform from a business perspective, a regulatory perspective, but also where you dedicate resource to make things right when you don't quite know what is right and you're overstretched on your resource as it is.

Leaving that one there, I'll touch briefly on the embargo rule. The embargo rule covered under Commission rule 43.3(b)(3), which generally prohibits a registered SEF or DCM from disclosing swap transaction and pricing data related to publically reportable swap transactions before public dissemination of such by an SDR, as a result of the rule SEFs and DCMs that would like to continue to permit workups may face workflow issues or in a more simplified fact pattern, cannot share trade information with their customers until confirmation that the SDR has published the information or that the SEF or DCM can confirm transmittal of the required information to the SDR. This delay could have material effects on market liquidity.

Anecdotally, I'm aware of potential remedies that include providing an exception to this requirement so that SEFs can publish information simultaneously at the point to which the swap goes to the SDR; however, even that is laced with confusion in the context of direct connection to an SDR versus the use of third-party technologies and at what point transmittal of information has been deemed to have happened.

All that said, the reality of this situation is that the workflow complications are real, the practicalities of the required technology solutions are real, and the impact can be severe.

Finally, on the four points and the end of my remainder of that there's other things going on as well as package transactions, pre-trade clearing certainty. In September of last year Commission staff released guidance on the straight-through processing of swaps reminding market participants of their obligation related to swaps on a SEF or DCM that are intended to be cleared. Among other things, the staff stated that clearing FCMs must screen orders for execution on a SEF regardless of the method of execution, and in turn SEFs must permit clearing FCMs to screen on an order-by-order basis. The staff folks have noted that the Commission's regulations require SEFs to have rules to facilitate prompt and efficient processing by DCOs and DCOs to accept or reject trades on a SEF or DCM as quickly as would be technologically practical as if fully automated systems were used.

And under the guidance, any trade that is executed in a SEF or DCM and that is not accepted for clearing should be void ab initio. Subsequently, staff issued a no-action letter 13-66, which stated that subject to certain conditions, a SEF would not be subject to enforcement action for implementing the rules that established a new trade old terms procedure until June 30, 2014.

Before I conclude, I'd just suggest that the issues here for discussion take on several forms. Firstly, the readiness of the marketplace to adopt the various methods and sources of the credit management process. Are platforms and the credit hubs ready with fully tested models for all market types, central limit order book, RFQ, voice, on a push, and on a ping basis? Is the concept of a one and done on a trade that failed to clear for non-credit reasons realistic and acceptable?

As I understand it, historically trades can and do go through several iterations of resubmission before ultimately clearing. What if the trade that fails to clear is a component part of a package transaction? And finally, is the time limit of 30 minutes for resubmission acceptable?

At this point I'd like to thank you, Mr. Chairman O'Malia, for the opportunity to speak here today. And I'll now hand it back to you to close.

CHAIRMAN O'MALIA: Well, thank you very much for doing that. I'm sorry we won't have more time to discuss it at this meeting. I did want to think about those. I know the cross border will be taken up on Wednesday, so that's a great development. And some of these other things, we'll continue to look at.

I'm grateful for all the participants, everybody that rearranged their schedule to accommodate the snowed-out date. I'm grateful for the panelists to make their arrangements. I'm grateful for our staff that have participated in this meeting, have stayed in here to listen to all of the recommendations that have been made today. So with that we are done. Thank you.

(Whereupon, 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.

(Signature and Seal on File)

Notary Public, in and for the District of Columbia

My Commission Expires: March 14, 2014