

1 U.S. COMMODITY FUTURES TRADING COMMISSION (CFTC)

2

3 MARKET RISK ADVISORY COMMITTEE (MRAC)

4

5 Wednesday, June 12, 2019

6 9:32 a.m. - 2:43 p.m.

7

8 Location:

9 Commodity Futures Trading Commission - CFTC

10 Three Lafayette Centre

11 1155 21st Street, N.W.

12 Washington, D.C. 20581

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4 J. CHRISTOPHER GIANCARLO, Chairman

5 DAN M. BERKOVITZ, Commissioner

6 DAWN DEBERRY STUMP, Commissioner

7 BRIAN D. QUINTENZ, Commissioner

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11 MRAC MEMBERS:

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17 Stability Board's Taskforce on Climate-Related
18 Financial Disclosures

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1 P R O C E E D I N G S

2 MS. LEWIS: Good morning, everyone. My name
3 is Alicia Lewis, and I am the designated Federal
4 officer for the Market Risk Advisory Committee. And it
5 is my pleasure to call this meeting to order this
6 morning.

7 Before we begin this morning's discussion, I
8 would like to turn to the members of the Commission for
9 opening remarks. We will start with Commissioner
10 Rostin Behnam, MRAC's sponsor, followed by Chairman
11 Giancarlo, then Commissioner Quintenz, followed by
12 Commissioner Stump. And when Commissioner Berkovitz
13 arrives, we will give him an opportunity to make brief
14 remarks. Now we will have remarks from Commissioner
15 Behnam.

16 COMMISSIONER BEHNAM: Good morning. Thanks,
17 Alicia.

18 First off, welcome to the committee. Great
19 to see everyone. It has been a while since we last met
20 in December of 2018. So I am excited to see all of
21 you. And I think we have a good day ahead of us.
22 Welcome to the folks in the audience and folks who are

1 watching on webcast.

2 We have a number of important issues to
3 discuss I think throughout the day, starting off with
4 the first panel. And hopefully we are going to be
5 welcoming some new individuals who might not otherwise
6 know too much about the CFTC. Climate issues, as we
7 will discuss later on, are very important to me. So we
8 would welcome the opportunity to share with you what we
9 do at the agency.

10 We are sort of small, relatively, by size
11 compared to our sister agencies in town, but we do very
12 important work. We have great staff across the board.
13 And we are very proud of our responsibilities, and we
14 take it very seriously.

15 Quickly, I want to welcome and I will say
16 more to Nadia Zakir. She is going to be the chairwoman
17 of MRAC. She joined the committee recently and
18 appointed as chair. I am very pleased to have her. I
19 have known her for a number of years. And she is a
20 great asset and a value-add to the committee.

21 I quickly acknowledge the chairman,
22 Commissioners Quintenz, Stump, and Berkovitz for their

1 participation and their willingness to be here today.
2 Finally, as always, thanks to Alicia Lewis, the DFO.
3 She is an integral part of all of this, as you all know
4 very well; and, of course, Margie Yates and her staff,
5 who make this all come together.

6 Today's agenda focuses heavily on climate-
7 related financial market risk. Worldwide economic
8 costs from natural disasters have exceeded the 30-year
9 average of \$140 billion in 7 of the last 10 years. In
10 2018, the total cost was \$160 billion. Our commodity
11 markets and the financial markets that support them
12 will suffer if we do not take action to mitigate the
13 risk of contagion. As most of the world's markets and
14 market regulators are taking steps towards assessing
15 and mitigating the current and potential threats of
16 climate change, we in the U.S. must also demand action
17 from all segments of the public and private sectors,
18 including this agency.

19 Among the many lessons learned from the 2008
20 financial crisis, the interconnectedness of our global
21 financial markets is one, if not the single, most
22 important. All risk analysis, including risk derived

1 from climate change, must include a holistic
2 examination of the systemic relationships throughout
3 all of our financial markets.

4 The impacts of climate change affect every
5 aspect of the American economy, from production
6 agriculture to commercial manufacturing, and the
7 financing of every step in between. With that said,
8 any solutions seeking to address and mitigate climate
9 risk must be equally focused on ensuring the safety and
10 continued prosperity of our urban cores and our rural
11 communities. Failing to address financial market risks
12 associated with climate change will impede economic
13 growth and most likely hurt rural communities the
14 hardest.

15 Recent extreme weather events across the
16 Nation's Midwest, including record rainfall and
17 reported tornadoes, have further elevated the impacts
18 of climate change in the lives of everyday Americans.
19 Flooding and soil saturation resulting from torrential
20 rains has impacted planting of major crops. On June
21 2nd, the Department of Agriculture reported that only
22 67 percent of U.S. corn was planted. The average

1 percentage on this date from 2014 to 2018 was 96
2 percent. For soybeans, the number for 2019 was only 39
3 percent. And the average on this date from 2014 to
4 2018 was 86 percent.

5 As recently as last week, heightened fire
6 threats in northern California at the very outset of
7 wildfire season brought fresh reminders of the
8 devastation sewn across the western United States last
9 year. With all of these weather events paralyzing
10 large swaths of our country, in fear of both making
11 decisions amidst a complex web of unknowns and making
12 decisions that could save lives and livelihoods, I
13 believe it is time to examine the relationships of
14 these terrible and, sadly, more frequent events to
15 financial market risk and, more generally, market
16 stability.

17 The human element of these tragedies is real
18 and heart-wrenching, but the economic element is also
19 just as real. Risk exposures to insurance providers,
20 asset managers, pension funds, commercial and retail
21 banks, all users of derivatives markets, to price and
22 shift risk cannot be understated. But, ultimately, the

1 final risk often weighs on farmers, investors,
2 customers, consumers, and homeowners. And we
3 collectively must act now to address the persistent
4 risks posed by climate change.

5 Looking to our international counterparts who
6 have already begun taking important steps to address
7 the impacts of climate change on financial systems is a
8 start. The Network for Greening the Financial System
9 is a group of more than 40 central banks and
10 supervisors from around the globe, including the
11 European Central Bank, the World Bank, and the People's
12 Bank of China, working to understand and manage the
13 financial risks of climate change. Many of these
14 central banks oversee the very same registrants the
15 CFTC does as well.

16 The Financial Stability Board's Task Force on
17 Climate-Related Financial Disclosure is also doing very
18 important work in this area. The TCFD is working to
19 provide better access to data for market participants,
20 with the goal of enhancing how climate-related risks
21 are assessed, priced, disclosed, and managed.
22 Assessing climate-related market risk must be a

1 priority, and it must start now.

2 As sponsor of the MRAC, my hope is that this
3 meeting will serve as an important first step towards a
4 comprehensive review of what we can do now to prepare
5 for and mitigate the financial risks from climate
6 change. My intention is to first take the necessary
7 internal steps to form an MRAC subcommittee focused
8 exclusively on examining climate-related financial
9 market risk. The immediate next step is to identify
10 experts from all relevant disciplines willing to
11 contribute to the exercise. Each step will be
12 deliberate, measured, and determinative of what
13 direction will be subsequently pursued.

14 Today, a range of experts from public and
15 private sector organizations in the global financial
16 ecosystem will share their experience and perspectives
17 on climate-related market risk. This committee and the
18 Commission will benefit from their direct experience in
19 considering, analyzing, and developing sensible,
20 targeted approaches to beginning to address the
21 challenges ahead for the CFTC and the derivatives
22 markets. The cumulative experience and expertise of

1 today's panelists can help identify market risks, shape
2 targeted questions, and recommend data-driven policy
3 solutions to mitigate these risks.

4 Following the morning panels, the MRAC will
5 receive a status report from the Interest Rate
6 Benchmark Reform Subcommittee. Tom Wipf, Chairman of
7 this important subcommittee and also the newly
8 appointed chairman of the Alternative Reference Rate
9 Committee of the Board of Governors of the Federal
10 Reserve System will lead the discussion by providing
11 updates on the subcommittee's three work streams: the
12 Initial Margin Working Group, led by Bis Chatterjee;
13 the Clearing Working Group, led by Marnie Rosenberg;
14 and the Disclosure Working Group, led by Ann Battle.

15 I am proud of the accomplishments and
16 progress of the MRAC and the subcommittee's work and
17 contributions to the larger efforts by our domestic and
18 international counterparts as we all collectively work
19 to make transition away from LIBOR successful.

20 Before we hear from the Interest Rate
21 Benchmark Reform Subcommittee, it is my intention to
22 establish additional subcommittees later this morning

1 to address other important issues related to market
2 risk.

3 Finally, after lunch, I am pleased to welcome
4 Steven Maijoor, the chair of the European Securities
5 and Markets Authority. Mr. Maijoor will be discussing
6 European Market Infrastructure, or EMIR 2.2; central
7 counterparty stress testing; and Brexit. I have also
8 asked Chair Maijoor to share his views regarding
9 climate risks and what ESMA has done to date.

10 The CFTC, along with its international
11 counterparts, is continually confronting the challenge
12 of building and maintaining the appropriate regulatory
13 framework for clearing in and among a population of
14 clearinghouses with unique risk profiles that will
15 withstand routine shocks and demonstrate resiliency in
16 a crisis. Additionally, the continuing uncertainty
17 surrounding the United Kingdom's impending exit from
18 the European Union creates market risks that have been
19 much discussed and still need to be discussed. Should
20 a hard Brexit materialize, there will be a lack of
21 clarity surrounding what each phase of a derivatives
22 trade, from connecting a salesperson with a client to

1 executing the trade, to processing the trade through a
2 CCP, will look like after Brexit. Where each of those
3 actions take place will be another question, and how
4 market participants geographically shift those
5 functions will carry substantial risks.

6 Whatever the disposition between the EU and
7 the UK, the reaction to those risks should not be a
8 deviation from the current paradigm of regulatory
9 deference. As Chairman Giancarlo has said repeatedly,
10 having a healthy respect for regulations that ensure
11 market transparency and stability and which also
12 respect local commercial custom have become a mainstay
13 of our global regulatory infrastructure. Deference to
14 comparably robust regulatory regimes prevents overly
15 burdensome and conflicting regulatory requirements from
16 reducing market efficiencies, while ensuring that
17 global markets are successfully protected.

18 While we continue to look for ways to build
19 consensus across borders, the CFTC will take necessary
20 actions to preserve this regulatory paradigm. I look
21 forward to working with both my fellow commissioners
22 and foreign counterparts to make sure that derivatives

1 markets are prepared to deal with the complex
2 implications of Brexit. And as a part of this process,
3 I look forward to hearing from Mr. Maijoor and finding
4 ways to maintain and promote deference where
5 appropriate.

6 A few things before I turn over to Chairman
7 Giancarlo. I mentioned in my preliminary remarks about
8 subcommittees. We are going to form a subcommittee on
9 climate risk, not unlike we did with LIBOR. So we will
10 go through a Federal Register process. It is my
11 intention with the committee's approval and the support
12 from the Commission to go through that process and, as
13 I said in my remarks, have more of an inclusive
14 invitation to a large group of experts in this space
15 given the complexity of the issues.

16 Regarding the other subcommittees, we will
17 form subcommittees formally, as we do always, but my
18 vision is to have more informal working groups
19 essentially established among the members of this
20 committee only. So it will not include outside
21 members, but it would substantially include just
22 members from the committee. The three of us will sort

1 of figure out who wants to be where and what expertise
2 and what issues matter to you in the future.

3 So that is sort of the plan. I don't want
4 you to think that we are going to have a Federal
5 Register notice for each, but I wanted to give you a
6 sense of what the plan is for the future. Certainly we
7 welcome your thoughts. And this will largely be based
8 on the recommendations you all made at the outset a
9 year ago, when we reformed the committee.

10 We are going to hear from a diverse group of
11 folks this morning, not necessarily focused exclusively
12 on derivatives markets with respect to climate change
13 and financial market risks. These are people who have
14 done a lot of work in the recent past on these issues.
15 And, despite the fact that they may not be focused
16 exclusively on derivatives markets, I think it is
17 important for this committee to hear the information
18 that they have learned, the work that they have done
19 because ultimately it is going to inform how we within
20 the committee and any subcommittee that is formed
21 tackle this issue. So we certainly will have elements
22 of derivatives markets brought up this morning, hedging

1 and those risks, but also we are going to hear from the
2 Bank of England to talk about stress testing banks. We
3 are going to hear from TCFD to talk about disclosure.
4 And I think all of these things, as well as everyone
5 knows, the derivatives markets will help us sort of
6 better shape the questions, as I said, as we sort of
7 approach this issue.

8 It is a difficult issue, but I certainly
9 would challenge all of you and your firms to
10 participate, obviously sensitive politically, but, as I
11 said in my remarks, we are going to take this in a very
12 measured way. We are going to focus on the issues at
13 hand. And we are going to try to unpack some of the
14 challenges that financial markets face as a result of
15 climate change and as a result of the things that we
16 are seeing every day across the country. And I think
17 there is a lot to be discovered, a lot to be
18 researched. And, ultimately, I think if we can produce
19 findings or a report for the Commission to consider, I
20 think that would be helpful, not only for this agency
21 but for the larger financial market ecosystem as well.

22 Quickly, before I turn to the chairman, I

1 want to recognize him. This will be his last advisory
2 committee meeting. It will not be the last of the work
3 we do. We have a bit more stuff to do before the
4 chairman departs in mid July. But I do want to
5 recognize him. The chairman has sponsored two
6 committees since he came to the Commission in 2014:
7 EMAC and now Agriculture. And I think we have all
8 benefitted from your leadership. And to have you
9 sponsor two I think committees, both as a commissioner
10 and chair, you recognize and appreciate the importance
11 of the committees and the value that they provide to
12 each commissioner. So I just wanted to recognize you
13 as this will be your final advisory committee before
14 you leave us.

15 And, finally, I want to dedicate this meeting
16 to Commissioner Bart Chilton. For those of you who are
17 not in the CFTC family, we lost Commissioner Chilton
18 about a month ago. And we had a service in this room a
19 few weeks ago. For those of you who don't know -- and
20 he was a very energetic, very colorful, very
21 charismatic commissioner. He brought a lot of
22 attention, a lot of very good attention, to this

1 agency. He was a very principled person and someone
2 who cared deeply about public service and the work of
3 the CFTC, USDA, and the Congress as well. He had a
4 long, very amazing career in public service. Bart also
5 cared about these issues very much. He was thinking
6 about climate change environment and energy issues long
7 before most folks were. So I am hopeful that Bart is
8 watching this morning and he is smiling about it
9 because I think he would enjoy it.

10 So, with that, thank you all for being here.
11 I think it is going to be a fun morning and afternoon
12 as well.

13 MS. LEWIS: Thank you, Commissioner Behnam.
14 Chairman Giancarlo?

15 CFTC CHAIRMAN GIANCARLO: Thank you, Alicia.
16 Thank you, Commissioner Behnam.

17 I think, in fact, the last time environmental
18 matters were taken up at an advisory committee meeting
19 by the CFTC, it was under the auspices of Bart Chilton
20 and the Energy Environmental Markets Advisory Committee
21 in this very room. And many people who were at that
22 remember it as an extremely fun, as things always were

1 with Bart, but also substantive meeting as well. So
2 thank you for referencing Bart. For those of us that
3 had the real pleasure of knowing him, he was one of
4 life's truly effervescent persons and is missed by all
5 of us.

6 With that, good morning, everybody. And a
7 warm welcome to all of you to the MRAC meeting and to
8 MRAC members and to today's presenters and people
9 participating on the telephone, a warm welcome to you
10 to the CFTC.

11 The subject matter of today's meeting may
12 have attracted an audience that is unfamiliar with the
13 CFTC and its advisory committee process. So let me
14 take a minute to explain our long and proud tradition
15 of robust and well-informed advisory committees. The
16 advisory committees are composed of and conducted by
17 recognized market experts and key stakeholders. They
18 set their own agendas. They identify issues of their
19 own choosing. They form subcommittees on matters of
20 perceived importance, and they conduct studies of
21 acknowledge concern.

22 The work of CFTC advisory committees is

1 proudly bipartisan, in both spirit and practice. And
2 the work receives the agency's active support in the
3 form of expert research and public meeting
4 accommodations.

5 The purpose of advisory committees boils down
6 to one essential. And that is to support this
7 Commission and its mission to foster open, transparent,
8 competitive, and financially sound markets for the
9 trading of derivative products.

10 The CFTC has five advisory committees, each
11 sponsored by an individual commissioner. They are
12 Agriculture, which I have the honor to sponsor;
13 Technology, sponsored by Commissioner Quintenz; Energy
14 and Environmental Markets, sponsored by Commissioner
15 Berkovitz; Global Markets, sponsored by Commissioner
16 Stump; and Market Risk, or MRAC, sponsored by
17 Commissioner Behnam, which we are attending this
18 morning. And, as you know, today's agenda is
19 particularly compelling. I am particularly looking
20 forward to the committee's discussion of the potential
21 impact of climate change on the global financial
22 system, a part of which we regulate; domestic and

1 international policy initiatives and supervisory
2 approaches to market risks related to climate change;
3 key risk management governance and disclosure
4 considerations; and the challenges, the many
5 challenges, for regulators and market participants
6 alike. And I must say I am also looking forward to
7 hearing a status report from the Interest Rate
8 Benchmark Reform Subcommittee regarding LIBOR
9 transition, of which I have spent a lot of time, but so
10 has Commissioner Behnam and the work of this committee.
11 And, lastly, I am very much looking forward to
12 welcoming to the CFTC and to this meeting a very
13 distinguished guest, Steven Maijoor, chair of the
14 European Securities and Markets Authority, known as
15 ESMA. And, as Ros mentioned, he will talk about EMIR
16 2.2, central counterparty stress testing, and Brexit.
17 Chair Maijoor is the leader of an important regulatory
18 agency, with which the CFTC works closely. And I know
19 you will join me in giving him a warm welcome.

20 Finally, I want to commend Commissioner
21 Behnam for his really determined and thoughtful
22 sponsorship of this committee and its focus on such

1 important topics and anticipate that he and Alicia
2 Lewis and all of the members of MRAC will bring an
3 impressive level of thought leadership to the
4 discussion, but let me just say that so there is no
5 doubt. Let me clearly state that this Commission fully
6 supports the work of this advisory committee. And that
7 is because this agency and all of its commissioners,
8 regardless of party label, strive to understand
9 anything and everything that impacts the markets we are
10 sworn to oversee. That includes impacts of climate
11 change as well as other externalities, such as
12 geopolitics, including Brexit; technology, including
13 algo trading and crypto assets; and new asset classes,
14 like Bitcoin and severe weather conditions, including
15 the incessant flooding that we have seen this spring
16 throughout the Midwest. If it impacts our markets, we
17 want to understand it thoroughly, and that is why we
18 are here today. And that is why we are grateful to you
19 for your time and your expertise to make us all a
20 little bit more market-intelligent than when we started
21 out.

22 So thank you all very much for participating.

1 And let's have a great day.

2 MS. LEWIS: Thank you, Chairman Giancarlo.

3 Now we will have Commissioner Quintenz.

4 COMMISSIONER QUINTENZ: Thank you, Alicia.

5 Thank you for your work on today's meeting. And thank
6 you, Commissioner Behnam, for putting a very robust and
7 fascinating agenda together. I, like the chairman, am
8 very interested to hear how the derivatives markets, in
9 particular, can be used to address risks. And I fully
10 embrace and I think it is going to be fascinating to
11 learn -- I fully embrace an agenda where we can explore
12 the purpose of the derivatives markets, which is to
13 allow commercial businesses to hedge their risks. I
14 think too often, the derivatives markets are viewed by
15 some or publicly as an opportunity for financial
16 entities to take one-sided bets on specific risks. In
17 order for products to be able to serve the risk
18 management needs of commercial businesses, there needs
19 to be liquidity or there needs to be counterparties
20 willing to take the other side of those trades. Those
21 entities are the exact same firms that would be
22 targeted by the language of one-sided risky bets in

1 markets that we regulate. And I personally reject any
2 of those characterizations. So I fully embrace the
3 opportunity to explore today how the derivatives
4 markets can be used to address risks in general and
5 climate-related risks specifically.

6 I was reminded recently of the fact that the
7 CFTC has actually already approved ESG futures
8 contracts to be traded on Eurex I think as recently as
9 this March. And while we have a special approval
10 process for foreign boards of trade, we do have a well-
11 known self-certification process for domestic exchanges
12 to list new futures and derivatives contracts. And I
13 would be very open and interested to hear of any
14 exchanges' plans or interest in contracts related to
15 this effort.

16 Let me also join the chairman in extending a
17 very warm welcome to Chairman Maijoor. I have had a
18 number of opportunities to visit with him personally
19 and present with him on panels. And I think that this
20 is going to be a great opportunity for us to hear
21 directly from him on a very important topic for both of
22 us.

1 So thank you again, Commissioner Behnam, for
2 the opportunity.

3 MS. LEWIS: Thank you, Commissioner Quintenz.
4 And now we will have Commissioner Stump.

5 COMMISSIONER STUMP: I will be very brief. I
6 just want to thank Alicia for all of your work. Thanks
7 to Commissioner Behnam for putting together a very
8 interesting agenda. I know you guys worked really hard
9 on this.

10 And a particular thanks to Nadia for agreeing
11 to be the chairperson of this committee. I think in my
12 short time here at the Commission, I find these
13 dialogues to be extremely useful. You all taking time
14 out of your day jobs and your day-to-day lives to be
15 here in Washington with us is extremely beneficial to
16 the Commission. As has been noted, the risks that we
17 are tasked with allowing people to hedge and mitigate
18 is always shifting. And so our agenda is always
19 shifting, and I think the discussion today is very
20 timely.

21 MS. LEWIS: Thank you, Commissioner Stump.
22 Now we will have Commissioner Berkovitz.

1 COMMISSIONER BERKOVITZ: Thank you, Alicia.

2 And thank you, Commissioner Behnam, for sponsoring this
3 very timely and fascinating meeting today.

4 I would like to welcome all of the
5 participants. I am very interested in all of the items
6 on today's agenda.

7 In terms of a couple of things I find
8 particularly interesting, one is political systems may
9 or may not be immediately responsive to emerging
10 trends, but markets are extremely responsive. There is
11 a lot of research about the collective wisdom of
12 markets. And so I think it is very informative to look
13 and see how the markets may be responding to climate
14 change. Also, I have read a number of reports and news
15 items about potential threats to the financial markets
16 from climate change. I am particularly interested in
17 today's discussion in terms of what the impacts of
18 climate change may actually be on financial market
19 stability and the financial system.

20 So I think it is a fascinating agenda.
21 Commissioner Behnam, I thank you for putting this
22 agenda together and for all of the committee

1 participants for traveling here today to advise the
2 Commission on these matters.

3 Thank you.

4 MS. LEWIS: Thank you, Commissioner
5 Berkovitz. Again, thank you all for your opening
6 remarks. And now Commissioner Behnam will introduce
7 our new MRAC chairwoman.

8 COMMISSIONER BEHNAM: Thanks, Alicia.

9 As I pointed out in my opening remarks, it is
10 a pleasure to welcome Nadia Zakir. She is an executive
11 vice president and deputy general counsel at PIMCO and
12 the new chairperson of the MRAC. Prior to joining
13 PIMCO in 2013, she was an associate director in the
14 Product Review Branch of DCR at the CFTC, the Division
15 of Clearing Risk, and also served as special counsel in
16 the Exchange and Data Repository Branch of the Division
17 of Market Oversight.

18 As I stated in my opening remarks, Nadia's
19 deep experience and knowledge of markets and policy is
20 a huge asset and will be a huge asset for the MRAC. I
21 am very grateful for her willingness to do this and her
22 public service. And I welcome her to the committee.

1 Thank you.

2 CHAIRPERSON ZAKIR: Thank you, Commissioner
3 Behnam, Mr. Chairman, and commissioners. Thank you,
4 Commissioner Behnam, for the opportunity to chair the
5 Market Risk Advisory Committee. And thank you to each
6 member of the committee that has made the time to be
7 here with us today.

8 The MRAC's mission is to identify and reduce
9 systemic risk, to promote market transparency, safety,
10 and efficiency, and to prioritize customer protections.
11 Getting each of these issues right is critical to
12 ensuring a stable marketplace. And I look forward to
13 working with my MRAC colleagues to continue the
14 important work of this committee to assist the
15 Commission in its oversight of the derivatives market,
16 and to further the growth of deep, liquid, and well-
17 functioning derivatives markets for all users. As we
18 engage in thoughtful discussions running the topics of
19 today's panels and future sessions, I hope we can
20 leverage our varied backgrounds and perspectives in
21 order to develop and provide meaningful recommendations
22 to the Commission regarding market risk mitigation in

1 today's markets.

2 Turning to the day's agenda, before we begin,
3 I would like to do a roll call of the members on the
4 phone so we have your presence on the record. After I
5 say your name, please indicate your presence. Alicia
6 Crighton representing FIA. Alicia Crighton
7 representing FIA.

8 (No response.)

9 CHAIRPERSON ZAKIR: Laura Klimpel, DTCC.

10 MS. KLIMPEL: Present.

11 CHAIRPERSON ZAKIR: Thank you.

12 John Murphy, Commodity Markets Council.

13 MR. MURPHY: Present.

14 CHAIRPERSON ZAKIR: Suzy White, HSBC.

15 (No response.)

16 CHAIRPERSON ZAKIR: Scott Tucker, Tradeweb.

17 (No response.)

18 CHAIRPERSON ZAKIR: Just a few logistical
19 reminders. Committee members and panelists, please
20 make sure your microphone is on when you speak. This
21 meeting is being simultaneously webcast, and it is
22 important that your microphone is on so that the

1 webcast audience can hear you. Also, please lean into
2 the microphone when you speak, and keep your phones
3 away from the console.

4 Members, if you would like to be recognized
5 during the discussion, please change the position of
6 your name card so that it sits vertically on the table
7 or raise your hand, and I will recognize you and give
8 you the floor. Members on the phone, we will give you
9 an opportunity to ask questions or make comments,
10 either at the beginning or end of our discussion.

11 Our first order of business is a discussion
12 of climate-related financial risks. Members of the
13 first panel will discuss current domestic and
14 international policy initiatives and supervisory
15 approaches to address climate-related financial risks,
16 followed by a second panel of industry experts, who
17 will discuss how market participants are evaluating,
18 managing, and factoring climate risk, including climate
19 adaptation and physical risks, into their respective
20 businesses and portfolios. I would like to ask our
21 speakers on the first panel to please take your seats.

22 With that, let me introduce our first panel.

1 MS. LEWIS: One second. Audiovisual, can you
2 please bring up Sarah Breeden? Thank you.

3 CHAIRPERSON ZAKIR: Thank you.

4 On videoconference, we have Sarah Breeden,
5 executive director of International Banks Division,
6 Prudential Regulation Authority, Bank of England.
7 Joining us in person, we have Stacy Coleman, managing
8 director, Promontory Financial Group, representing the
9 secretary of the Financial Stability Board's Task Force
10 on Climate-related Financial Disclosures. We also have
11 Dave Jones, director, Climate Risk Initiative, Center
12 for Law, Energy and the Environment at the University
13 of California, Berkeley School of Law and former
14 California insurance commissioner.

15 With that, let's get started. Ms. Breeden,
16 you have the floor.

17 MS. BREEDEN: Thank you very much.
18 Commissioner Behnam, Chair, members of the committee,
19 thank you very much for the opportunity to speak to you
20 today about the Bank of England's work on the financial
21 risks from climate change.

22 The Bank of England has been clear for some

1 time that climate change creates financial risks that
2 are relevant to our mandate of the safety and soundness
3 of the firms that we supervise and financial stability
4 more broadly. These financial risks manifest through
5 two channels: physical risk and transition risk.

6 Physical risks arise from damage to property,
7 land, infrastructure from climate and weather-related
8 events, whether they be heat waves, drought, wildfires,
9 floods, or rises in sea level. And these events can
10 cause financial losses, increased insurance claims, and
11 impairments to asset values and borrower
12 creditworthiness. These are not just risks for the
13 future. They are risks for today. By way of example,
14 inflation-adjusted insurance losses for such events
15 have increased by a factor of five in recent decades.

16 Transition risks arise in the adjustment to a
17 lower-carbon economy. Changes in climate policy,
18 technology, market sentiment can prompt a reassessment
19 of asset values as changing costs and opportunities
20 become apparent. And the need to transition is
21 widespread, affecting energy, transportation,
22 infrastructure, agriculture, real estate, to name just

1 a few.

2 Now, the timing of all of that transition is
3 of, course, inherently uncertain, but already, too, we
4 are seeing risks materialize, tightening energy
5 efficiency standards impacting property markets, or
6 credit risks associated with the low-carbon transition
7 emerging in automotive and energy sectors.

8 In addition, liability risk can arise as a
9 consequence of these risks as those who have suffered
10 losses seek compensation from those that they hold
11 responsible as a result of action or inaction on
12 climate change.

13 In our view, the financial risks that climate
14 change creates are distinctive. They are far-reaching
15 in breadth and in scope. They are foreseeable. And
16 their future size will be determined by the actions
17 that are taken today. And so raising awareness and
18 understanding of these risks in our view is necessary.

19 Sizing the risks is highly complex. We need
20 to translate a myriad of possible climate pathways with
21 different physical and transition effects into economic
22 outcomes and financial risks, looking ahead over many

1 decades. And many of the modeled estimates that we
2 currently have are, quite frankly, not very good. The
3 models are partial, heavily dependent on assumptions.
4 And they do not capture well the nonlinearities that
5 are a key feature of most recently climates analysis.
6 Data gaps, too, are significant. We are, therefore,
7 working together with industry and other regulatory
8 authorities to build intellectual capacity, develop new
9 toolkits, and identify best practice.

10 In the bank's work with the financial system,
11 we are taking a two-pronged approach, tackling the
12 issue top down and bottom up. In terms of the
13 individual institutions that we supervise, we have
14 issued supervisory expectations covering governance,
15 risk management, scenario analysis, and disclosure that
16 set out how banks and insurance companies need to
17 develop an enhanced approach to managing the financial
18 risks from climate change.

19 Tis important to the development of best
20 practice. We have established the U.K. Climate
21 Financial Risk Forum, which brings together regulators,
22 the PRA, and the Financial Authority as well as

1 industry, banks, insurers, and asset managers. And the
2 Climate Financial Risk Forum has established four
3 workstreams covering disclosure, risk management,
4 scenario analysis, and innovation with an aim of
5 publishing practical guidance.

6 The bank is a clear supporter of the
7 disclosure of financial risks from climate change in
8 light of the standards set out by the Task Force on
9 Climate-related Financial Disclosures. Disclosure is
10 critical if financial markets are to be able to weigh
11 risks and investments accordingly. But disclosure
12 needs to be forward-looking, speaking to future risks
13 and opportunities and not just the current position.
14 And that needs scenario analysis, data-driven
15 narratives that help anchor risk assessments and enable
16 us to focus not on what will happen but what might
17 happen.

18 Scenario analysis can help us consider this
19 risk at the level of the system as a whole as well as
20 at the level of the individual institution and, in so
21 doing, can help us bridge the gap between our top-down
22 and bottom-up understanding of risks. And to that end,

1 the Financial Policy Committee and the Prudential
2 Regulation Committee of the bank are considering
3 including climate-related factors in a future biennial
4 exploratory scenario stress test. And we are asking
5 U.K. insurers as part of our market-wide insurance
6 stress test this year to examine how their business
7 would be impacted in different physical and transition
8 risk scenarios. And the central banks' and
9 supervisors' network for the greening of the financial
10 system plans to set out voluntary guidelines for how
11 central banks can use scenario analysis to help assess
12 system-wide financial risks from climate change.

13 If I might just finalize by saying in our
14 judgment, this is an immature field, and we have much
15 to learn by working together. Thank you.

16 CHAIRPERSON ZAKIR: Thank you, Ms. Breeden.
17 We will now have Ms. Coleman.

18 MS. COLEMAN: Thank you very much. I very
19 much appreciate the opportunity to be here today to
20 talk about such an important issue with the committee.
21 And the impact on financial markets that could happen
22 is very real, as Sarah described. So, with that, I am

1 going to talk a bit about the task force, the work that
2 we have done, and a little bit of where we are going.

3 So, despite broad recognition around the
4 world that climate risk is real and it is now,
5 disclosure about those risks has been fairly limited
6 and quite lacking in many respects. And without the
7 right information, I think you have heard many people
8 say today investors and others can't make the right
9 financial decisions about how to allocate capital. And
10 these will have major implications for the markets if
11 we don't understand the potential risks and the
12 potential cost associated with them.

13 And so, going back a little ways to April
14 2015, coming out of one of the G-20 meetings, the
15 finance ministers and central bank governors, they
16 asked the FSB, the Financial Stability Board, to take a
17 look at how the financial sector could look at these
18 issues and think about them more. And so as part of
19 that, the FSB pulled together a lot of private and
20 public sector participants, held a workshop and
21 determined that one of the themes coming out of that
22 workshop was basically that investors and others need

1 better information about climate risks so that those
2 risks can be more appropriately priced and factored
3 into decision-making. And, against that backdrop, our
4 task force was formed. And so in December 2015, they
5 formed a task force and asked them to develop voluntary
6 climate-related financial disclosures.

7 Michael Bloomberg, who is the founder of
8 Bloomberg LP, was asked to chair the group. He still
9 chairs the group. He is supported by a secretariat
10 that includes, actually, a woman on the back wall, Mary
11 Schapiro. And I am sure she would have loved to be
12 here today. She speaks on this issue quite a bit, is
13 incredibly supportive of the task force's work. And
14 there are also 30, roughly 30, members on the task
15 force. And they come from various private sector
16 organizations. They represent what we refer to as
17 users and preparers of climate-related financial
18 disclosures.

19 The reason it was structured this way was so
20 that the task force would have a very balanced view
21 that you would take into consideration the views of
22 people who want to use the disclosures, the investors,

1 lenders, insurance underwriters, and balance that
2 against the challenges that preparers have in
3 developing these disclosures and so on the major ones
4 in terms of data gaps and conducting complex analyses
5 to better understand the risks.

6 So after significant public consultation by
7 the task force, we developed a set of recommendations
8 four recommendations. And they are focused and
9 structured around four major areas that we thought were
10 sort of common core elements of how companies operate.
11 So our recommendations relate to governance, strategy,
12 risk management, and then metrics and targets.

13 In addition, we attempted to develop the
14 recommendations so that they were applicable to a wide
15 range of companies across jurisdictions. And so they
16 are fairly broad. They are supported by 11 specific
17 recommended disclosures, again somewhat broad because
18 we need to cover a wide range of companies, but we did
19 create guidance that addresses specific industries to
20 help people implement them.

21 I think one of the most distinguishing
22 features about the task force's recommendations -- and

1 Sarah touched on it -- relates to asking companies to
2 talk about their potential financial risks related to
3 climate change and to use scenario analysis to identify
4 those risks. The task force generally avoided saying
5 how someone should disclose information, but this was
6 an area where the task force felt it was important to
7 highlight the use of scenario analysis and strongly
8 encouraged companies to use it to understand the risks.

9 Another factor of the task force's
10 recommendations I want to highlight that makes our
11 framework a little bit unique is that there are many
12 other climate-related disclosure frameworks out there.
13 I think what is unique about the task force's
14 recommendations is that we focus on the actual or
15 potential financial implications to companies from
16 climate change, not so much, much less on the impact a
17 company has on the environment. And so if you are
18 familiar with ESG reporting and other types of
19 reporting, the focus is often the impact the company
20 has on the environment. We very much want to focus on
21 what the investors and other people need to make
22 financial decisions, which is how climate change will

1 affect the companies.

2 So, with that bit of background, I just want
3 to touch on what the task force has been doing since
4 June 2017, when we issued our recommendations. And I
5 can't believe it has been two years, but it has been.
6 And the task force has done various initiatives to
7 support and monitor the implementation of its
8 recommendations. We have held workshops around the
9 world about the recommendations. We worked with
10 industry associations and similar types of
11 organizations that bring together financial and
12 nonfinancial companies to work on how to implement the
13 recommendations. We believe that working in industry
14 groups has been very beneficial for companies to bring
15 peers together to talk about the issues and how they
16 might best think about the risks and measure those
17 risks, the types of information that they need. In
18 many ways, it feels like a collective action issue that
19 you need people to come together to talk about these
20 issues and solve some of the challenges in identifying
21 climate risks.

22 The task force has also issued two status

1 reports. The last one was fairly lengthy, I have to
2 say. But if you read the executive summary, you will
3 get the gist. The last report was actually just
4 published last Wednesday. So I am still catching up on
5 sleep from that, but I just want to highlight the
6 overall finding from that report, which was that
7 disclosure of climate-related financial issues is
8 growing. And it has grown a bit since 2016 to 2018.
9 That said, the task force feels pretty strongly that
10 that growth is not sufficient. In particular, more
11 information needs to be disclosed on financial impacts
12 of climate change on companies. Understandably, it is
13 a difficult and challenging issue to address, but it is
14 the information that people need and the importance of
15 this group in moving that forward as well in my view.

16 And while I have a bit of a down note on
17 climate-related disclosures perhaps, I do want to
18 highlight the momentum we have seen around adoption of
19 the task force's recommendations. I don't know that
20 any of us expected the take-up that we have seen. So
21 when we launched our recommendations in June 2017. We
22 had 100 CEOs support us, which we were thrilled. We

1 are still thrilled that they support us. But today, we
2 now have nearly 800 companies from around the world,
3 financial and nonfinancial companies, that support the
4 task force's recommendations. Sarah talked about, as
5 did Commission Behnam, the NGFS, Network for Greening
6 the Financial System, which is a large group of
7 regulators that support the task force's
8 recommendations. The companies that we have involved
9 represent market capitalization of over \$9 trillion.
10 And the financial firms are responsible for assets of
11 over 118 trillion. So we have a big part of global
12 markets.

13 So in the coming months, the task force and
14 secretariat will continue to support and monitor
15 adoption of its recommendations. And we are going to
16 issue a third status report next September. As part of
17 its efforts to support implementation, we are going to
18 focus quite a bit on scenario analysis and how we can
19 make that more accessible to companies in terms of a
20 qualitative assessment. There is a fair amount of work
21 going on on the quantitative side. And the task force
22 will look at where it may add there, but I think one of

1 the key features of the task force is that it looks to
2 other initiatives. It is not trying to create its own
3 system. It wants to leverage whatever it can and help
4 push these issues forward.

5 And, just to wrap up my remarks, I want to
6 highlight a report that actually scared me quite a bit
7 and probably others who have read it from the
8 Intergovernmental Panel on Climate Change, which is a
9 group of climate scientists and who write fairly
10 technical and dry reports. And so I think it is
11 important when they say things like "Urgent and
12 unprecedented changes are needed to meet the goals of
13 the Paris Agreement to keep the temperature well below
14 2 degrees Celsius," the temperature increase, and those
15 findings will likely lead over time, if not very soon,
16 to governments around the world as well as private
17 sector entities to consider a range of options for
18 reducing global emission. And so that could result in
19 disruptive changes across economic sectors and regions
20 in the near terms. And so now, more than ever, I think
21 it is critical that companies start to look at climate-
22 related issues, understand what the implications are

1 for bad, and what that might mean for their strategy,
2 for their operations going forward.

3 Thank you.

4 CHAIRPERSON ZAKIR: Thank you, Ms. Coleman.
5 Mr. Jones?

6 MR. JONES: Thank you very much. And I want
7 to thank the chair, Mr. Behnam, the other
8 commissioners, and the Market Risk Advisory Committee
9 for the opportunity to address you this morning for
10 taking up this critically important issue.

11 I have some slides, which I think we are
12 going to try to display on the overhead. And someone
13 is going to show me how to do that. Wonderful. And
14 apologies to the commissioners whose backs are turned
15 to the slides.

16 My name is Dave Jones, and I currently serve
17 -- aha. Technology. My name is Dave Jones, and I
18 currently serve as the director of the Climate Risk
19 Initiative at the Center for Law, Energy and
20 Environment at UC Berkley School of Law. I am also
21 senior director at The Nature Conservancy. And for the
22 prior eight years, I served as California's insurance

1 commissioner. I have been told there is a rocker here
2 that will move this forward or I can go old school.

3 So just a bit about the California insurance.
4 As I think everyone here knows, insurance in the United
5 States is regulated at the state level. Each state and
6 territory has an insurance superintendent or insurance
7 commissioner.

8 In California, the insurers collect \$310
9 billion a year annually in premiums. It is the largest
10 insurance market in the U.S., fourth largest insurance
11 market in the world. There are about 1,300 admitted
12 insurance companies that were regulated by me in my
13 department, with over \$5.5 trillion in assets.

14 So, as both Ms. Breeden and Ms. Coleman
15 pointed out, it is generally accepted that there are
16 three principal kinds of climate-related financial
17 risks. There are physical risks, the kinds of things
18 you would I think initially think about with regard to
19 climate change and climate risk, the physical impacts
20 of climate change, sea level rise, drought, wildfire,
21 those sorts of physical impacts on assets, and
22 potentially on the financial sector related to those

1 assets. Transition risks, which, as Ms. Breeden and
2 Ms. Coleman explained, are risks associated with
3 transition away from a fossil fuel-based economy to one
4 that is less reliant on fossil fuels and has less
5 emissions of greenhouse gas; and then liability risks.
6 And those are risks associated with actions taken or
7 the failure to act in various ways around climate
8 change and the potential consequences from a liability
9 standpoint.

10 So, just to give you a little flavor of
11 physical impacts in California, in 2017, the aggregate
12 insured losses associated with the wildfires in
13 California -- these are insured losses -- were slightly
14 over \$13 billion. If you think about economic losses,
15 you can probably multiply that by 2 or 3 times to come
16 up with a total economic losses that California
17 suffered in 2017 alone.

18 What the climate scientists tell us and the
19 fire experts tell us is that fire is more frequent and
20 severe in California, in part, due to climate change.
21 We have had drier conditions, longer periods of
22 drought. And that has had an impact on frequency and

1 severity of fires. So we are seeing more frequent and
2 more severe fires. No longer do we have a fire season
3 in California. It is year-round.

4 Not to pause with regard to 2017, in 2018, we
5 had an even more severe fire season. We lost 86 lives
6 lost in the Camp Fire alone in 2018. Fourteen
7 thousand, four hundred homes were destroyed in that
8 fire. A total of 25,000 structures were destroyed in
9 that fire. There were \$12 billion in insured losses
10 overall for the 2018 fires. Even though the Camp Fire
11 was the most destructive fire in California's history,
12 it impacted an area where the median home value was
13 significantly lower than the area impacted by the 2017
14 fires, which is basically the North Bay, where the
15 median home value is about three-quarters of a million.
16 Camp Fire was in Butte County. The median home value
17 is around \$250,000. So, even though more homes and
18 structures were destroyed in 2018, the insured losses
19 were less per home but in the aggregate, \$12 billion in
20 insured losses for the 2018 fires.

21 It brought down one small insurance company,
22 which was overexposed in the area of the Camp Fire.

1 Thankfully, all the rest of the companies were
2 adequately reserved and are paying claims, but the fire
3 and the exposure of the insurance company, this
4 particular insurance company, two policyholders that
5 suffered losses as a result of the fire resulted in the
6 insolvency of the insurance company. Now, thankfully,
7 in California, we have a guaranty association model,
8 where the insurance have a consortium that will cover
9 claims for insolvent insurers. So the policyholders
10 were made whole, but there was a direct financial
11 consequence on insurance companies as a result of this
12 particular fire. It brought it down.

13 You probably also have been very well-aware
14 of another impact of the 2017 and 2018 fires, and that
15 is the filing by PG&E, one of our largest public
16 utilities in California, for Chapter 11 bankruptcy.
17 They were facing about 30 billion potential liability
18 associated with the fires. I think it is important to
19 note that PG&E for quite some time has fully disclosed
20 the potential legal liabilities it faces associated
21 with wildfires. It took about a year for the rating
22 agencies to downgrade PG&E and for the markets to

1 downgrade PG&E. So, even though in 2017, the 2017
2 fires, a substantial number of them were caused by
3 PG&E, and PG&E disclosed that fact, it wasn't until
4 2018, by and large, that the rating agencies and the
5 markets downgraded PG&E and then the bankruptcy filing
6 resulted. I share that with you to give you some sense
7 of sometimes there are delays in the market's
8 reflection of these sorts of risks and it probably took
9 longer than most would have thought would be the case
10 for the markets to catch up with regard to the kinds of
11 risks that PG&E faced.

12 So I am just going to quickly move through
13 five areas in the insurance context in which regulators
14 have been engaged with insurance companies around
15 climate risk.

16 The first of these involves the National
17 Association of Insurance Commissioners climate risk
18 disclosure survey. So you are probably familiar that
19 the NAIC is the accreditation and standards-making body
20 for insurance regulation in the United States. It is a
21 mechanism to try to create some level of consistency
22 across the state-level insurance regulation. In 2010,

1 the NAIC developed a climate risk disclosure survey
2 asking insurance companies questions with regard to how
3 to address in climate risk, and they are reserving
4 underwriting and business operations. In 2011, 5 lead
5 states began administering that survey. We administer
6 that survey to insurance companies with over \$100
7 million in premiums annually. It reflects about 1,000
8 insurance companies, reflects about over 70 percent to
9 the U.S. insurance market by premium volume, and we
10 would collect that information and make it public
11 annually on the California Department of Insurance
12 searchable website.

13 In broad measure, what that survey told us
14 was according to the insurers themselves, 61 percent of
15 the insurance companies surveyed have climate change
16 risk management policies, 69 percent are considering
17 the impact of climate change on their investment
18 portfolio, 60 percent of them have altered investment
19 strategies in response to climate change
20 considerations. However, as we collected this
21 information over the course of the last years, that
22 eight years that I was insurance commissioner, it

1 became very apparent that insurance companies in the
2 U.S. are far more focused and spending a lot more
3 energy on the underwriting risk associated with climate
4 change, as opposed to the risk to their investment
5 portfolios.

6 So one of the risks I mentioned a moment ago
7 is transition risk, and that is the risk that is a
8 result of market forcers and policy changes. There
9 will be a move away from reliance on fossil fuels in
10 the economy. And, as a consequence, the potential that
11 the value of those assets in various portfolios,
12 including the portfolios insurance companies, will
13 decline over time.

14 Taking coal as an example, the Dow Jones U.S.
15 coal indices dropped about 92 percent over a 6-year
16 period. CalPERS and CalSTRS, our two largest pension
17 funds, lost about \$840 million as a result. We have
18 got about 42 U.S. coal companies that went bankrupt in
19 that period. We see a number of global insurers
20 divesting from coal, AXA, Allianz, Swiss Re, Munich Re,
21 and others. Also, a number of banks have declined to
22 invest in new coal or lend to new coal infrastructure,

1 including, most notably, Deutsche Bank, which announced
2 the other year that it would no longer lend it to new
3 coal infrastructure.

4 So in 2016, with the California Department of
5 Insurance, I launched the climate risk carbon
6 initiative, which was principally a disclosure and
7 transparency initiative designed to try to collect
8 information from insurance companies with regard to
9 their investments in utilities, gas, oil, and coal, the
10 four sectors that I and my department concluded were
11 most at risk from a transition away from a fossil fuel-
12 based economy. There were essentially two objectives.
13 One was to increase the insurers' understanding of what
14 they were holding in terms of those assets.
15 Surprisingly, there wasn't a lot of knowledge within
16 the C suite and within the companies themselves with
17 regard to what they were holding in those areas and
18 also to increase regulators' understanding of the
19 degree to which insurance companies were holding
20 investments in those categories and also what exposure
21 those investments might face with regard to transition
22 risk.

1 So there were two principal components. The
2 first was requiring insurers that had over \$100 million
3 in U.S. premiums, 670 of them to disclose publicly
4 their investments in oil, gas, coal, and utility
5 investments. We disclosed those in a searchable
6 database by insurance company that is available to
7 regulators, to publics, to anyone who would like to use
8 it. As well, my department and I, we reached the
9 conclusion that thermal coal faced a high risk of
10 becoming a stranded asset on the books of insurance
11 companies. And so I asked that the companies
12 voluntarily divest from thermal coal. I did not have
13 evidence before me to suggest that any given insurance
14 company's exposure to thermal coal imperiled its
15 economic enterprise. So I did not issue an order. It
16 was a voluntary request. But I did conclude that
17 thermal coal as an asset ran a high risk of being a
18 stranded asset. And one of my jobs as insurance
19 commissioner was to make sure insurance companies were
20 investing in ways that retained value, not lose value,
21 hence the request.

22 What were the results of that? We learned

1 that the companies had about \$555 billion in fossil
2 fuel-related investments. That is versus \$5.5 trillion
3 in assets under management. So it gave us some
4 perspective on their degree of exposure. And we got
5 company level information as well that allowed us to
6 see what each company's individual exposure was. About
7 \$21.4 billion invested in thermal coal enterprises.
8 About \$4 billion was divested from thermal coal and
9 fossil fuel overall as a result of the request, and 4
10 commitments were made to divest another \$944 million.
11 Six hundred seventy insurers told us they had divested
12 some or all or had no coal holdings, and another 325
13 said they would in the future refrain from making
14 future coal investments.

15 So this is just a graphic of the display of
16 information that is available on our website with
17 regard to the fossil fuel disclosures. There are
18 various charts and graphs that one can use to drill
19 down with regard to each individual company's exposure
20 and also look to see what particular investments the
21 companies have in the area of fossil fuels, coal, oil,
22 gas, and utilities. I am just going to plunge ahead

1 here. So Ms. Coleman has already briefed you on the
2 Task Force on Climate-Related Financial Disclosure. So
3 I won't dwell on that other than to just say that as
4 insurance commissioner, I fully supported this work,
5 endorsed the work, and encouraged insurance companies
6 to take up the recommendations with regard to the kinds
7 of disclosures that should be made. I think it is a
8 critically important body of work.

9 We are seeing increasing numbers of asset
10 managers and asset owners embrace this work. We are
11 seeing quite a few insurers as well, AXA, Allianz,
12 Munich Re, Swiss Re, others, issuing reports in
13 alignment with the TCFD. And I think we are going to
14 continue to see more of that as there is greater
15 development and maturity with regard to the kinds of
16 disclosures and models you can use to be compliant with
17 the TCFD recommendations.

18 A third point, one of the TCFD
19 recommendations is that all companies in the real
20 economy as well as companies in the financial sector
21 engage in scenario analysis. And the purpose of this
22 is to take a look at portfolios and their alignment or

1 misalignment with a trajectory that moves us towards no
2 more than a 1.5-degree Celsius rise in temperature. So
3 there are a variety of models that are available now
4 that make projections going forward with regard to what
5 the real economy needs to look like in order to stay
6 below 1.5 or 2 degrees. And then you can assess one's
7 own investment portfolio's misalignment or alignment
8 with what the economy needs to look like in order to
9 stay below 1.5 degrees.

10 So I actually undertook to perform scenario
11 analysis on the portfolio of the 670 largest insurance
12 companies in the United States, with \$100 million in
13 premium annually, about \$4.25 trillion in assets under
14 management. I contracted with a modeling firm, highly
15 regarded, called 2-degree investing initiative,
16 provided the portfolio information to them. They ran
17 the model against the portfolio information. We
18 prepared individualized reports for the companies, sent
19 them to the company CEO and chair of the board as well
20 as prepared an aggregate analysis that we published.
21 We did not publish the individual company-level
22 analyses because we didn't think that was appropriate,

1 but we did prepare an aggregate analysis of the entire
2 sector.

3 This gets you a little flavor for the kind of
4 information contained in the report. What this graphic
5 is is basically looking at coal. And the vertical axis
6 is coal production, megawatt hours, the time on the
7 bottom. The green shaded is the decline in coal
8 production necessary to stay below or at 1.5 degrees.
9 The red is coal production if we are going to be at 4.5
10 degrees or 6 degrees. The solid lines are the
11 insurers' investments in either debt or equity in the
12 aggregate. And so we can see a misalignment in the
13 aggregate in the insurance sector with regard to where
14 that sector needs to be vis-a-vis coal if we are to
15 stay below 1.5 degrees. The dotted line represents
16 where the market is overall with regard to coal
17 investment in equities and debt.

18 So this sort of analysis for each of the
19 major greenhouse gas-emitting sectors is contained in
20 the report. It provides very useful information to
21 asset owners and asset managers with regard to their
22 alignment or misalignment with regard to an economy

1 that would be aligned with staying below 1.5 degrees
2 Celsius rise.

3 Sector-wide, what we discovered is that
4 insurers are misaligned in terms of their thermal coal
5 investments, perhaps not a surprise. Investments, you
6 know, in the fuel sector is now aligned. Oil
7 production is now aligned. Gas production investments
8 are aligned. There is an under investment in renewable
9 energies as well.

10 A fourth point. There has been a lot of work
11 internationally amongst insurance regulators. So in
12 2017, I found an international body called the
13 Sustainable Insurance Forum to bring together national
14 insurance regulators across the world to share best
15 practices and approaches to make sure that we are
16 beginning to develop some consistency in approaches.
17 One of the important work products of that is to
18 develop a joint paper with the International
19 Association of Insurance Supervisors, which is
20 basically the international accreditation and standard-
21 setting body for insurance regulation. And so the
22 Sustainable Insurance Forum has become the thought

1 leader and practice driver for the International
2 Association of Insurance Supervisors with regard to
3 climate risk approaches. And a joint paper of best
4 practices was put together in 2018. I commend it to
5 your attention.

6 In 2019, what this group is doing is taking a
7 look at what insurers are doing vis-a-vis the take-up
8 of the TCFD recommendations.

9 You heard from Ms. Breeden and Ms. Coleman
10 about the Network for Greening the Financial System,
11 central banks, and bank supervisors who have come
12 together also to share best practices. They are
13 looking at the macro and micro supervision, but,
14 interestingly as well, there is a work committee that
15 is looking at the possibility of credit enhancement for
16 green investment. There is some number of banks that
17 are actually tagging their loans green versus brown to
18 be very simplistic and are doing longitudinal studies
19 of performance to see if there is some difference in
20 performance that might justify from a regulatory
21 standpoint a different approach with regard to capital
22 requirements associated with green versus brown, early

1 days yet, but I will just note parenthetically that
2 Chinese regulators are very convinced of this and are
3 really driving this discussion amongst the central
4 banks and bank regulators.

5 Finally, the UMBP financial initiative issued
6 an interesting report the other week looking at
7 essentially the 500 largest asset managers that have
8 globally about \$81.2 trillion in assets under
9 management. They took a look at transition risk. Two
10 of those aggregate portfolios concluded that about 13.6
11 percent of the portfolio is actually at risk. The
12 value loss there is about \$10.7 trillion. Not
13 surprisingly, the sectors that have investment that are
14 at greatest risk are utilities, transportation, ag,
15 mining, and petroleum, also found on the upside that
16 there is a potential for profits at \$2.1 trillion in
17 so-called green investments.

18 Another important conclusion of this study,
19 though, is that there is a lot more risk to the extent
20 that governments delay from a policy standpoint in
21 taking more aggressive action on climate change. And
22 this is what has been referred to as the inevitable

1 policy response, which is if we continue the status quo
2 of moving very slowly, at some point, there is a
3 potential for a dramatic, very, very dramatic, policy
4 response that would have very dramatic consequences to
5 financial markets.

6 So, in conclusion, I believe that climate
7 change does pose material risks to the financial
8 sector. We are seeing the increasing disclosure across
9 the sector. We are seeing increasing financial
10 regulators in various markets, increasing requirements,
11 increasing engagement, increasing disclosure. We are
12 seeing investor demand for disclosure and for
13 divestment. The inevitable policy response poses the
14 greatest risk. And my belief is that regulators should
15 engage in looking at both micro and macro risk. And so
16 I commend the commission for taking up this very
17 important issue because I know in the open remarks of
18 the chair and commissioners, there was reference to
19 derivatives, which is an important area of regulation
20 of this body. And there really hasn't been much
21 attention, to my knowledge, with regard to the risks
22 that climate change poses to that market. It has

1 certainly not been a focal area for insurance
2 regulators. And so I commend you for taking that issue
3 up because I think it is very, very timely.

4 Thank you very much.

5 CHAIRPERSON ZAKIR: Thank you, Mr. Jones.

6 At this time, I am going to open the floor to
7 questions and comments from the membership. Mr.
8 Slocum?

9 MR. SLOCUM: Thank you very much. Excellent
10 presentations. Thank you very much.

11 Some of you had noted that the information on
12 financial risks associated with climate change exposure
13 is limited because we don't have mandatory or uniform
14 reporting of these types of financial risks. Do you
15 think that mandatory uniform reporting of climate
16 change-associated financial risk ought to be the
17 standard? And if so, what is the appropriate vehicle,
18 say, in U.S. markets for such mandatory uniform
19 reporting requirements?

20 MS. COLEMAN: I will jump in there and start,
21 and I don't know if Sarah wants to add. So I guess I
22 have probably two responses in some ways. So as the

1 task force, our recommendations are voluntary. And so
2 the FSB is very clear that is the point of our
3 existence, is just to push for this voluntary
4 disclosure.

5 I would say over time as a personal view, I
6 think it has to move toward required because unless
7 something is required, it is probably more difficult to
8 get it put out in the public domain.

9 I will say the SEC back in I think 2010
10 issued guidance on companies disclosing material
11 climate risks. I think there was some enforcement of
12 that in the past. I don't think that is so common
13 anymore, but there is a precedent out there for
14 focusing on these issues. I think the challenge is it
15 is so difficult to measure these risks and understand
16 them, but we need to do that or we will lose the time
17 we need to make the changes.

18 MS. LEWIS: Telecom, can you bring up Sarah
19 Breeden?

20 MR. JONES: And while we are --

21 MS. BREEDEN: Thank you very much.

22 I very much support the need for further

1 developments in respect to disclosure. I think we need
2 to get to the point where disclosures are
3 comprehensive, comparable, and coherent. What do I
4 mean by that? Comprehensive across the entirety of the
5 world economy and the entirety of the financial system
6 so that we can understand what trajectory we are on.
7 And so that is besides the risks. I think they need to
8 be comparable so that investors are able to compare
9 apples and apples and not apples and pears. And I
10 think they need to be coherent so that we don't assume
11 our problems away in how we undertake the disclosure.

12 I think that is all supported by greater
13 standardization. And so over a period of time,
14 speaking personally, I think one does have to move to
15 make it mandatory, but I do recognize that these are
16 early days. And a little bit of time to experiment and
17 learn by doing is important. If within five years'
18 time or three years' time, we did not take a position
19 where these disclosures are standardized in some way
20 and mandatory, I think we won't be able to do the job
21 that we want of ensuring that the financial system is
22 resilient to these risks.

1 MR. JONES: So I agree with both of the prior
2 panelists with one addition. I think that there has
3 been significant take-up of the TCFD recommendations.
4 So it is not the case that there is not enough
5 information out there for investors and regulators to
6 begin to assess what these risks are. But we would be
7 in a far better position as regulators and as market
8 participants to have mandatory disclosure about the
9 board. And I have supported that for some time. I
10 believe it is where we need to be. I think the sooner
11 we get there, the more information we will have and the
12 better off markets will be in terms of their ability to
13 assess each risk and to respond accordingly.

14 However, disclosure alone is not enough. And
15 I want to go back to my PG&E example. PG&E has
16 disclosed for many years the liability risk it faces
17 with regard to its transmission lines and equipment in
18 areas that are significantly prone to fire. And it has
19 disclosed significantly over time and appropriately the
20 growing risk it faced.

21 In 2017, we had catastrophic wildfires in
22 California, some portion of which were caused by PG&E.

1 It is striking to me that the rating agencies and
2 markets did not respond at that time by downgrading
3 PG&E. It took an additional year for that to occur.
4 So what that tells me is that while disclosure is
5 absolutely necessary, that disclosure alone oftentimes
6 is not enough and that it is important that regulators
7 engage with their regulated markets as well to make
8 sure that the disclosures being used, the information
9 is being used to make adjustments accordingly.

10 CHAIRPERSON ZAKIR: Mr. Kleinbauer?

11 MR. KLEINBAUER: Thank you. I just wanted to
12 begin by thanking Commissioner Behnam for establishing
13 this committee and for Alicia in her tireless work on
14 putting this together and, finally, too, to the
15 chairman for his service to the CFTC over the years and
16 wish him all the best in his future endeavors.

17 The question I had is more sort of a
18 comment/question. We discussed that the disclosure of
19 this information is important to assess risks. I would
20 think that it is also important for investors to
21 understand mainly impact investing, what
22 environmentally conscious and socially conscious firms

1 are using their investments for. And this information
2 would act as a feeder in sort of some sort of
3 environmental rating for companies that investors can
4 then use that to make decisions on where they want to
5 invest their money. Is that sort of one of the outputs
6 that we would expect from adopting these standards and
7 this disclosure of environmental risks and climate
8 change risks?

9 MR. JONES: There are a variety of ratings of
10 companies, ESG compliance, compliance with the SDGs,
11 compliance with the Paris Accords. And I think, you
12 know, that information is out there and available for
13 investors to use to make decisions accordingly. It
14 would be significantly improved on the environmental
15 front if we had either more voluntary take-up of the
16 TCFD recommendations or, as I would advocate, mandatory
17 disclosure requirements with regard to the kinds of
18 things that TCFD is recommending. So that information
19 would then be available to the various entities that
20 are doing ESG ratings of companies in the real economy
21 and then would be available to investors to make
22 decisions accordingly.

1 MS. BREEDEN: Can I comment on that, please?

2 CHAIRPERSON ZAKIR: Absolutely.

3 MS. BREEDEN: Thank you.

4 Perhaps I might add just one thing, which is
5 I emphasized in my remarks that this is a forward-
6 looking issue. And as a central banker, a Prudential
7 supervisor, I naturally focused on the risks. That is
8 my job. But there is a significant amount of
9 opportunity here if a company should be ahead of the
10 transition to make themselves strategically resilient
11 to future changes in climate policy and future changes
12 in the climate. And I think the TCFD disclosure does
13 speak to opportunities as well as risks. And I think
14 that is an important factor to take into account. And
15 it does very much go to impact investing.

16 CHAIRPERSON ZAKIR: Thank you.

17 Mr. Banaei?

18 MR. BANAEI: Thank you. Thank you,
19 Commissioner, for your leadership in investigating this
20 very important topic. And thank you, Mr. Chairman, for
21 your service.

22 I wanted to just investigate one thing I

1 think the Bank of England has taken leadership on. And
2 that is in the area of scenario analysis and
3 specifically enhancing or better standardizing scenario
4 analysis and making the assumptions that firms use a
5 little bit more fixed as many of the variables.
6 Particularly as you compound them over a long-term time
7 horizon, many of these variables become essentially
8 unbounded. And as a firm that has advised clients on
9 scenario analysis in connection with the TCFD's
10 recommendations as well as stress testing for our bank
11 customers, we have encountered considerable challenge
12 in implementing scenario analysis and coming up with
13 useful outputs, both from an investment and a policy
14 perspective. So some update in terms of the progress
15 that is being made would be helpful.

16 MS. BREEDEN: Thank you. And I couldn't
17 agree more that scenario analysis is at the heart of
18 this issue.

19 What we have done to date is baby steps,
20 early stages, if I might phrase it so. This year in
21 the work that we are doing in our annual market-wide
22 stress test with insurers, we have set out a number of

1 possible scenarios containing manifestations of
2 physical risk and transitional risk. And we are asking
3 those insurers to report to us on what the impact of
4 that will be on their financial resilience and on their
5 business model.

6 What we are also doing is considering whether
7 we can do what is called a biennial exploratory
8 scenario, where we ask banks and potentially other
9 financial institutions that we supervise to explain to
10 us how their business is affected in certain states of
11 the world. And we are considering whether a climate-
12 related scenario or set of scenarios might be
13 important, an important next one of those.

14 And, then, thirdly, what we are doing through
15 the NGFS, through the workstream that I chair, is
16 looking to publish both guidance on how to use
17 scenarios as well as some representative scenarios. We
18 are hoping to publish those early in 2020.

19 So I wouldn't say that we have the answers
20 yet on scenario analysis, but we are working very hard
21 on the topic. And you should expect to hear more from
22 us in the future.

1 What we have tried to do is simplify the
2 challenge. With a view to, rather than having a myriad
3 of scenarios or, even worse, only one scenario, we are
4 trying to consider what a small number of scenarios
5 might look like. We thought about it as a simple
6 choice. Has the transition been achieved or not? And,
7 then, has the transition been an orderly one or not?
8 And I think with that simple two-by-two matrix, we
9 could do a very good job of exploring these risks.

10 The other thing that we are trying to do,
11 which I think takes us a step beyond much of the
12 scenario analysis that has happened so far, is consider
13 temperature, technological and policy change, and also
14 macroeconomic outcomes. And I think the scenario
15 analysis that has been done to date has tended to do
16 bits of that, but to do that across the economy as a
17 whole is the challenge that we have set ourselves in
18 the NGFS. So I very much hope to meet that challenge
19 and publish our materials early next year.

20 CHAIRPERSON ZAKIR: Thank you. We have time
21 for two more questions. Ms. Shemie?

22 MS. SHEMIE: Thank you. And also I would

1 like to thank Commissioner Behnam for putting together
2 this just really interesting topic for today.

3 I was wondering if the panelists could
4 comment on I think sort of an offshoot of what we have
5 been discussing from the perspective of many of the
6 firms sitting on this committee, just the challenge --
7 and I know we have certainly touched on this already in
8 some contexts, but the challenge of regulators in
9 future, whether they choose to impose suggestions for
10 disclosures, mandatory disclosures, or other ways to
11 address climate change, perhaps through ESG program
12 requirements, et cetera, just the challenge of viewing
13 us as such a diverse set of market participants. So,
14 for example, how could regulators in future look at
15 companies that produce a widget differently from a
16 company that may issue or trade in derivatives on that
17 company or even exchanges, clearinghouses that may have
18 those companies paid -- fees.

19 I am sure this must be something you discuss
20 all of the time, just how a regulator could view the
21 challenge of creating uniform future requirements or
22 suggestions on addressing these risks when there is

1 such a diversity among market participants.

2 MR. JONES: Well, I guess my first thought is
3 that as regulators, we are organized to oversee and to
4 regulate particular components of the financial sector.
5 And so the work to date has been driven by, in large
6 measure, the particular regulatory competencies and
7 approaches of each regulatory sector. So insurance
8 regulators are, you know, principally focused on the
9 underwriting risks that the companies have as well as
10 the reserving risks. Bank regulators, bank supervisors
11 focused on the risks the banks take. You are taking up
12 the question of the markets that you regulate.

13 So I think that there is a fair degree of
14 communication internally across the various regulatory
15 silos with regard to these approaches and a lot of
16 trading of information and approaches that helps to
17 inform one another. I think that there is a pretty
18 broad consensus amongst financial regulators across
19 different financial regulatory focus, so to speak, that
20 the TCFD recommendations represent some of the best
21 work with regards to the kinds of disclosures we need
22 to see, both in the real economy and in the financial

1 sector.

2 So all of this is still evolving. It is
3 iterative. You know, I would echo Ms. Breeden's
4 remarks about what is happening with regard to the Bank
5 of England and the development of scenario analysis.

6 Our first cut at scenario analysis at the
7 California Department of Insurance was just looking at
8 transition risk. We did another iteration that looked
9 at both transition and physical risk. The models are
10 evolving and developing over time. And I think, you
11 know, regulators are adapting accordingly, and market
12 participants won't adapt accordingly.

13 So it is complicated. It is multivariate.
14 But I don't think that necessarily uniformity is our
15 objective as much as I think uniformity of disclosure,
16 information that can be useful across all sectors of
17 markets, that is very useful. But you might find
18 different regulatory approaches based on the kinds of
19 risks that different regulated industries face, which
20 makes sense.

21 MS. BREEDEN: Perhaps I might add one point
22 on that, which is just to say in our experience,

1 looking across sectors has actually been incredibly
2 helpful because there are very large gains to trade
3 here. So if one thinks about the expertise that there
4 is in the insurance market about modeling physical
5 risk, that is a broader use all across the financial
6 system. So learning from each other and sharing our
7 experiences is really important.

8 And that is why the Climate Financial Risk
9 Forum that we have established in the U.K., we have
10 asset managers, the stock exchange, insurers, and banks
11 to try and make sure we can learn as much as we can
12 from each other given the significance and the urgency
13 of this issue.

14 CHAIRPERSON ZAKIR: Thank you.

15 Ms. Rosenberg for the last question?

16 MS. ROSENBERG: I have a couple of comments.
17 Also, thank you, Commissioner Behnam as well as Alicia
18 Lewis, for putting this on. Thank you. And thank you
19 to all of the panelists. It has been really, really
20 interesting and I would say for me personally eye-
21 opening, the information that has been shared. So
22 thank you.

1 I did want to mention that -- so JPMorgan
2 Chase served as a member of the Task Force on Climate-
3 Related Financial Disclosure. We thought it was
4 important to be at the table to help shape the
5 recommendations and encourage all companies across a
6 diverse array of industries to think more strategically
7 about climate change. And just this past month, in
8 May, we released our inaugural report, which was
9 informed by the TCFD recommendations on how the firm is
10 addressing climate-related risks and opportunities.

11 One of the questions I had -- a couple of
12 questions. From a Prudential perspective, in assessing
13 the risks to financial firms from climate change risks,
14 are there any particular aspects of the regulatory
15 framework that is the current focus by the Bank of
16 England and other Prudential regulators?

17 And, then, the second question I have -- and
18 all of the individual commissioners and the chairman
19 focus on this a lot -- is international cooperation.
20 So the question I have is, how much priority is placed
21 on international cooperation among various regulators
22 and assuring a consistent approach to both assessing

1 the risks and determining whether there should be any
2 kind of reporting or any kind of Prudential regulation.

3 MS. BREEDEN: Perhaps I might respond in the
4 first instance to that. The focus at the Bank of
5 England at the moment, for us and for the firms that we
6 supervise, is on getting a better handle on the size of
7 the risk that we are confronted with so that we can
8 embed it into our business-as-usual risk management and
9 have a better understanding of what the forward-looking
10 risks look like.

11 I think once we have undertaken that, it is
12 at that point that we can think about what are the
13 actions that we and firms may need to take to reduce
14 the size of the risk. But, at least in the moment, our
15 focus is on getting a much better grounded sizing of
16 the risk that we face.

17 And your question about international
18 cooperation is an incredibly important one. We have
19 put a significant focus on international cooperation.
20 We are a founding member of the NGFS. And I chair, as
21 I said, one of the workstreams that we are involved
22 across all of the NGFS' activity. We are a founding

1 member of the Sustainable Insurance Forum that Dave
2 mentioned. And the FCA is our market counterparty, a
3 member of the sustainable financial network that is a
4 part of IOSCO. So we are doing our very best to ensure
5 international coordination.

6 At the end of the day, this is a global
7 problem that requires global solutions. No amount of
8 action from the Bank of England is going to solve this
9 all on its own.

10 CHAIRPERSON ZAKIR: Thank you.

11 Chairman Giancarlo?

12 CFTC CHAIRMAN GIANCARLO: Marnie, I will give
13 a little response to your question. And then I also
14 have a question for the panel. And I will start with
15 two disclaimers.

16 One is the CFTC is not a member of FSB,
17 although we should be, but we are a member of IOSCO.
18 But in both of those international organizations, there
19 has been a lot of discussion on issues of disclosure of
20 climate risk.

21 And the second disclaimer is that we also as
22 a regulator don't oversee a disclosure regime for

1 products and offerings.

2 So, having said those two disclaimers, I have
3 participated in discussions at IOSCO where our
4 colleagues in the SEC have participated in discussions
5 of disclosure regimes. And I would say that there is a
6 lot of activity on this. And, yet, it is challenging,
7 as almost all global harmonization efforts, because we
8 all have different and rather unique regimes which they
9 operate in.

10 So the SEC is not -- SEC colleagues are
11 better qualified than I to speak to this, but, you
12 know, theirs is one of what a reasonable investor would
13 expect to be material. Other global regimes have more
14 specific ESG disclosure requirements. So when our
15 colleagues at the SEC engage in these conversations
16 around global harmonization, the challenge is that they
17 will start from a different standard that their
18 respective legislatures or legal bodies have
19 established for them to operate. With that said, there
20 is a lot of activity around trying to find some global
21 standards.

22 And then, of course, there is the challenge

1 of -- you know, it is not like financial disclosure,
2 where we have a set -- you know, numbers are numbers.
3 When you get into these areas, what is the taxonomy of
4 what is a sustainable -- and what is sustainable
5 finance? What are the elements of ESG? And how do you
6 measure them? How do you quantify them? And so I
7 think the global community still has a lot of work to
8 do around how do you quantify these issues?

9 That is a broad and general response to you
10 from someone who is not qualified to give you a
11 response since we don't operate a disclosure regime.

12 I have a question for the panel and then
13 specifically for our guest from the State of
14 California. Thank you very much for a very informative
15 presentation.

16 You required insurers to report and disclose
17 oil, gas, coal, and utility investments. Excellent. I
18 understand those results are made public. I am not
19 familiar with them. So I may be asking you something
20 that is already well-known out there, but the question
21 I would ask you is, to what extent did they disclose in
22 that information their use of derivative products,

1 which we do oversee, to mitigate that risk? I know
2 that the result of that was an investment policy, but
3 to what extent did you measure the degree to which
4 these risks were mitigated, either partially or fully.
5 And, therefore, maybe some of the concerns were
6 addressed through using products -- finally, something
7 we are qualified to talk about here, at least as a
8 commissioner -- the products that we oversee. And I
9 would be interested to know to what extent the
10 mitigation with respect of these markets have served
11 the purpose in which they are there for.

12 MR. JONES: That is a great question. We
13 didn't ask for that, and we didn't get that. We found,
14 surprisingly, it was challenging enough for the
15 insurance companies to ascertain, interestingly, you
16 know, what their investments were in oil, gas, coal,
17 and utilities that met the thresholds we set. And
18 initially we thought about some sort of greenhouse gas
19 emissions footprint threshold, but I took a look at the
20 models that were out there in 2016 at the time and
21 talked to some, you know, major institutional
22 investors, principally pension funds that have taken

1 those models and, at least in 2016, run them against
2 their portfolios and came out with widely disparate
3 greenhouse gas emissions footprints from different
4 models. So I decided I couldn't go that route. So
5 what I used was a revenue threshold. It is basically,
6 "Tell me your investments in oil, gas, coal, and
7 utilities where 50 percent or more of the revenue for
8 those enterprises is derived from fossil fuels."

9 That was very hard for the companies, it
10 turned out, to figure out. And it occasioned a lot of
11 conversation with their external asset managers and
12 asset advisers to figure that out. We didn't ask for
13 and we didn't get directives. Derivatives, I took a
14 look at this number before coming over. As an overall
15 share of U.S. insurance companies' cash and
16 investments. Derivatives were all an important way to
17 hedge. And I don't want to, you know, diminish the
18 significance of derivatives to the insurance industry,
19 principally the life insurance industry, by the way.
20 But it only makes up about .9 percent of their overall,
21 you know, cash and investments.

22 However, I think it is an important thing

1 that insurance regulars should be asking. And, as I
2 had mentioned in my remarks, there really hasn't been,
3 to my knowledge, much, if any, attention across any of
4 this work that we have been talking about here today,
5 much, if any, attention to derivatives. So I think it
6 is very timely that your Commission is taking up this
7 issue, that this committee is taking up this issue that
8 you are going to set up a subcommittee to look at this
9 issue, because there hasn't really been a lot of work
10 in this space, to my knowledge.

11 CFTC CHAIRMAN GIANCARLO: Thank you, for
12 that. As the committee takes it up, I would suggest it
13 might be worthwhile looking into the use of, say,
14 credit default indices and credit swaps on oil and gas,
15 in which, as I recall, there is a fairly active market
16 in that pre-crisis. I don't know where the market is
17 today, but you build your hedge exposure to that
18 industry. It is well-represented in the swaps market.

19 So I would be interested to see any
20 information that could come out of that.

21 CHAIRPERSON ZAKIR: Thank you. This
22 concludes our first panel. Thank you to our panelists

1 for the very interesting discussion.

2 At this time, I ask that speakers on panel 2
3 please come forward and take your seats.

4 I would like to ask everyone to please take
5 your seats. We are going to start our second panel of
6 the day. We are going to hear from market participants
7 and climate risk experts regarding approaches to
8 assessing, managing, and disclosing climate-related
9 financial market risks as well as the hedging of such
10 risks. They will also discuss any observed challenges
11 in identifying, evaluating, and managing climate-
12 related financial risks.

13 On the second panel, we have Nancy Meyer,
14 director of corporate engagement, Center for Climate
15 and Energy Solutions; Kristen Walters, global chief
16 operating officer of Risk and Quantitative Analysis
17 Group, BlackRock; Matthias Graulich, member of the
18 executive board and chief strategy officer, Eurex
19 Clearing AG; and Dr. Stefano Giglio, professor of
20 finance, Yale School of Management. Ms. Meyer, you
21 have the floor.

22 MS. MEYER: Commissioner Behnam and members

1 of the committee, I would just like to thank you for
2 the opportunity to speak with you today on this very
3 important topic.

4 Just for those of you who are not familiar
5 with the Center for Climate and Energy Solutions, we go
6 by the acronym C2ES. And we are an independent,
7 nonprofit, nonpartisan organization. And our goal is
8 to advance strong policy and action to reduce GHG
9 emissions, promote clean energy, and strengthen
10 resilience to climate impacts. Our work is informed by
11 our Business Environmental Leadership Council, which is
12 a group of 34 Fortune 500 companies that work with C2ES
13 on addressing climate change risks and identifying
14 solutions. Those companies represent a range of
15 sectors and have combined revenues of nearly \$3
16 trillion and have over 3.5 million employees.

17 In my role at C2ES I manage the activities of
18 the business council. And that has included
19 facilitating a working group focused on implementing
20 the recommendations of the TCFD. The focus of this
21 working group is to support companies in implementing
22 those recommendations. So my remarks today will focus

1 on key takeaways that I gathered while we organized two
2 meetings earlier this spring with members of our
3 business council and with other external stakeholders.
4 The committee might also be interested in the brief
5 that I authored last summer based on working group
6 meetings held last year on the topic of using a
7 scenario analysis to report climate-related financial
8 risk.

9 So in terms of some of the key takeaways from
10 our meetings with companies, as we have heard from
11 others today, companies are completing their first
12 generation climate reports based on the TCFD
13 recommendations. Companies across sectors are really
14 eager to learn from one another during this process,
15 but the process is iterative and gradual, as, again, we
16 have already heard.

17 I would say one of the things that I have
18 found very interesting with conversations with the
19 corporate folks that we work with is that, unlike
20 corporate sustainability, the TCFD's focus on financial
21 outcomes have really broadened the climate change
22 conversation beyond just sustainability teams corporate

1 organizations. It actually requires coordination among
2 several corporate functions within corporate
3 businesses.

4 The framework includes elements of risk
5 management, strategic planning, and sustainability, and
6 where GHG reporting typically lies. Specifically,
7 managing physical risk often falls under the purview of
8 risk managers. Transition risk is an issue area for
9 strategy teams. GHG management is typically the focus
10 of sustainability teams. And often legal gets
11 involved, particularly when it comes to recording
12 outcomes.

13 So one of the key challenges the companies
14 have spoken to us about is needing to bridge the gap
15 among those business units and getting those units to
16 actually speak the same language around climate change.

17 The other key aspect of recommendations that
18 companies have tended to struggle with and have looked
19 to others for assistance with implementation is around
20 scenario analysis, which we have already heard quite a
21 bit of today. And it is very important that companies
22 actually consider both transition risks and

1 opportunities as well as the physical impacts of
2 climate change. And so for many companies, actually
3 looking at and assessing physical risks is easier to
4 translate that into financial outcomes because that
5 involves looking at business continuity plans, looking
6 at supply chains, and is easier to translate. And
7 oftentimes, physical risks are more near-term. We
8 heard that from Mr. Jones' presentation earlier;
9 whereas, transition risks can be harder to quantify,
10 specifically because of the uncertainty around the
11 assumptions around policy or technology. And that
12 makes it more difficult for companies to actually
13 translate the outcomes from those modeling exercises
14 into financial impacts.

15 That being said, despite the challenge of
16 translating those outcomes, we have seen that many
17 companies have focused the first iteration of their
18 TCFD analysis on transition risk, often harnessing
19 existing capabilities within their companies that focus
20 on strategic planning that already have some of that
21 expertise; whereas, climate modeling to look at
22 physical impacts requires much more scientific

1 expertise. And most companies do not have climate
2 scientists on staff. That being said, we have seen a
3 proliferation of consulting firms who have scientific
4 expertise who are really ready to help companies do
5 some of that more granular analysis around the physical
6 risks of climate change. So that is growing, a growing
7 field for companies to tap into.

8 Likewise, I would like to just point out
9 another issue that I think has already been raised
10 today but some of the challenges around actually
11 modeling transition scenarios and the fact that models
12 often look or assume a very smooth transition, and we
13 know that climate-related financial risk is most likely
14 to occur during times of disruption. And so many of
15 the companies that we work with recognize this and are
16 looking for ways to actually stress test the outcomes
17 of the modeling that has been done so far in order to
18 better anticipate potential financial outcomes.

19 Lastly, reporting is another challenge area
20 for companies that we work with. Some companies have
21 concerns about opening up potential legal liability
22 once they have disclosed a possible risk. Others are

1 concerned that scenario exercises can be misconstrued
2 as forecasts. And while we know that models are really
3 good at developing insights, that they are not great at
4 delivering absolutes. So in order to kind of overcome
5 some of those challenges, companies are looking to
6 qualify the uncertainties, rather than delivering those
7 absolutes. And so in transition scenarios, that means
8 looking at policy design and the technology
9 assumptions, knowing what it is that they are using as
10 their assumptions, and being very transparent about
11 them to their stakeholders.

12 Likewise, it is about framing the
13 uncertainty. It is not just the uncertainty itself.
14 And so, rather than reporting those outcomes in
15 quantitative terms, companies are looking for ways to
16 relay what their strategic options are and how it
17 remains robust within a certain range of uncertainty.
18 And the challenge is to do this without disclosing some
19 of their strategic advantages, which could include
20 confidential business information. So that is a very
21 difficult balance to strike often.

22 In conclusion, I would just like to say that

1 we have seen significant progress towards
2 implementation of the TCFD recommendations. We see
3 more and more companies that are working to assess and
4 quantify the risks presented by climate change, which
5 is a critical step in managing financial impacts more
6 broadly. However, the process is still evolving and
7 there are many challenges that companies are working to
8 resolve, as I have mentioned. So I would just like to
9 say C2ES is willing to continue to support businesses
10 throughout the implementation process, and we look
11 forward to engaging with stakeholders as this field
12 matures.

13 Thank you.

14 CHAIRPERSON ZAKIR: Thank you, Ms. Meyer.
15 Ms. Walters?

16 MS. WALTERS: Thank you. Thank you,
17 Commissioner Giancarlo, Mr. Behnam, and also, Alicia,
18 for your tireless efforts in MRAC. Thank you very much
19 for that.

20 For those of you who do not know me, I am the
21 chief operating officer for BlackRock's global risk
22 management function. Thus, my comments today will be

1 focused on my experience over the last 25 years as a
2 risk manager with particular expertise in the fixed-
3 income space.

4 First, it is important to note that the
5 identification measurement of climate-related economic
6 and financial risks is truly nascent. Climate and
7 related risks are unique given the historical data
8 available does not fit neatly with traditional risk
9 management approaches. On a day-to-day basis, risk
10 managers use a variety of risk models that measure risk
11 and decompose risk on an ex-ante basis, generally based
12 on historical data that includes actual risk events,
13 regime changes, and the opportunity to perform back
14 testing, leveraging historical data sets.

15 For climate risk, there is historical data
16 available. However, the world has not experienced a
17 global warming scenario of the magnitude being
18 discussed today for over 100,000 years. Thus, as risk
19 managers, we do not have a good starting point to
20 develop risk measurement tools and conduct robust
21 scenario analysis and stress testing. Potential tail
22 risks are announced and difficult to measure with well-

1 identified triggers, such as the collapse of an icecap
2 or reversal of the gulfstream that could accelerate
3 risk in a highly nonlinear way that is very, very
4 difficult to measure and makes our job as risk managers
5 extremely difficult.

6 Finally, there is a fundamental mismatch
7 between the investment horizon and duration of fixed-
8 income instruments and the much longer timeframe over
9 which we expect climate changes to manifest and impact
10 economic factors and financial markets. In fact,
11 observable impacts that we have seen in market to date,
12 which occur when there is an extreme weather event,
13 that these events have only had transitory, if any,
14 impacts with markets tending to forget quickly and
15 focus on more localized micro and macro factors.

16 So what is BlackRock doing? Despite these
17 challenges, we do believe that business-relevant
18 sustainability issues, including climate change, in
19 many cases can contribute to the long-term financial
20 performance of companies and markets. To this end, we
21 are developing a toolkit with supporting data, metrics,
22 and reporting for portfolio managers, risk managers,

1 and clients as well as a host of sustainable investment
2 strategies.

3 Inclusion of ESG considerations in our client
4 portfolios comes in two ways: first, ESG integration
5 in traditional investing; and, second, sustainable
6 investment strategies themselves. ESG integration in
7 traditional investment strategies is the inclusion of
8 ESG factors into financial analysis to evaluate risk
9 and opportunities, such as an active equity portfolio
10 manager evaluating ESG risk to their portfolio, such as
11 the risk of a regulatory action due to a company's
12 environmental track record to inform their investment
13 views and positioning. It is important to note that
14 the evaluation of these risks is no different than the
15 evaluation of other types of risks to the portfolio
16 with a primary objective of delivering value in the
17 form of investment returns to clients in line with
18 client guidelines and expectations, as set forth in
19 mandates.

20 At BlackRock, we are integrating issuer-level
21 ESG data into our trading and risk management systems.
22 This will allow our investors and risk managers to

1 access ESG metrics that can inform the investment
2 process. For example, this includes stratification of
3 holdings based on ESG ratings and scores by sector and
4 at the absolute fund and active portfolio levels.

5 Second form of investing, sustainable
6 investing, refers to the explicit cooperation of ESG
7 objectives into investment vehicles, which largely
8 break down into two types: the first ESG screen
9 strategies, which avoid companies that do not meet
10 certain ESG criteria, as specified by our clients; and,
11 second, thematic or impact strategies that seek to
12 focus on a particular ESG objective, such as transition
13 readiness or green asset classes.

14 With regard to BlackRock-specific climate-
15 related investment strategies, our AUM in these
16 strategies represents over 32 billion in a suite of
17 screened and low-carbon investment products, green
18 bonds held in funds and institutional portfolios, and
19 12 billion related to an overpower in infrastructure on
20 behalf of our global clients.

21 Additionally, we offer over 24 billion in
22 real estate investments that embed ESG in investment

1 decisions and management processes. In 2018, our real
2 estate investments achieved a 3 and a half percent CO2
3 reduction and a 3.3 percent energy use reduction.

4 Understanding the implication of climate-
5 related risk to financial markets and portfolios is an
6 emerging science that will continue to develop over
7 time. This is clearly an evolving area for risk
8 managers to consider. And we expect our understanding
9 of these risks to financial assets will change over
10 time, as will the reporting and collection of the data
11 on these risks.

12 Thank you.

13 CHAIRPERSON ZAKIR: Thank you, Ms. Walters.
14 Mr. Graulich?

15 MR. GRAULICH: Thank you very much. Thank
16 you to Commissioner Behnam for putting this agenda
17 together. Thank you to Alicia for getting it
18 organized. And thank you for inviting me to speak on
19 this panel.

20 I also want to use the opportunity to thank
21 Commissioner Giancarlo for his service over the last
22 years and the great progress we have seen. And we

1 would like to wish him all the best for his next
2 opportunities. So thank you.

3 We have heard at the beginning from
4 Commissioner Behnam that I think global warming is
5 really a fact. And we are experienced in seeing it and
6 observing it on a daily basis. So we have also in
7 Europe prolonged periods of dryness, which impact the
8 agricultural area. We have heavy rain, which brings
9 other problems and damages. And at the end, if we
10 don't do anything about it, we will destroy the basis
11 for living on this planet in a few decades or a few
12 hundred years.

13 We have heard a lot this morning about
14 hedging risks and ensuring risks, but at the end, it
15 generates costs. And I would like to get in my remarks
16 a bit of twist into it to say what can we do to limit
17 climate change? What can we do from a financial
18 perspective? What can we do to limit all of these
19 things that what we see today is not getting worse but
20 hopefully is stabilizing or turning at some point?

21 Interestingly and what we can see in Europe,
22 which is probably not as developed here in the U.S., is

1 the public attention on these topics. And we have had
2 the European parliament election very recently. And
3 the green parties, who really, really had focused their
4 overall campaign on climate topics, have doubled in
5 Germany, for example, their voting. So they went up
6 from 10 to 20 percent, making it the second biggest
7 party in Germany. And I think this is a really, really
8 big statement that this is not a topic for an isolated
9 group, that this is a public topic.

10 So I think let me start and frame it a bit.
11 So we have heard a lot of times that there is this
12 target to limit global warming to 2 degrees Centigrade.
13 And what has been done in Europe, people have
14 operationalized these kind of targets and defined
15 concrete targets for greenhouse emission reductions or
16 40 percent reduction until 2030, a target that one-
17 third of the energy mix is coming from renewable energy
18 by 2030, and another one-third improvement on energy
19 efficiency.

20 Now, Global Sustainable Investment review
21 came to the conclusion that this requires in Europe
22 alone an annual investment from the private sector of

1 180 billion euro. So this is a very big amount, which
2 requires to have a discussion about sustainable
3 investments and sustainable finance, which at the end
4 is our core topic of today.

5 Deutsche Borse has one of the largest global
6 market infrastructure providers with its subsidiary CRX
7 and the European Energy Exchange and stocks have
8 committed themselves to develop solutions to promote
9 and support a sustainable finance ecosystem.

10 I would like to focus today on two specific
11 initiatives we have supported in order to facilitate
12 this development. The first is an effective trading
13 system to reduce greenhouse gas emissions. As you
14 might know, the European Commission has established a
15 so-called EU emissions trading system. What is behind
16 it, it issues emission certificates which firms can buy
17 in an auctioning format and then also can buy in a
18 secondary market. And the number of certificates which
19 are issued are reduced until 2030 every year step by
20 step to achieve the overall objective to reduce the
21 greenhouse emissions by 40 percent until then.

22 Why is that important? Because pollution,

1 greenhouse emissions has to have a price because if it
2 doesn't have a price, people have no incentive to get
3 rid of these kinds of or to lower their greenhouse
4 emission gas and go invest into renewable energy and
5 invest into these type of things.

6 Now, E-X, one of the subsidiaries of Eurex,
7 has been chosen as the auction platform within EU 27.
8 E-X also organizes the secondary market for both the
9 certificates itself as well as futures on those
10 certificates.

11 Now, what we have seen in the development of
12 the last years is with a cutting of the availability of
13 the certificates, trading activity has tremendously
14 increased. So we have seen a 90 percent increase alone
15 in the last year in trading activity in these
16 greenhouse emission certificates. And the price for
17 these certificates has tripled, has tripled in just one
18 year, which is clearly a demonstration that we are
19 exactly sailing in the right direction with this
20 project. And what we can see and that the interim
21 target in Europe has been defined for 2020 at 21
22 percent reduction as a kind of step to achieve the 40

1 percent reduction. And, with all likelihood, as we can
2 access it, access it right now, we can say that we are
3 on a good path to achieve that 20 percent reduction in
4 Europe, which I think is a good signal and also a
5 signal that the system with the governmental
6 intervention works. And, to conclude on this topic, I
7 think, really, governmental intervention is very, very
8 important to pave the way to achieve these objectives.

9 Let me briefly talk about the second topic,
10 ESG-compliant benchmarks and derivatives. What we can
11 see -- and we have heard it before, that sustainable
12 investments is really a trend. And according to the
13 Global Sustainable Investment review, already \$30
14 billion U.S. dollars are today invested globally in
15 sustainable assets with a very huge chunk, 50 percent
16 of the total assets under management in Europe
17 according to this study are in sustainable assets.

18 Now, what does sustainable assets mean?
19 There is a range of definitions and categories. It
20 starts on the one end with excluding certain firms
21 which are not in line with ESG standards on the one end
22 of the spectrum. And the other end of the spectrum, we

1 have investments or categories which are specifically
2 targeted to invest in projects and undertakings to
3 reduce greenhouse emission gases to promote renewable
4 energy and so on.

5 Now, what we as Eurex have done in
6 conjunction with stocks globally, active index provider
7 as also part of Deutsche Borse group, we have developed
8 indices and derivatives on these indices to allow
9 investors to use ESG-compliant benchmarks and ESG-
10 compliant risk management instruments. So we have
11 heard from many of these asset managers, "Yes, we are
12 investing ESG-compliant, but if we want to manage our
13 risks and use derivatives on certain indices, these
14 indices also include non-ESG-compliant firms. And,
15 therefore, we can't use these derivatives."

16 Now, we have launched these derivatives in
17 February. And, again, thank you to the CFTC for
18 promptly approving them to also allow distribution of
19 these derivatives into the U.S. and allow U.S.
20 investors to use these derivatives. I would like to
21 very briefly describe the concept of two of the indices
22 and derivatives.

1 So the STOXX Europe 600 is a well-known index
2 in Europe. And we have modified this index and
3 excluded firms who produce, for example, controversial
4 weapons, who are baked into BAE Co. and who are heavy
5 in TERMCO, what we have heard earlier, or who are in
6 breach with the EU global compact principles. And on
7 the back of this, we have launched futures in order to
8 make sure that people who want to manage risks with
9 regards to these companies, that with regards to the
10 compliant companies, that they have a tool to do so.

11 The other is probably an even more
12 interesting but more future-looking index, which is
13 building on the Euro STOXX 50 index and is called Euro
14 STOXX 50 low-carbon index. This index leaves all
15 constituents which are today in the base index in but
16 applies different weightings to the firms in that
17 index. And the weighting is based on a carbon
18 intensity score. So the lower the carbon intensity of
19 a certain firm, the higher is the weight and vice
20 versa. So with that mechanism, we have reduced the
21 carbon footprint of the firms represented in that index
22 by 60 percent.

1 We have in the meantime five liquidity
2 providers who help fueling liquidity into this product.
3 We have a number of asset managers, insurance firms who
4 are actively using those products. We have in the
5 meantime built an open interest of 500 million euro,
6 which is a tiny amount relative to the other indexes
7 and risk management tools we are offering, but I think
8 we are just at the start of a very long journey. And I
9 am convinced that these type of products and
10 initiatives help to manage these risks going forward
11 and to ultimately achieve one primary objective next to
12 risk management to make sure that we can live and our
13 kids can live on this planet for a couple of more
14 years.

15 Thank you very much.

16 CHAIRPERSON ZAKIR: Thank you, Mr. Graulich.
17 Professor Giglio?

18 DR. GIGLIO: Okay. So, first of all, thanks
19 a lot to Commissioner Behnam, to Alicia, and to the
20 entire committee for inviting me to speak here.

21 What I want to talk about today is hedging
22 climate risks. So, you know, this is a big topic. And

1 I am going to just focus on the kind of main conceptual
2 issues of it. And so let's start by thinking about
3 what is really unique about the hedging climate risks,
4 in particular? Okay?

5 And so, you know, you already see when you
6 start that this is a hard problem because it is even
7 hard to define what is the right target of the hedge.
8 Okay? So if you think about, you know, we have very
9 sophisticated financial markets. They are able to
10 hedge a variety of different types of risks. And, you
11 know, if you give financial markets a target, you say,
12 "I want to hedge this particular risk," you know, we
13 are very good at creating products that can target that
14 risk. But with climate risks, it is even hard to
15 exactly define what we want to target. Do we want to
16 target, let's say, climate variables? We are going to
17 hedge literally something directly temperature
18 increases or do we want to target -- I don't know --
19 for example, the economic damages that come out of
20 climate change?

21 So the first kind of very important issue
22 that we think about when we think about designing

1 financial markets to deal with this risk is to figure
2 out what is the right target of the hedge? Okay?
3 There is a second issue which, again, is very specific
4 to climate risk, which is how do we kind of overcome
5 some kind of very natural obstacles to market
6 participation and development of this market for these
7 risks? And I am going to give you a few examples of
8 the kinds of obstacles that they are; for example, the
9 fact that these horizons are very, very long. You
10 know, sometimes, you know, some of the changes are very
11 immediate. Some are going to appear over the course
12 of, let's say, 100 years. Now, for example, how do I
13 ensure that my counterparty is going to be there,
14 right, if I make a very long-term bet? Or these are
15 also markets where the information is very limited.
16 And that, of course, discourages participants to take
17 very large positions in that. Okay? So there is a
18 bunch of obstacles to participation that we need to
19 figure out how to overcome in order to develop markets
20 with these kinds of risks.

21 And, finally, I want to say a little bit more
22 about the -- actually, risks from an economic point of

1 view, which is something that other people on the panel
2 have brought up before. You know, in order to be able
3 to trade this risk, in order to be able to face and
4 deal with this risk, we kind of need to have a good
5 sense of the likelihood of different events and the
6 severity of these events. We are really at the
7 starting point of this. There is a lot more work to be
8 done.

9 If you think of the way that we manage risks,
10 there are kind of two ways to approach opportunities
11 and to think about the likelihood of different
12 possibilities. One is to do some more structure
13 analysis to say, "Well, you know, this is kind of what
14 I think climate change is going to evolve over time.
15 This is how I think it is going to affect the economy."

16 So these are basically a model that I can use
17 to make predictions and think about how I can deal with
18 them. But this is very difficult to climate change
19 because it is so hard to make long-term predictions.
20 The systems are very nonlinear. The effects on the
21 economy themselves are very nonlinear.

22 So the standard kind of model-based analysis

1 of risk is hindered by the fact there would be. It
2 almost affected a model uncertainty. And, on the other
3 side, you know, we know we can do kind of a more useful
4 analysis of risk from, let's say, a statistical point
5 of view, but that is also hard because we have no data
6 on the kind of scenarios that we think are particularly
7 important, these very extreme events. Okay?

8 So these are three issues that I think, you
9 know, we are going to need to solve, not in the very
10 near future but over the long term as we develop these
11 markets.

12 Now, there are also other operational issues
13 to develop kind of markets to treat climate change
14 risks. For example, you know, how do we even consider?
15 So can we go around constructing very long-term
16 securities? It is very hard to sustain a security or
17 anything that has a target 100 years from now. Can we
18 go around that with, let's say, a sequence of short
19 term, for 4 years that can kind of replicate these
20 long-term securities? That is something that has come
21 up in questions. There are some approaches that we are
22 going to talk about later, but it is an important

1 operational question.

2 Another important operational question is,
3 what instrument do we want to use to hedge this risk?
4 Are the equities enough or they are not or do we need
5 more specialized derivative securities?

6 So, you know, if you think about what you and
7 the panel talked about, for most of the discussion, it
8 has been, "Okay. Let's think about the firms that we
9 currently have. And let's concern indexes and
10 derivatives that are based on existing firms and their
11 exposure to current risk."

12 But financial markets in theory allows us to
13 do much more. Right? In theory, we can sit down
14 together and just write a contract that is unconnected,
15 disconnected from the underlying firms, is literally a
16 bet on temperature. Right? These contracts exist, a
17 very limited volume, delay in maturity, but we could be
18 very creative I think in thinking about what are the
19 ideal securities that we want to trade.

20 And, finally, a very crucial question for
21 which I didn't have any answer to, is what is going to
22 be the cost of this insurance or these hedges? Okay?

1 It is, of course, what is going to be the price to be a
2 very, very complicated issue, you know, but also by the
3 adoption of these insurances and hedged, we would be
4 very related towards the final price will be. Okay?

5 So these operational issues, as I said, I
6 don't have the answers to all of these questions, but
7 what I want to talk about, you know, is one simple
8 example of somebody who should have doing it with -- in
9 other quarters on trying to come and take the first
10 step in actually building a hedge against climate risk.
11 Okay? So, basically, we do that today. What we have
12 to do is to take a stand on all of these issues and
13 actually construct the hedging portfolio, hedging
14 portfolio for climate risk.

15 So we have to, first of all, choose a target.
16 And, again, there are many ways, many targets you can
17 build. What we decided to do is to construct some sort
18 of very forward-looking index of the perception of
19 long-term climate risk. And we did that by looking at,
20 basically, in using these newspaper articles, that is
21 an example of how you can be creative and building
22 industry to target.

1 You see the plot here is from Wall Street
2 Journal. You can see the index is exactly spikes, you
3 know, in correspondence with the big events, you know,
4 the Paris Accord, you know, and so on. And, you know,
5 for example, you know, the Times where the IPCC
6 delivered some of the reports, you see the index spike.
7 So it is I think reasonable first step is something we
8 can clearly target. And so what we do, we will use
9 only equities because that is what we have available so
10 far. And we used a large cross-section of equities to
11 construct a portfolio to attach this risk.

12 And we used a very basic principle from
13 optional prices that tells us if you have a long-term
14 objective, let's say, climate change, you know, 100
15 years from now, how exactly to construct a portfolio
16 you can't replicate, an ideal security reason, exactly
17 hedges bet, long-term risk.

18 Okay. So I am not going to give you all of
19 the details, but the result is that, you know, even
20 with these very simple, very first-step approach, we
21 can already make some progress.

22 If we repeated out-of-sample, out-of-sample

1 procedure, we can get up to, let's say, 30 percent
2 hedging of this index. It is not the final goal. We
3 can definitely improve over that. But it is the first
4 step.

5 And so the point of this was to say, you
6 know, that it is going to take a long time to figure
7 out exactly what are the right things to do and what
8 are the right things to pay attention to, what are the
9 right targets, and so on. But we can already now do
10 some work towards that.

11 And I want to conclude thinking a little bit
12 specifically about the derivatives market. So I
13 personally think that when we think about climate risk,
14 derivatives market is where a lot of the action should
15 go because of the extreme flexibility in deciding
16 exactly what we want to target. And so I think it is
17 important to think about what are the special issues
18 that arise when we think about the derivative markets.
19 Okay?

20 So here is kind of a few thoughts. One
21 thought is that, you know, climate change is a risk
22 that is kind of very natural, very naturally

1 heterogeneous across geographical regions. Right? And
2 so, you know, I think that, really, to maximize the
3 benefits of kind of risk sharing, it is important that
4 this be a global market, as opposed to a set of like
5 localized markets. So if we think about introducing
6 derivatives on climate risk, you know, we should do as
7 much as we can to make it a global market.

8 Second, I think it is a market where we
9 really need a multiplicity of products. We are not
10 going to find one derivative product that is good for
11 everybody because different people care about different
12 aspects of climate change. And so I think that to
13 reduce basis risk and to encourage participation and to
14 encourage risk sharing, we really need to have a
15 multiplicity of climate change-related products.

16 And, finally, I think there are many
17 interesting policy questions. One that I wanted to
18 think about and highlight was the fact that there is
19 actually -- you know, the climate change in general is
20 a market where -- it is almost a tragedy of the
21 commons. And so there are other externalities. People
22 actually producing the risk also are not typically

1 bearing the entire cost of the risk. And it is
2 interesting and important to think about how
3 introducing insurance markets may affect the incentives
4 of people that are actually polluting. If you are a
5 big country or a big polluter, it means that you can
6 kind of afloat some of that, the risk, to somebody else
7 in the planet. You might have been left with less skin
8 in the game. And that has the potential to be very
9 systemic effects.

10 So my conclusion is I think that derivatives
11 is the right space to think about this risk. I think
12 there is a lot of stuff to figure out before this can
13 be actually implemented, but, really, I think this is a
14 great opportunity to push for a global liquid market,
15 in which this can be traded and efficiently shared.

16 Thank you.

17 CHAIRPERSON ZAKIR: Thank you.

18 I am now going to open the floor to questions
19 and comments from the membership. Mr. Johnson?

20 MR. JOHNSON: Thank you. First of all, I
21 want to also thank Commissioner Behnam. This is a
22 wonderful topic and I think in the forefront of some

1 very important issues we are going to face. Also, as
2 an alumni of the Commission, I want to thank Chairman
3 Giancarlo for the fantastic work you have done. It is
4 really moving the agency forward. Thank you.

5 I wanted to ask Mr. Graulich. You mentioned
6 the emissions credits that are occurring in Europe.
7 And here in the U.S. -- and in your perspective, if you
8 look at these similar to the certificates. So you have
9 going on in the State of Oregon and Washington
10 potential LCF, low-carbon fuel standards, and cap and
11 trade programs. You have successful cap and trade and
12 LCF programs going on in California. You have got the
13 regional greenhouse initiatives on the East Coast and
14 the transportation initiative that is being worked on
15 at this present time. And looking at those are kind of
16 individual simple markets -- and I should mention the
17 RINS at the Federal level also. Do you see those
18 working in a similar way as the emissions certificate
19 says potentially a way of helping reducing they carbon
20 and the greenhouse bases?

21 MR. GRAULICH: Unfortunately, I have no deep
22 insights into the different schemes in the U.S. and the

1 setups in the different states. Therefore, it is hard
2 for me to judge whether that would work in a similar
3 way. I think the key aspect to a successful program
4 ultimately, kind of triggered by the government, is to
5 have a shortage in the availability of these
6 certificates because only if you have that state, then
7 there will be active trading. And with an increasing
8 price, people have an incentive to divert their
9 investments into renewable energy and other things and
10 doing business at the end of a trigger, which needs to
11 be achieved, but sorry, I can't really judge the U.S.
12 programs since I am too far away from the East. Sorry.

13 MR. JOHNSON: Thank you.

14 CHAIRPERSON ZAKIR: Mr. Chang?

15 MR. CHANG: Thank you. I would also like to
16 thank Alicia and Commissioner Behnam and Chair
17 Giancarlo and the other commissioners for setting up
18 this event. I found both the first and this panel very
19 informative. And, admittedly, I am very far from an
20 expert on this topic.

21 Just a couple of sort of broad comments. The
22 first is, just as someone who has kind of grown up in

1 the markets, it strikes me that when we are -- just as
2 an overall impression that we are much more likely to
3 find solutions using market-based approaches, rather
4 than top-down regulation. And there has been a few
5 different sort of approaches suggested. Again, as a
6 sort of derivatives trader by training, what I found
7 with top-down regulation often is that when you write
8 the rules too strictly, people find ways to get around
9 them.

10 Broadly, though, this is the second
11 observation as now someone responsible for the
12 execution at a global asset manager. One of the things
13 we struggle with as a firm in getting our arms around
14 is actually how do you define ESG? We have had some
15 pretty wide-ranging conversations. I wouldn't say this
16 was a consensus view, but I will throw this out as an
17 anecdote, which is we had a conversation with a
18 European investor, who asked, "Well, if U.S. pulls out
19 of the Paris Accords, I guess I can't invest in U.S.
20 treasuries anymore," which would be a pretty -- you
21 know, would seem to be a pretty extreme interpretation
22 from a markets perspective, but I don't know if I would

1 take a step back and think about -- it depends on how
2 you define ESG, right?

3 So, broadly, I wanted to pose this question
4 to the panelists, which it seems to me like -- and this
5 topic has come up in a number of the presentations
6 already. We need to define the problem we are trying
7 to solve in order to solve it. And how close are we to
8 doing that?

9 I don't know if maybe that is too broad of a
10 question, but at the back of my -- in my mind, I still
11 struggle to know exactly what problem we are trying to
12 solve. And, as a result, I am not as clear as to
13 exactly how to think about tackling it.

14 MS. MEYER: I will go ahead and jump in.
15 Just in a broad sense, I would say that we are still
16 trying to define what ESG means, I think particularly
17 in light of the TCFD recommendations. I think
18 historically ESG was very well-understood in terms of
19 what it meant, greenhouse gas management, what
20 companies were doing internally to address their own
21 emissions footprints and impact on the environment.
22 But when you start thinking about strategy and longer-

1 term strategy and how that gets translated into
2 markets, I think that is what this whole conversation
3 around what are we doing with the information the
4 corporate folks are disclosing on their strategy around
5 climate change? And how does that relate to their
6 financial impacts? And, then, what is the market
7 doing?

8 So I would say it is not well-defined, but
9 there is a lot of work being done to try to define it a
10 little bit better so that you can work towards
11 something more concretely.

12 MS. WALTERS: I think from an asset
13 management perspective -- so I think the science,
14 although I am not a scientist, is kind of well-analyzed
15 and known. But the link to financial markets and the
16 broader economy actually is not. So we are trying to
17 -- we do think it is much longer, much longer-term, as
18 I mentioned before. So I think our focus is to try to
19 find data to identify or measure that linkage. And I
20 talked about some of the issues in my comments earlier,
21 but, you know, kind of the granularity of risk is also
22 an issue. So when you think about broad risk

1 management, in my space, it is about asset allocation
2 across stocks, bonds, cash products, alternatives, big
3 macro risk, risk on, risk off, you know, relationships
4 between EM and DM markets. And in the context of
5 climate risk, it is a much more granular discussion
6 that we haven't experienced before. So in this space,
7 to the best we can tell, you need to think about the
8 individual company, the location of that company in a
9 very precise way, and the actual commodity.

10 And we started to do this. We did some work
11 with the Rhodium Group that had to be published. And I
12 provided the materials for this forum. You can do it
13 for asset classes where location, you know, can be
14 located, as I would say for U.S. munis and CMBS, but
15 there are many other assets where just identifying the
16 location is very difficult, so, for instance, the
17 corporate markets.

18 So I think for us, it is a voyage of
19 discovery, of identifying the data, and trying to
20 develop a toolkit. And right now, it is early. It is
21 early days.

22 DR. GIGLIO: Yes. I just wanted to link in.

1 You know, I agree with you that we are still in the
2 very early stages of this. I also don't think there is
3 a pressing need right now to define uniquely, for
4 example, what ESG is. I think we are perfectly fine
5 having a different measure of that. And, you know,
6 different participants, we care about different types
7 of exposures from different risks. And so I think
8 markets are very good at integrating different -- a lot
9 of different informations.

10 And so I think it is good that, you know, it
11 is not the stage where I think we should be converging
12 into one measure. I think this is the stage, we want
13 to produce information. And then over time, we are
14 going to figure out how to use it.

15 And this also connects to the discussion that
16 Peter responded on the disclosures, right?

17 I don't think we should pin down forever
18 right now what is the exacting the need to disclosure.
19 I think we should try to disclose as much as we can,
20 condition all these constraints are obviously there.
21 They are always out there. And then we are going to
22 let the market and their graders figure out what are

1 the important parts.

2 CHAIRPERSON ZAKIR: I guess it is a related
3 question on that topic. Obviously the TCFD has done a
4 great deal of work around disclosure and developing
5 standards and guidelines around disclosure. How should
6 we be thinking about the consumption, right, by users
7 of that disclosure? How important is it that users are
8 interpreting those disclosures consistently? Can you
9 talk a little bit about that?

10 MS. MEYER: I leave that to you experts to
11 describe.

12 DR. GIGLIO: Okay. So I can try to take
13 that.

14 So do you mean how, you know, end-users can
15 use all the information? Well, so this kind of
16 connects what I had been talking about before in my
17 presentation, which is that I think that we need -- it
18 is going to be extremely useful to have markets where
19 people can express their views and basically express
20 their interpretation of this, of the information. And,
21 you know, we know from historical data that markets do
22 a very good job at the information. And I think that

1 this is going to be a crucial functions of markets that
2 we can potentially create in the future. Yes.

3 MS. WALTERS: I guess for BlackRock, we do
4 think disclosure is important. We have contributed to
5 the initiatives such as, you know, FSB's task force and
6 climate-related financial disclosures and the SASB. We
7 certainly believe these standards are an appropriate
8 starting point for any company assessing its potential
9 sustainability, risks, and opportunities, including
10 climate risk. And we started to think about, again,
11 the first step to being able to disclose information to
12 be able to kind of properly measure it. And for us,
13 that is within our own company but all of the assets
14 that we invest in. So we have been trying to embed as
15 much data, research, ESG scores, risk ratings into our
16 trading risk management systems, and to try to use that
17 as a basis for thinking about ESG risks and funds and
18 also doing scenario analysis.

19 We were definitely also on a voyage of
20 discovery with regard to how we will use disclosure
21 when making investment decisions on behalf of clients
22 is what our own disclosure should look like.

1 DR. GIGLIO: Can I just add something? So if
2 you think about how you construct -- you pick a target,
3 right? You say, "I want to hedge this risk. I want to
4 construct a portfolio of companies to hedge this risk,
5 like we did in this case, right? How do you do it when
6 you use all the information you had with companies?
7 You use potentially hundreds of advice about the
8 companies. And that allows you to really fine-tune,
9 you know, the exact exposure to these risks. And so
10 that is one example where, you know, market
11 participants can use all this kind of very rich
12 information that we have.

13 MR. GRAULICH: Perhaps to add with regards to
14 the index composition, I mentioned this carbon index.
15 I mean, what we simply do is we look at the carbon
16 intensity score. And, of course, we need to have this
17 data available and these firms. So your STOXX 50
18 companies make this data in the meantime available.
19 So, then, I think we can take this into consideration
20 when setting up the index and defining the index.

21 So I think it is really about -- I Mean,
22 consuming the data in the right forum, but bringing it

1 together and kind of laying the ground for an informed
2 investment decision on these topics.

3 CHAIRPERSON ZAKIR: Thank you.

4 Mr. Banaei?

5 MR. BANAEI: Thank you, Nadia. I just want
6 to make a comment and maybe front-run the discussion
7 that may happen or when there is a discussion of the
8 subcommittees, it may be some of the subcommittees'
9 early work.

10 I think one of the areas where the CFTC could
11 help buoyed at an initiative or that could contribute
12 to the mitigation of climate risk given its oversight
13 over commodities and derivatives markets is by looking
14 at specific markets that has traditionally had an
15 interest in particularly agriculture and other
16 commodities. And helping, you know, firms come up with
17 targeted risks and thinking about scenario analysis in
18 a way that could help produce quantitative outcomes
19 that can be measured, that can be aggregated, and then
20 could contribute to, for example, indices and financial
21 products that can, in turn, be marketed as derivatives
22 on exchanges.

1 And here it is -- you know, we are in the
2 business of, you know, creating and administering
3 indices, fixed-income equities, as well as economic
4 indices. And traditionally what happens is there are
5 metrics out there, there are prices out there, and we
6 aggregate them in some way that, you know, presents a
7 value to our customers. Here, it is almost we have got
8 to think about it in the reverse. We have got to think
9 about, you know, what are the metrics and prices, you
10 know, that are relevant to measuring climate risk and
11 then, you know, that can, in turn, help create
12 financial products, which can then, you know, have
13 their traditional risk-pricing and risk-shifting
14 functions.

15 CFTC CHAIRMAN GIANCARLO: Salman, a very good
16 point. And I just wanted to come right back at you. I
17 think an area that I think the committee could provide
18 a service I particularly would find very interesting
19 would be to know today which derivative products are
20 part of a basket of climate change risk mitigation that
21 firms are indeed using, whether it be AG commodities,
22 whether it be weather-related futures or weather-

1 related hedging, whether it be credit default
2 protection against firms engaged in, whether it be
3 extracted industries or energy production. I would be
4 interested to know firms that are hedging today, not
5 using specific ESG products traded on exchange but are
6 using proxies and baskets of tools in order to hedge
7 against. I think it would be very interesting, very
8 informative if we had just a survey of what is
9 currently being run using existing product sets. And
10 then we can then think about how they might evolve
11 ultimately to specific climate-related hedging
12 instruments.

13 CHAIRPERSON ZAKIR: Mr. Stanley?

14 MR. STANLEY: Thank you. And thank you to
15 you, Commissioner Behnam, for his leadership of this
16 committee and to Chairman Giancarlo for your leadership
17 of the Commission.

18 I thought that the point that Dr. Giglio made
19 at the very end of his presentation about the policy
20 concern was a very important one. And I would kind of
21 like to ask him to expand on it because I think that
22 one thing that happens when you move the climate issue

1 into the financial markets context is that your focus
2 can shift from what will harm the planet to what will
3 cost investors money. And those two things are not
4 actually the same question. And our goal should be to
5 reduce actions that harm the environment, not just find
6 ways of compensating investors when harm occurs. And
7 we especially need to be aware of times where these
8 could conflict.

9 So I just wanted to ask Dr. Giglio and maybe
10 others, how should we think about what forms of hedging
11 and trading will actually shift real investment to more
12 environmentally beneficial practices? And which forms
13 will not or might even be counterproductive to that?

14 DR. GIGLIO: All right. So, first, thanks
15 for the really good question. It is a very hard
16 question, too, because, you know, really, what is going
17 to happen, you know, to the entire system is a very
18 comprehensive equilibrium because it may force a place
19 -- it is very hard to predict what the equilibrium will
20 be. So I can just expand a little on what I said in my
21 presentation.

22 So, you know, we know that these are markets

1 with the biggest analysis. We also know that there are
2 some players that come to realize at least part of what
3 their effect is. You know, countries as a whole set
4 policies, and countries as a whole pollute. And there
5 are also many firms that do without, you know, for
6 example, carbon toxin without, you know, requirements.
7 And so they won't acknowledge any other pollution at
8 all.

9 And so, you know, of course, you know, the
10 problem is other markets, too, in the healthcare
11 market, in the credit market, where, you know, people
12 have set incentives with some skin in the game, but if
13 there is an insurance market, they might just try to
14 take the skin out the game. And so it is -- which I
15 think is relevant.

16 It is hard to predict what is going to
17 happen, of course, because in an equilibrium, the price
18 of insurance will also reflect the actual risk. If I
19 have insurance, I can take some risk off, but by doing
20 that, I can end up not mitigating the risk. And the
21 price of insurance will rise. Well, I may not buy the
22 insurance in the first place. And so it is a very

1 complex -- you know, I have no idea what is going to
2 happen.

3 But I do think it is good to keep in mind,
4 especially because we do have players which are pretty
5 big. You know, there are some very big corporations,
6 particularly, for example, the energy sector. They do
7 have clearly an incentive in pollution mitigation,
8 governance, too. So I think that that is kind of what
9 I had in mind with that.

10 And then your question was more, how did this
11 affect the innovation? So, you know, they will
12 transfer the risks, can have negative effects like
13 this, can also have positive effects, right, because,
14 you know, we cannot remove complete exposure to these
15 risks. So the question is, can we find an efficient
16 way to manage those risks? Part is going to be
17 mitigation, part of it is going to be transferring to,
18 you know, market participants that can actually bear
19 the risk so overall it still can be very positive.

20 CHAIRPERSON ZAKIR: Thank you. I think we
21 have time for one more question. Mr. Slocum?

22 MR. SLOCUM: Thank you very much.

1 Excellent presentations. Thank you to the
2 panel.

3 Building on Marcus' question of Professor, I
4 really like thinking big about how to, you know, deal
5 with hedging climate risk broadly. We sort of tried it
6 in the United States back in 2009, when the House of
7 Representatives passed economy-wide cap-and-trade
8 legislation. That wasn't just about emissions
9 mitigation but also was opportunities for financing
10 adaptation for companies and other entities. And at
11 the time, I remember Goldman Sachs predicting that if
12 that were enacted into law when combined with other
13 global emission derivatives markets, it would have far
14 exceeded crude oil markets. And so this was an
15 opportunity to use financial derivatives to address the
16 issue.

17 The challenge in the United States since then
18 has been that efforts to address Federal acts on
19 climate change have become weaponized by very well-
20 funded opponents. And it makes having a coherent
21 dialogue on this extremely frustrating and very
22 difficult. Public interest advocates have been

1 continuing leading the efforts on this, but we need to
2 have more types of entitles talking about not only the
3 need but the benefits that financial products can play
4 in hedging climate risk. But it all is going to stem
5 from some sort of Federal policy, I believe. And so I
6 thank all of you for your efforts. And just if you
7 have got any insights on how we can move this very
8 difficult ball forward in the U.S. political system, I
9 would welcome that feedback.

10 MS. MEYER: If I could just provide a
11 comment? From C2ES' perspective, we are actually very
12 active, engaged with folks on the Hill, as well as
13 stakeholders at the state and local level. And one of
14 the things that we do really well is bring together the
15 corporate community in conversation with those
16 policymakers to try to find practical solutions. And I
17 would say that I think the tides are turning, but in
18 the last year alone, we have seen a lot more interest
19 and engagement from both sides of the aisle on climate-
20 related issues and that it is gaining traction,
21 partially because a lot of folks are hearing from their
22 own constituencies, that this is important to them, I

1 think largely driven by severe weather events that we
2 have seen over the past few years, among other things.

3 So I think there is hope, needless to say.

4 And I also think there is this whole issue about
5 finance. This is a very important one and one that we
6 in our research at C2ES are actually working to include
7 in some recommendations that we are putting forward in
8 a big policy paper to be relapsed hopefully late this
9 year or early next year.

10 CHAIRPERSON ZAKIR: Thank you.

11 We are going to go ahead and conclude our
12 second panel here. Thank you to our panelists for a
13 very informative discussion.

14 At this time, we are going to turn to MRAC
15 new business and the establishment of subcommittees.
16 In March 2018, Commissioner Behnam invited members of
17 the public to propose potential topics for the MRAC to
18 prioritize and making recommendations to the CFTC on
19 how to improve market structure and mitigate risk. The
20 committee has held meetings on some of the issues
21 identified, such as LIBOR transition, CCP risk, and
22 oversight of third party service providers.

1 Today, we discussed climate-related financial
2 market risks. During these discussions, various MRAC
3 members and industry experts identified or recommended
4 several areas for further work. Accordingly, as
5 Commissioner Behnam noted in his opening statement, the
6 MRAC will be creating four subcommittees to further the
7 goals of the MRAC in the following subject areas: CCP
8 risk and governance, operational risk, market
9 structure, and climate-related financial risks.

10 If the MRAC members believe it is important
11 to further examine these four topics and provide
12 recommendations to the Commission, as appropriate, a
13 motion from the membership is necessary to establish
14 the subcommittees. We will take each subcommittee
15 individually. Is there a motion from the membership to
16 establish a central counterparty risk and governance
17 subcommittee?

18 MS. ROSENBERG: Yes, I would motion to
19 establish the CCP risk and governance subcommittee.

20 CHAIRPERSON ZAKIR: Thank you. Recognizing
21 Marnie Rosenberg.

22 Is there a second?

1 MS. WALTERS: Yes, from BlackRock.

2 CHAIRPERSON ZAKIR: From BlackRock. Thank
3 you. It has been moved and properly seconded that the
4 MRAC establish a central counterparty risk and
5 governance subcommittee. Any discussion?

6 (No response.)

7 CHAIRPERSON ZAKIR: If there is no
8 discussion, all those in favor of establishing a
9 central counterparty risk and governance subcommittee
10 say aye.

11 (Chorus of ayes.)

12 CHAIRPERSON ZAKIR: All those opposed?

13 (No response.)

14 CHAIRPERSON ZAKIR: Any abstentions?

15 (No response.)

16 CHAIRPERSON ZAKIR: The ayes have it, and the
17 motion is passed.

18 Is there a motion from the membership to
19 establish an operational risk subcommittee?

20 MS. NORLAND: There is a motion to establish
21 the operational risk committee. Thank you.

22 CHAIRPERSON ZAKIR: Thank you.

1 Is there a second?

2 MEMBER: Second.

3 CHAIRPERSON ZAKIR: It has been moved and
4 properly seconded that the MRAC establish an
5 operational risk committee. Is there any discussion?

6 (No response.)

7 CHAIRPERSON ZAKIR: If there is no
8 discussion, all those in favor of establishing an
9 operational risk subcommittee say aye.

10 (Chorus of ayes.)

11 CHAIRPERSON ZAKIR: All those opposed?

12 (No response.)

13 CHAIRPERSON ZAKIR: Any abstentions?

14 (No response.)

15 CHAIRPERSON ZAKIR: The ayes have it. The
16 motion is passed.

17 Is there a motion from the membership to form
18 a market structure subcommittee?

19 MS. SHEMIE: I move to create a market
20 structure committee.

21 CHAIRPERSON ZAKIR: Thank you.

22 Is there a second?

1 MR. PRIYADARSHI: Second.

2 CHAIRPERSON ZAKIR: Mr. Priyadarshi, thank
3 you.

4 It has been moved and properly seconded that
5 the MRAC establish a market structure subcommittee. Is
6 there any discussion?

7 MR. McCLEAR: I just have a quick question.
8 What do we mean by "market structure"?

9 COMMISSIONER BEHNAM: We are going to let the
10 subcommittees with our involvement to an extent really
11 shape the conversation. And there were a number of
12 questions and proposals raised during the initial
13 formation of this revised committee to discuss any
14 number of market structure-related questions.

15 So, like I pointed out at the beginning of my
16 statement, these will feel more like workstreams. They
17 will be inclusive. And we would certainly welcome any
18 thoughts above and beyond what the committee has
19 already submitted as market structure-related risks.

20 All those in favor of establishing a market
21 structure subcommittee say aye.

22 (Chorus of ayes.)

1 CHAIRPERSON ZAKIR: All those opposed?

2 (No response.)

3 CHAIRPERSON ZAKIR: Any abstentions?

4 (No response.)

5 CHAIRPERSON ZAKIR: The ayes have it, and the
6 motion is passed.

7 Is there a motion from the membership to
8 establish a climate-related financial risk
9 subcommittee?

10 MEMBER: I move to establish it.

11 CHAIRPERSON ZAKIR: Thank you.

12 Is there a second?

13 MEMBER: Yes.

14 CHAIRPERSON ZAKIR: It has been moved and
15 properly seconded that the MRAC establish a climate-
16 related financial risk subcommittee. Is there any
17 discussion?

18 (No response.)

19 CHAIRPERSON ZAKIR: If there is no
20 discussion, all those in favor of establishing a
21 climate-related financial risk subcommittee say aye.

22 (Chorus of ayes.)

1 of the subcommittees, but any work product deliverables
2 that any of the subcommittees produce, which is
3 standard for this agency, will be products of the
4 subcommittee. They will be brought before the advisory
5 committee to be voted on. And, then, they will
6 essentially act as recommendations to the Commission.
7 And that is all they are, is recommendations to the
8 Commission.

9 Thanks.

10 MR. WIPF: Thank you, Nadia. Good afternoon.
11 It is an honor to be presenting back in front of the
12 Market Risk Advisory Committee on behalf of the
13 Subcommittee on Interest Rate Benchmark Reform. My
14 name is Tom Wipf, vice chairman of institutional
15 securities at Morgan Stanley; on this topic as well,
16 represent the firm as chair of the ARRC as well as a
17 board member of ISDA.

18 Before we begin, I would note that my
19 comments will not be on behalf of Morgan Stanley, the
20 ARRC, or any other organizations today, and any views I
21 represent on my own and those of our Subcommittee on
22 interest rate reform, as I previously established by

1 the MRAC.

2 I want to take a moment to thank Commissioner
3 Behnam and Alicia Lewis for their key support in this
4 work as well as the MRAC, the other commissioners of
5 the CFTC here today, and my colleagues who join me on
6 the panel.

7 I want us to take a moment initially to begin
8 by recapping key developments in the LIBOR transition
9 that have occurred since we last spoke in December 2018
10 and then provide an update on the progress to date of
11 the MRAC subcommittee on interest rate benchmark
12 reform.

13 So, first, we are going to categorize these
14 things into two buckets. So we will talk a lot about
15 what is happening from the official sector as well as
16 in an industry and a private sector perspective. These
17 are obviously intersecting workstreams, and we want to
18 touch on those before we move into our initial
19 recommendations.

20 So from the major developments in the market
21 from the ARRC has been the publication in the cash
22 markets of fallback language for those that continue to

1 use LIBOR and cash products. The ARRC completed four
2 sets of fallback language for floating rate notes,
3 syndicated loans, bilateral loans, and securitization.
4 And the goal of that was to create some degree of
5 uniformity between optimized fallback language across
6 cash market asset classes going forward while also
7 addressing the idiosyncrasies of each market.

8 ISDA has also been hard at work to improve
9 fallback language in derivative contracts via new
10 fallback terms, which should be released by the end of
11 the year. These new terms will apply to all new LIBOR
12 swaps, incorporating the standard ISDA interest rate
13 definitions and to legacy LIBOR swaps via a voluntary
14 protocol.

15 Following their initial consultation
16 completed last year, ISDA is currently in the market
17 with two additional consultations. One is on spread
18 methodology to be applied to additional currencies not
19 covered in the 2018 version, and one is on the
20 potential inclusion of a pre-cessation trigger in the
21 ISDA protocol. I would note that this second
22 consultation also was recommended by the OSSG, the

1 official sector committee, encouraging such a market
2 survey.

3 ISDA will also seek feedback later this year
4 on the market's views on the conventions to be applied
5 around implementation of the eventual fallback spread.
6 And by the end of the year, we should hope to see final
7 fallback terms for LIBOR swaps.

8 SOFR-based products in the United States
9 continue to grow, gain traction among both cash and
10 derivatives. SOFR futures are, as CME has mentioned,
11 the third best start in their history of a product. At
12 quarter end, we saw significant activity in swap
13 volumes that we looked to build upon.

14 Issuance in floating rate notes referencing
15 SOFR has reached 100 billion since last summer, and we
16 continue to see this market evolve. We also see a
17 difference in conventions. So the initial issuances on
18 floating rate notes utilizing SOFR were done with a
19 money market calculation or an average. We have since
20 seen from other issuers a compounded in arrears, which
21 mimics a swap market a lot more closely. So we will
22 see that depending on the investor base and the issuer,

1 there are several conventions available now in the
2 market. And we are assuming that that will develop
3 over time as well.

4 The ARRC's outreach efforts have also been
5 meaningful, both with public and with regulators. A
6 few weeks ago, the ARRC published a user's guide to
7 SOFR, which demystified in many ways how market
8 participants can begin using SOFR in contracts today.
9 The ARRC hosted its fourth annual ARRC roundtable,
10 where we heard from Vice Chair Quarles as well as many
11 other ARRC members.

12 In May, ARRC followed up with our July 2018
13 Title VII letter, which requested certain regulatory
14 clarification from the CFTC and other regulators with
15 an additional letter that provided an update regarding
16 conversion approaches and an additional request for
17 regulatory relief in order to facilitate the pace and
18 effectiveness of the risk-free rate transition. I will
19 discuss these views in greater depth along with our
20 initial recommendations today.

21 From the official sector, regulators have
22 played a significant role in the progress that has been

1 made in 2019 thus far. In April, the FSB in this room
2 convened a roundtable with global regulators and many
3 market participants in order to share views on the
4 transition to date as well as to solicit feedback on
5 transition. And the message at that roundtable was
6 crystal clear that certainly the official sector
7 regulators, particularly here at the CFTC, are willing
8 to entertain relief within reason. And the view has
9 informed our subcommittee, the MRAC subcommittee, the
10 key updates, which we will elaborate on momentarily.

11 Further, the Bank of England hosted their
12 annual event last week, where it was clear that they
13 were also amenable to thoughtful relief as well.

14 This backdrop of potential regulatory relief
15 has been communicated to the MRAC subcommittee for
16 interest rate benchmark reform and has helped inform
17 our updates for this group today.

18 When we addressed the group back in December,
19 I noted that our primary goal is to provide input and
20 recommendations to the MRAC as it relates to potential
21 policy changes that could impact the course of LIBOR
22 reform. Our key principles in this regard were and are

1 the following. Our goal was to remove hurdles to the
2 transition to SOFR and other risk-free rates, to
3 provide incentives via relief for market participants
4 to transition to SOFR and the other RFRs. And we aim
5 to avoid the inadvertent creation of safe harbor in
6 policy changes that we were to recommend.

7 Putting further detail around our objectives,
8 I included in my speech at the FSB roundtable in early
9 April that our subcommittee had narrowed our areas of
10 focus to three key topics and nominated a subcommittee
11 member to serve as a working group leader specializing
12 in these three areas to go along with all of the
13 subject matter expertise that we have on the
14 subcommittee. All three of these working group leaders
15 have joined me today on the panel in case the group
16 would like to ask any further detailed questions about
17 the three key workstreams that we were addressing
18 today.

19 The three workstreams are -- additionally, I
20 would also like to thank everyone who participated in
21 this work. Every member of the subcommittee committed
22 a lot of time and a lot of subject matter expertise on

1 what we want to present to you today. So we will take
2 it forward.

3 The topics are uncleared margin, clearing,
4 and disclosures. An uncleared margin -- this is the
5 subcommittee. It is reviewing ways in which the CFTC's
6 uncleared margin rule could cause potential impediments
7 to the adoption of alternative rates and how these
8 rules could be amended to improve the pace of adoption
9 without creating a safe harbor. Bis Chatterjee has
10 taken a lead role on this working group, and I thank
11 him for his leadership.

12 Clearing. The clearing working group was
13 reviewing ways in which current regulation regarding
14 derivative clearing mandates may cause impediments to
15 the adoption of alternative rates, including examining
16 the appropriateness of mandatory clearing for
17 derivatives linked to these alternative rates, with an
18 eye also on avoiding safe harbor. Marnie Rosenberg
19 chaired that group, and I thank her for her leadership.

20 Disclosures. The subcommittee is reviewing
21 existing risk disclosure documents used by market
22 participants in order to understand if additional risk

1 disclosures are appropriate. Ann Battle from ISDA has
2 taken a lead role on that work, and we thank her for
3 her leadership.

4 So, starting with uncleared margin, our
5 subcommittee noted that certain legacy IBOR derivatives
6 that are exempted from margin requirements may lose
7 legacy status if they are amended to include fallback
8 provisions or transitioned to risk-free reference
9 rates. The potential for losing legacy status on
10 trades may dissuade market participants from taking the
11 necessary steps to voluntarily convert their positions
12 to new benchmark rates. As outlined in its May letter
13 to regulators, the ARRC also identified a handful of
14 specific conversion methodologies, but there may be
15 other ways to convert outstanding LIBOR swaps. And so
16 we aren't certain this is a completely exhaustive list
17 of ways in which market participants may effect a
18 conversion from LIBOR to SOFR in derivatives markets.

19 At any rate, these nine methodologies
20 presented by ARRC are fairly complex and certainly
21 would be somewhat operationally challenging to capture
22 and record. In light of this, we believe that the CFTC

1 and the MRAC can consider broad relief to preserve a
2 derivative's legacy status under the uncleared margin
3 rules if it is amended to include fallback provisions
4 or converted on a voluntary basis via one of the ARRC-
5 identified methods or other newly developed methods.

6 Further, to better achieve the goal of
7 promoting liquidity in risk-free rates, the CFTC and
8 MRAC can also consider permitting all new uncleared
9 risk-free reference rate trades executed before January
10 1st, 2022 to receive blanket relief from initial margin
11 requirements.

12 As a broad group of market practitioners, we
13 felt that this would provide a significant boon to SOFR
14 and other RFR liquidity and could massively benefit the
15 transition and the policy objective of financial
16 stability that both we as market participants and the
17 regulators and the central banks seek to promote.

18 I would like to note that these three ideas
19 are reflected also in the ARRC letter to U.S.
20 regulators, including Chairman Giancarlo of the CFTC,
21 dated May 16th, 2019.

22 The MRAC subcommittee on interest rate

1 benchmark reform benefits from cross-pollination with
2 the ARRC, keeping us updated on the progress of the
3 ARRC's work. And the regulatory working group has been
4 making good progress over the past several months. Our
5 work is consistent with that.

6 Importantly, our group also gives voices to
7 market participants that do not participate in the
8 ARRC. These other participants also concluded that the
9 ARRC's proposals on broad uncleared margin relief were
10 merited and would be beneficial to the market at large.

11 Lastly, and separately from the ARRC's
12 requests, it was pointed out that since SOFR and
13 certain other risk-free rates are new rates, some firms
14 may not have approved SIMM models to calculate required
15 initial margin on bilateral trades. As such, they may
16 be forced to use other margin calculation methodologies
17 that result in punitively high costs for clients
18 interested in putting on SOFR or other risk-free rate
19 trades. We felt this could in some ways serve as a
20 barrier to entry for many market participants.

21 Our view is that the CFTC could recommend
22 SIMM model enhancements that are necessary to include

1 SOFR or other risk-free rate-based swaps in SIMM should
2 be approved centrally, and firms should not be required
3 to provide notice of or receive individual approvals
4 with respect to those SIMM enhancements. Cutting down
5 on the operational difficulty associated with SOFR
6 transactions should be a net benefit to liquidity.

7 Clearing. Moving on to our discussion of the
8 CFTC clearing mandate, as was also reflected in the
9 ARRC's July letter to regulators, it was noted that
10 legacy derivatives linked to LIBOR and certain other
11 interest rate benchmarks, which are referred to
12 collectively as the IBORs, that are exempt from
13 clearing requirements may lose legacy status if amended
14 to include fallback provisions. This is an additional
15 bit of market uncertainty that may serve as a barrier
16 to widespread adoption of the ISDA protocol and would
17 benefit from greater clarity and specificity.

18 Additionally, the subcommittee recognized a
19 clearing mandate does not currently exist for SOFR-
20 based products, and both cleared and uncleared trades
21 have occurred. We noted, however, that if our various
22 forms of relief were to be granted, particularly the

1 point about uncleared margin requirements, it would
2 improve liquidity in SOFR products with much activity
3 potentially remaining uncleared. As such, we feel it
4 is prudent that the CFTC and MRAC consider a framework
5 by which to identify when it is appropriate to mandate
6 clearing of risk-free rate transactions. However, it
7 was agreed that it may be yet too premature to
8 determine exactly when such a mandate would be
9 appropriate, give the nascence of the SOFR market.

10 Separately, it was also felt that the CFTC
11 could consider decreasing the minimum margin period of
12 risk on cleared SOFR trades, which may also incentivize
13 new activity via reduced initial margin requirements
14 for cleared trades.

15 On disclosure, moving into the disclosures,
16 the subcommittee felt that disclosures for IBOR
17 derivatives regarding implications of benchmark reform
18 exist in the market but, while accurate and compliant
19 with applicable regulations, may be too complex for
20 average market participants to understand. As such,
21 there was strong interest for the CFTC to endorse plain
22 English disclosure language for use in the new IBOR

1 derivatives to be drafted by the MRAC subcommittee.

2 We felt ideally there would be two separate
3 disclosures drafted: one effective before the ISDA
4 definitions are amended to include fallbacks and one
5 effective after the definitions are amended to include
6 fallbacks.

7 Along with this disclosure statement, the
8 MRAC could also consider requesting the CFTC and MRAC
9 to establish an appendix webpage including additional
10 information alluded to in the plain English statement.
11 The subcommittee is in the process of iterating this
12 statement and aggregating materials for a potential
13 backup webpage and expect to have finalized proposals
14 later this year.

15 It was also agreed that the current ISDA
16 disclosure statements, which were updated in March
17 2018, may need to be refreshed to capture more recent
18 developments in the IBOR transition. However, the
19 group felt that this update should occur closer to
20 yearend 2019, when ISDA's definitions have been amended
21 to include fallbacks.

22 In conclusion, these three buckets have been

1 the subcommittee's area of focus over the past several
2 months. By the time of the next MRAC meeting towards
3 the end of the year, we intend to conclude our work in
4 the form of final recommendations to MRAC, but they
5 will be along the lines that we are laying out here
6 today.

7 We strive to be additive to other sources of
8 market progress and remain focused on the scope of our
9 mandate. Based on the feedback we receive here today,
10 we intend to provide a letter to MRAC detailing our
11 recommendations in greater detail, and our group stands
12 ready to work with all stakeholders in order to
13 progress the stated objectives.

14 Once again, I want to thank Commissioner
15 Behnam, Alicia Lewis, the MRAC, the commissioners, the
16 CFTC, the group leaders, and everyone who participated
17 in this work for the opportunity to provide this
18 service.

19 With this, again, I will thank Bis, Marnie,
20 and everyone who participated in each of these
21 workstreams, as well as my colleague Matt Oakes, who
22 provided very important secretariat administrative

1 support to this work.

2 With that, we and my colleagues here are open
3 for questions. And thank you again for the
4 opportunity.

5 CHAIRPERSON ZAKIR: Thank you, Tom.

6 At this time, I would like to open the floor
7 for any questions from the members. Mr. Berger?

8 MR. BERGER: Thank you. I would like to
9 start by thanking the subcommittee for all of their
10 work. A smooth and successful transition is obviously
11 of paramount importance for the market.

12 I find many of the recommendations here quite
13 sensible. There are two that give me pause. So I
14 would like to comment on those, but please do not take
15 my comments as an indictment of the much needed and
16 constructive work that the subcommittee has done
17 overall.

18 So the first issue I wanted to comment on was
19 the proposal to provide blanket relief from IM
20 requirements for uncleared SOFR swaps. I think this,
21 you know, potentially can have some unintended
22 consequences. So I wanted to highlight those and make

1 sure they were considered as part of the further
2 deliberations.

3 So the first is that providing relief from
4 UMR for uncleared SOFR swaps I think creates a
5 disincentive to clear and potentially bifurcates
6 liquidity in the short-term between cleared and
7 uncleared iterations of SOFR swaps. And I think it
8 would be more constructive to try to create as much of
9 the liquidity pool as possible going forward in the
10 cleared iteration of these contracts.

11 The second is that providing UMR relief for
12 uncleared SOFR swaps also creates issues when trying to
13 margin those under the SIMM regime with other products
14 in terms of like a portfolio margining regime. And we
15 have seen this play out already with respect to other
16 products like FX options and deliverable FX forwards,
17 where the inclusion of one and not the other creates
18 problems with respect to portfolio margining. And so I
19 think it could potentially be unconstructive if SOFR
20 swaps weren't able to be portfolio margined under UMR
21 rules with correlated products.

22 The third concern I have is that the next

1 recommendation, which is very sensible, which is that
2 we should make sure we can in a streamlined fashion
3 make modifications to the SIMM framework to account for
4 SOFR swaps. I think the motivation to do that on a
5 timely basis will be undermined if SOFR swaps aren't
6 included in the UMR regime.

7 The fourth concern I have is that there have
8 been a lot of concerns with respect to UMR
9 implementation with respect to cliff-edge effects. And
10 I think if we just grant this blanket relief until 2022
11 with respect to applying UMR to SOFR swaps, we just
12 introduce yet another cliff-edge effect with respect to
13 UMR implementation.

14 Fifth, I have concerns that while it is
15 sensible to think about ways to try to foster liquidity
16 in these products, I don't think that doing so on the
17 back of under-collateralization of risk is the right
18 way to do it. And we should, you know, be building
19 this new market on as solid of a foundation as
20 possible.

21 Sixth, I think if I look at a corollary
22 product, SOFR futures, we have been building liquidity

1 in that product successfully with an initial margin
2 framework in place already and not on the back of a
3 relief from initial margin requirements. And I guess I
4 will stop there since people are probably getting
5 hungry for lunch and my list was quite long already.

6 But the second topic I wanted to comment on
7 quickly was the clearing recommendation. So definitely
8 understand that there is not a clearing mandate in
9 place today for SOFR swaps, and it is probably
10 premature to announce one today. But I would think it
11 would be helpful for the market to be a little more
12 forward-looking with respect to that and not too
13 cautious. I think the market will benefit from a more
14 predictable plan for when there is going to be a bulk
15 transition to a mandatory clearing regime.

16 And on that note, I think it would also be
17 constructive to think about how we ensure that when we
18 do transition to having a clearing mandate for SOFR
19 swaps, we would do that and a mandate for swaps
20 referencing other risk-free reference rates, we do that
21 in coordination with, at a minimum, the Europeans as
22 well since I think we have all benefitted from having a

1 consistent scope with a clearing obligation in both the
2 U.S. and Europe.

3 So, with that, I will stop. Thank you.

4 MR. WIPF: Bis, do you want to take the first
5 three on his second three?

6 MR. CHATTERJEE: Again, as Tom mentioned, I
7 would like to thank the rest of the members of the IR
8 subcommittee on the MRAC. Thank you, Commissioner
9 Behnam, for sponsoring the IR's subcommittee and I
10 think, including Chairman Giancarlo and the other
11 commissioners, for supporting this work.

12 To respond to your question, I think these
13 are very valid issues. And these are issues the group
14 debated with. I think we want to go back to I think
15 the principles that Tom outlined, is asking for relief
16 or modifications that are with reason. And there is
17 the trade-off, as you pointed out, to removing
18 impediments versus removing impediments far enough that
19 they create a risk issue.

20 So I think, you know, these are some of the
21 issues the group did discuss. And, hence, you know,
22 the recommendations are kind of looking at relief for

1 particularly short-term. The market is considering
2 obviously the various impacts to SOFR versus LIBOR and,
3 you know, the impact it will have on a lot of
4 participants who are yet to come under the margin under
5 phase 5, the mandatory margin regime.

6 So, hence, the timeframe proposed was thought
7 to be near, not, you know, blanket relief forever, or
8 waiving it. So there is certainly a trade-off between
9 the amount of time needed.

10 Also, as we transition into SOFR, I think the
11 market and the market for dispense, we are trying to
12 look at ways to encourage catalysts for faster adoption
13 because, you know, if SOFR swaps stay only in the small
14 corner of the market, you know, we will get to the
15 early 2021 deadline with, you know, not a large and
16 deep marketplace, you know. And so whatever can be
17 done in the short-term to accelerate while, as you
18 rightly point out, keeping the trade-off to risk
19 minimal, was considered, but, you know, happy to take
20 it up and see if there are alternate recommendations to
21 address some of the issues.

22 With regards to the SIMM, there is work going

1 on in the industry. The various participants that have
2 used SIMM administrative stream are looking at ways.
3 And I think the recommendation is more to kind of, you
4 know, make sure that any SIMM approvals are done once
5 centrally and don't have to be redone. It is more an
6 administrative process. And certainly there is no ask
7 to say, you know, SIMM work be stopped or be delayed.
8 So SIMM work is ongoing. I think all of the parties
9 are interested in making sure that the SIMM model be
10 updated. It is more an administrative aspect.

11 Marnie?

12 MS. ROSENBERG: I mean, I don't have any
13 additional comments. I think we are pretty much in
14 alignment on the clearing mandate, that it is something
15 that we need to continue to watch. And definitely we
16 need to coordinate with other jurisdictions to ensure
17 it is a level playing field.

18 CHAIRPERSON ZAKIR: Okay. Since there are no
19 further questions -- oh, sorry. One more question.

20 MR. STANLEY: Yes. We all want to go to
21 lunch. I am going to make this real quick.

22 I just wanted to associate myself with what

1 was said about the dangers of creating incentives
2 through under-collateralization of risk. And I think
3 in assessing that risk, it would be very helpful if in
4 the future you guys came with estimates of volume of
5 transactions that were going to get these exemptions
6 and how long that the exemptions would last. That
7 would help us frame everything.

8 MR. CHATTERJEE: If I can respond to that?
9 You know, what we tried as part of the subcommittee was
10 to make sure that any of the recommendations we put
11 forward were not without, you know, some kind of
12 analysis.

13 And I am glad you brought that point up
14 because a large part of the discussion was focused
15 around the fact, can we provide data. And, you know,
16 this is kind of I think some of the work the industry
17 has done very effectively. It has helped the
18 regulators with fact-based things.

19 So if you haven't done so, I would really
20 like to endorse the work done by the CFTC's chief
21 economist's office. They have put out an interesting
22 report called the legacy swaps under CFTC on clear

1 margin on May 22. It has some extremely good data
2 about how much legacy swaps exist under the various,
3 you know, asset classes. They have taken a very good
4 stand to say how much of these swaps would roll off
5 based on maturities. So if you see that as the tables
6 that show how much of these swaps would actually roll
7 up before you even brief phase 5, when mandatory margin
8 posting came into effect. So that would address a lot
9 of the, you know, issues that, you know, Steven rightly
10 faced.

11 There is also another category that would
12 roll off, let's say, in the interim short term by 2025
13 and then what would stay beyond that. So there is
14 fact-based data. And we have been talking to the CFTC
15 economist's office to make sure that, you know, they
16 continue to release this data that would actually help
17 support the committee's recommendations.

18 And so there is ongoing dialogue. And we
19 have been trying to convert our recommendations along
20 with the data published by their office into more
21 tangible, meaningful analysis.

22 CHAIRPERSON ZAKIR: Thank you.

1 Mr. Shanahan?

2 MR. SHANAHAN: One thing is these temporary
3 relief to encourage the activity I think will really
4 help encourage the adoption. As an issuer of SOFR and
5 talking to a lot of my customers, the development of a
6 mature term structure and that aspect I think has
7 retarded the adoption quickly. So what we can do to
8 temporarily drive volume into that market and develop
9 that I think will help the overall adoptions quite
10 significantly.

11 MR. WIPF: Yes. Really, and I think what we
12 have really attempted to do here at the highest level
13 is, you know, we understand that we are 30 months away
14 from a very big event. We believe, as we have said
15 here and my last time down here, that 2019 is a
16 mission-critical year in the take-up. And we need to
17 understand what are the things that can be done, both
18 by the official sector and, of course, by the private
19 sector in terms of getting these things off the ground.

20 The one thing we would say is that to the
21 degree of what we put out here today, anything that
22 provides clarity, specificity, dates, as you mentioned,

1 and put things in a position where people in the market
2 have some clarity about what it means to convert a
3 trade, what it means to close out a trade, and reach
4 any conclusions and to the extent that there is an
5 ability to do that without penalty certainly was our
6 first step. The ability to create further incentives
7 through relief to actually encourage greater
8 participation is there.

9 And I think if we are talking about the
10 degrees of -- you know, as we go across that spectrum,
11 as Bis highlights, right, certainly there are trade-
12 offs along the way. The question is, what are we
13 trading off to get as much done as possible in the
14 safest way possible because the outcome on certainly
15 December 31st, 2021 presents a very significant risk.
16 And absent people doing the work today or absent -- you
17 know, we talked a lot about the need for clarity, and
18 we talked about a lot of things which, you know, seem
19 like impediments but potentially might just be excused
20 designed as impediments.

21 So I think what we are really trying to
22 figure out here is, you know, what are the high-level

1 things that can take place knowing that this, you know,
2 has to be in strong collaboration between the official
3 sector and the private sector to get this done and what
4 trade-offs need to be made to actually begin to get the
5 volume moving because, you know, the way forward on
6 this is to have as much activity in the new reference
7 rate to have the smallest legacy book possible, to have
8 the least amount of waterfalls going over this 2021
9 cliff.

10 And I think, though, what you see here today
11 I think is a fairly comprehensive list of things that
12 are on the table. And if we are going to discuss
13 degrees, I think that is an appropriate way to think
14 about it, but at the end of it, I think what we really
15 want to do is what can we get done in the near future
16 to begin to incent market participants to begin using
17 these new risk-free rates in earnest to reduce the size
18 of the legacy exposure, to reduce the amount of
19 activity that we would have to take over the cliff with
20 what are, you know, old fallbacks, which are, you know,
21 somewhere between frightening and really terrifying and
22 the new fallbacks, which, although they present much

1 better outcomes for market participants, by no means
2 completely take us to zero in terms of value transfer.

3 So I think the question is and the way
4 forward -- we talk about this a lot -- is, how do we
5 stop digging, right? How do we get out of this hole by
6 stopping digging using the new rates when and where we
7 can? And these are ways that we think that will move
8 those off the sideline, remove some of the inertia to
9 not transitioning, which I think is definitely an
10 important first step. And in some ways, are there
11 degrees of freedom here that we get people to move a
12 little bit more quickly with the goal of making sure
13 that we are really managing to the big risk, which is
14 December 31st, 2021?

15 MR. CHATTERJEE: The one thing I will add is,
16 you know, we intentionally placed constraints on the
17 scope of the working group because we wanted to make
18 sure any recommendations we make through MRAC to the
19 Commission is within action that the Commission can
20 take. So topics like, you know, the term rate and the
21 need for, you know, a good, robust term rate or a, you
22 know, spread base rate did come up, but we deliberately

1 said, "Look, is that within the scope of what the
2 Commission in terms of regulation or relief can
3 actually act upon or if it had to, do we need to give
4 it more time?" So we deliberately placed some training
5 wheels or boxes on the group's work, but we did
6 highlight that because there is such a strong
7 connection between members of this working group and
8 Tom with the ARRC that we would continue to feed, you
9 know, comments that came up, including the ones raised
10 by you through this working group into the ARRC, where
11 they might be actually more appropriately discussed.

12 CHAIRPERSON ZAKIR: Thank you.

13 Chairman Giancarlo?

14 CFTC CHAIRMAN GIANCARLO: I thank you for
15 that. I really want to commend the subcommittee for
16 this very, very good work. I mean, when Commissioner
17 Behnam worked with the committee to set up this two
18 years ago, I knew it would make a substantial
19 contribution, but it truly is making a really
20 substantive -- bringing substantive issues out. And so
21 well done on all of you for doing that.

22 And I also want to commend the formation of

1 the different subgroups of expertise in these three
2 areas. I think that is going to help us take some of
3 the discussion from -- still a degree of generality to
4 specificity, two words I can't say, but you know what I
5 am trying to say. And we need to do that. And so my
6 thanks to Bis and to Marty and Ann for stepping up to
7 do that.

8 I can assure you that the staff of the CFTC
9 is fully engaged. And now with this ability to get
10 more granular, we can really work through what is
11 needed.

12 I do want to assure Steven and others that we
13 take very seriously the range of issues here and,
14 Marcus, your concern. You know, it's substantial
15 amount of inertia in the status quo and moving that
16 into a new category, a new direction with, you know, a
17 fair amount of basis concerns and others is no easy
18 task. And I think at the end of the day, it is going
19 to take a combination of carrots and sticks to make
20 that transition over.

21 And we have a framework that we normally
22 don't like to deviate from. We may have to have some

1 short-term relief but with some certainly that things
2 are going to snap into place at some point in time. So
3 you want to create a dynamic of people wanting to get
4 over before the time runs out, sort of a game of
5 Musical Chairs before the music stops and then they are
6 left out. And so what we are trying to do is work with
7 the subgroups to find that balance.

8 And I can assure you of one other thing, and
9 that is that all members of this Commission are
10 committed to benchmark reform and getting there. We
11 naturally have degrees of difference of emphasis and
12 concern. And we are trying to find that balance.

13 And I know our staff is endeavoring very,
14 very hard to give us good advice. I think Tom Miller
15 was -- maybe Bis mentioned the very fine research that
16 has been done by our Office of Chief Economist. We are
17 trying to do this on true data and not just guesswork
18 and use and draw on real data. And so we really look
19 to the work of the subcommittee and opportunities like
20 this to flush out the issues. Thank you for doing
21 that, Steven. Your points are well-taken.

22 I am confident that we in good faith will

1 find the right balance and ultimately get to where we
2 need to go, which is to move away from a benchmark that
3 is just simply no longer viable to one that is truly a
4 market-based benchmark. But this is no small task.
5 And so my hat's off to everybody that is engaged in
6 this really momentous one that will be for many people
7 -- they will look back someday and say, "Wow. We did
8 that, and that was no easy task."

9 So my compliments to all of you. Let's keep
10 going at it. Thank you.

11 CHAIRPERSON ZAKIR: Thank you, Chairman. And
12 many thanks to you, Tom, and the subcommittee for your
13 hard work. We look forward to hearing more about the
14 subcommittee's efforts at our next meeting.

15 MS. LEWIS: Committee members, as you digest
16 what has been reported by the subcommittee, if you have
17 any additional questions or comments or ideas for
18 further work, please forward them to me so that I can
19 distribute that to Tom and the working groups.

20 At this time, in keeping with the meeting --
21 well, not really in keeping with the meeting agenda, we
22 will break for lunch. Please note there is a list of

1 area restaurants on the agenda table. Should you wish
2 to bring your lunch back, please note that you may eat
3 in the employee lounge around the corner from this
4 room.

5 We will start again promptly at 1:52 I will
6 say. 1:45? The commissioner has overruled. 1:45, we
7 will start. And if you can be in place by 1:40, that
8 would be helpful. Okay?

9 And RAC members who are joining us for lunch
10 on the ninth floor, please let's meet outside. And
11 then we can all go up.

12 Thank you.

13 (Whereupon, at 12:57 p.m., a luncheon recess
14 was taken.)

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1 A F T E R N O O N S E S S I O N

2 MS. LEWIS: It is my pleasure to call this
3 meeting back to order. And I will turn it over to
4 Chair Zakir.

5 CHAIRPERSON ZAKIR: At this time, we will
6 have remarks from Steven Maijoor, European Securities
7 and Markets Authority and ESMA chair on EMIR 2.2, CPC
8 stress testing, and Brexit. Thank you for joining us
9 today, Chair Maijoor.

10 MR. MAIJOOR: Thank you very much, Chair
11 Zakir, for that introduction. And thank you very much
12 also to Commissioner Behnam for inviting me here to
13 speak today. It is very important to have this
14 opportunity to contribute to the discussions of the
15 Market Risk Advisory Committee, also look forward to
16 talking in an exchange of views with Chairman
17 Giancarlo; Commissioner Stump; Commissioner Quintenz;
18 and Commissioner Berkovitz; and, of course, with the
19 members of the stakeholders being represented here
20 around the table. Of course, it is important to
21 emphasize that this is not the first time that I have
22 discussions in an exchange of views with the CFTC.

1 There is already a longstanding tradition of exchanges
2 between ESMA and the CFTC. I would like to continue
3 that here today.

4 What I would like to talk about in my
5 contribution and which was already introduced by the
6 chairwoman is, first of all, international cooperation
7 in financial regulation and supervision, EMIR 2.2,
8 stress testing, and Brexit preparations. But let me
9 make first a few remarks on sustainability because I
10 understand that sustainability was an important topic
11 earlier here today.

12 If you are looking at the EU regulatory and
13 supervisory framework, more and more sustainability
14 issues are inserted into the system and becoming part
15 of the system. I think there are two important reasons
16 to take sustainability risks into account in the
17 financial system. First of all, we know the
18 sustainability risks can affect the risks, returns, and
19 valuations of investments and issuers. And, secondly,
20 we know that the investment communities, investors are
21 changing their preferences and want to take
22 sustainability into account when they select their

1 investments and their issuers. And, therefore, it is
2 important indeed to take sustainability into account.
3 And I would frame it in that sense as classic arguments
4 for introducing sustainability issues into the
5 financial system.

6 I will very briefly point to three points
7 that are currently where ESMA is working. The points
8 are the result of an EU Commission action plan which
9 has driven the sustainability issues becoming part of
10 the regulatory and supervisory framework, but let me
11 first mention these three.

12 First of all, there has been a request to
13 ESMA to provide advice to the European Commission on
14 the integration of sustainability risks and
15 sustainability factors into the relevant asset
16 management and investment firm legislation. Now, for
17 example, this is around integrating into the investment
18 firm legislation that when a client would request that
19 sustainability factors are taken into account when
20 selecting their investment is that the adviser
21 appropriately takes that into account.

22 Secondly, I should mention that there has

1 been recently an agreement, a political agreement, on a
2 sustainable finance disclosure regulation, which will
3 request disclosures from a wide range of market
4 participants, financial advisers, and also in terms of
5 financial products is that there is disclosures on the
6 sustainability issues.

7 And, finally, the third issue that I would
8 like to mention is the integration of sustainability
9 into the benchmark regulation, making sure that for the
10 carbon benchmarks, there are common standards and
11 common methodologies.

12 But let me now go back to the earlier topic
13 that I announced, which is around cross-border
14 regulation and supervision. Financial markets are by
15 their nature global while regulation and supervision
16 are national or regional. And, of course, that results
17 is a continuous challenge, both for market participants
18 and also for the regulators. Market participants would
19 like to reduce those differences, would like to take
20 away the possible barriers as a result of the
21 differences across the globe in national supervisory
22 and regulatory systems. On the other hand, regulators

1 are pointing to the limits of their regulatory
2 framework and their supervisory mandates. In my view,
3 regulators need to respond to this continuous challenge
4 and should do their utmost to find and use tools to
5 adequately address cross-border issues and support the
6 functioning of global financial markets.

7 Now let me mention very briefly in that
8 respect the report that was published last week on
9 market fragmentation and cross-border regulation, which
10 was produced under the capable co-chairmanship of Jun
11 Mizuguchi from the Japanese FSA and Chairman Chris
12 Giancarlo.

13 The report was successfully discussed a few
14 days ago in Japan in the context of the G-20 Japanese
15 presidency. When you look at the report, it gives an
16 account of the use of these tools to address cross-
17 border challenges. And the findings of the report are
18 quite positive in the sense that across the globe in
19 the past five years, there has been an increasing use
20 of cross-border tools like equivalence, mutual
21 recognition, substituted compliance, passporting, and
22 they all have increased significantly to the benefit of

1 the functioning of financial markets.

2 The EU with its extensive equivalence and
3 recognition framework in a range of areas has been in
4 the forefront of these developments and effectively
5 provided the most far-reaching market access for third
6 country firms by fully relying on the rules and
7 supervision in the home country. This full reliance on
8 home country regulation and supervision is exceptional
9 from a global perspective and has been very important
10 in reducing and avoiding market fragmentation.

11 As of October 2018, the EU had granted
12 equivalence to 35 jurisdictions across 8 securities
13 files and accounting files. And, for example, the 34
14 CCPs that are now recognized with ESMA which are coming
15 from 16 different jurisdictions that were declared
16 equivalents, they can participate fully in the EU
17 derivatives markets.

18 However, looking to the future, the EU
19 approach towards cross-border regulation and
20 supervision is changing and the fact that the largest
21 capital market will leave the EU has accelerated our
22 thinking on cross-border regulation and supervision

1 because the consequence of the current equivalence
2 mechanism is that it will result in full reliance on
3 third country regulation, full reliance on third
4 country supervision without any specific safeguards
5 from an EU perspective.

6 As I just said, Brexit has accelerated our
7 thinking on this issue, but I think it is also fair to
8 say that ESMA already pointed out to this issue before
9 Brexit was there and a referendum was there in the U.K.
10 The improved EU approach towards cross-border
11 regulation and supervision is already reflected in EMIR
12 2.2 as well as EU legislation, which will come into
13 force later this year, following the review of the
14 ASSAs.

15 ESMA will receive a range of new supervisory
16 tools regarding third country CCPs that may be
17 systematically relevant to the EU. And monitoring our
18 reviews of equivalence decisions will be conducted more
19 frequently to detect differences between EU and non-EU
20 legislation and supervision on time.

21 The EU's approach to cross-border regulation
22 and supervision will become more proportionate than it

1 is today. So there will be still the possibility to
2 fully rely on third country regulation and supervision
3 when there is not the possible impact of systemic
4 risks. However, in cases where there may be systemic
5 risk to the EU, the relevant toolbox available to EU
6 regulators will become stronger, monitoring and reviews
7 of equivalence decisions more regular, and EU
8 legislation will apply directly.

9 As you are very much aware, not only will the
10 EU third country framework become more proportionate
11 but also plans here in the U.S. to make the approach
12 towards foreign CCPs more proportionate. However, the
13 starting positions are different. While the EU now has
14 nearly full reliance on third country regulation and
15 supervision, the departure point of the current CFTC's
16 arrangements for foreign CCPs, referred to DCOs under
17 the applicable U.S. rules, are full registration and
18 supervision with subsequent relief when U.S. clients
19 are not involved. I see it as a very positive
20 development that our respective approaches are
21 converging.

22 In the context of the implementation of EMIR

1 2.2, we have recently published our technical
2 consultation papers in the context of the technical
3 device that we need to provide to the European
4 Commission towards the end of this year.

5 The consultation papers address three topics.
6 This is around determining how do you classify whether
7 a CCP is a tier 1 CCP or a tier 2 CCP; the so-called
8 comparable compliance; and, finally, fees for third
9 country CCPs. It is very important to have the
10 feedback of the stakeholders on those consultation
11 papers. So I invite all of you and all stakeholders to
12 react to these consultation papers.

13 In terms of the further process, as I just
14 said, we expect to deliver our advice to the Commission
15 towards the end of this year. Then subsequently for
16 the European Commission to make that into delegated
17 acts, the commission needs to decide on these delegated
18 acts within the year of the publication of EMIR 2.2 in
19 the official journal, which we would expect towards the
20 end of the year. And, finally, I should mention that
21 the -- and so after the delegated acts as brought into
22 force by the European Commission, subsequently ESMA can

1 start its work regarding tier 1 and tier 2 CCPs.

2 Looking back at the many equivalents
3 decisions taken in financial markets, it is fair to say
4 that they have been overwhelmingly outcome-based,
5 resulting in reliance on home country regulation and
6 supervision. The changing EU approach towards cross-
7 border regulation and supervision will in some cases
8 result in more granular assessments. For example,
9 while EMIR 2.2 will have limited impact on tier 1 CCPs,
10 CCPs falling into the tier 2 category will in principle
11 need to comply with the detailed EMIR requirements.
12 However, as you will see in the previously mentioned
13 consultation paper on comparable compliance, there will
14 also be the opportunity to rely on the requirements of
15 the home country of the tier 2 CCP. The assessment of
16 this opportunity for home country reliance will be done
17 at CCP level, and all our requirements by requirement
18 basis. However, as the term also makes very clear,
19 comparability of requirements should be sufficient. It
20 will not be necessary to have identical requirements.

21 Let me finally close the topic of
22 international cooperation on supervision and

1 regulation. We know how important it is for
2 stakeholders to be transparent and consistent regarding
3 equivalence processes in general. In our view, we have
4 been transparent on our equivalence assessments. We
5 have committed to continue that transparency regarding
6 our equivalence processes and also to be consistent.

7 In addition to that, I should mention that
8 good cooperation with foreign regulators is essential
9 to make the system work. And so we are committed to
10 continuously work with foreign regulators, regulators
11 here with the CFTC, but also regulators across the
12 globe and also in the relevant standard-setting bodies,
13 being IOSCO and the FSB.

14 Let me, finally, move on to stress testing of
15 CCPs and Brexit. So, first, very briefly on the stress
16 testing of CCPs, we completed our first stress testing
17 of CCPs in 2016. We were discussing this this morning
18 with Chairman Giancarlo and the team here at the CFTC.
19 And I think they admitted that we were slightly earlier
20 with our stress testing. And we saw it as very
21 innovative to do stress testing of CCPs. And, indeed,
22 there was not a long experience that we have in banking

1 and insurance. So this is an area where we need to
2 develop, incrementally develop, stress testing. And we
3 also need to learn from each other. And this is also
4 an area where we are in close contact with our CFTC
5 colleagues.

6 We greatly improved our stress testing this
7 year. We started the first, the third exercise stress
8 testing, exercise last year. The first one focused on
9 credit risk. The second one, in addition, in addition
10 to credit risk, also looked into liquidity risks. And
11 this year, we also will take concentration risks into
12 account.

13 In terms of the coverage of the exercise that
14 concerns all cleared products and also all 16
15 authorized EU CCPs, including the 3 U.K. CCPs, assuming
16 that there is a situation that there is no deal in the
17 course of this year.

18 The institutional arrangement for stress
19 testing of CCPs in the EU is that the stress testing
20 scenarios are provided by the European systemic risk
21 court. And so that is the stability supervisor in the
22 EU that is developing the stress test scenarios and

1 handing them over to ESMA. And we subsequently used
2 them in our stress testing exercise. Also, the
3 exercise is quite transparent. And so we published the
4 shocks that we stress test for. They are public
5 information. And also the stress-testing framework
6 itself is available to the public. And for the third
7 stress-testing exercise, it was published in April.

8 Probably a final thing that I should mention
9 on the stress-testing exercise is that
10 interconnectedness is a very important part of this.
11 And so we specifically test for the fact that there can
12 be and are common memberships, clearing members, common
13 custodians, and common liquidity providers. And we try
14 to and we do take the effects into account across CCPs,
15 taking into account that typically clearing members
16 will be members in various CCPs. And we look at the
17 interactive effects when, for example, clearing members
18 fill.

19 Let me, finally, make a few remarks on Brexit
20 and Brexit preparations. So I think it is clear that
21 Brexit will have a negative impact for both the U.K.
22 and the EU 27 securities markets in the sense that one

1 of the main objectives of the EU securities markets has
2 been to increase the scope, size, depth of the EU
3 capital markets. And, obviously, Brexit will not be
4 beneficial from that perspective. Our preparations for
5 Brexit have especially focused on the risks of a no
6 deal because of principle, when there is a no deal and
7 passporting arrangements will not apply anymore. And
8 the EU/U.K. will not be part of the EU regulatory
9 framework anymore and will not be recognized from that
10 perspective.

11 The general line and the general approach has
12 been that it is for the private sector preparing for
13 the risks of a no-deal Brexit. We have seen that
14 reflected in relocations from the U.K. to the EU 27.
15 So we have seen trading venues, the investment firms,
16 asset managers relocating to the EU 27, but we also
17 recognize that in some cases, it would not be possible
18 for the private sector to properly take the risks and
19 take the risks into account of a no-deal situation.
20 And so that has been the reason that we have ensured
21 and will ensure continued access to the U.K. CCPs in
22 the case of a no-deal situation. And so for that, we

1 have taken conditional equivalent decisions,
2 equivalence decisions, that will come into place and
3 will become developed in the case of a no-deal
4 situation. And so in the case of a no deal, the three
5 U.K. CCPs will continue to be able to provide services
6 to EU 27 clients. And EU 27 clearing members can
7 continue to be part of the U.K. CCPs.

8 And also for the specific area of the CSDs,
9 there is one CSD in the U.K. which is essential,
10 especially for Ireland, where there also will be the
11 possibility of continued access.

12 We have also supported some changes in the
13 legislation to support the repapering of contracts from
14 the U.K. to the EU 27. And, finally, I probably should
15 mention that we have also concluded the MOUs with the
16 U.K. regulators to make sure that in case of a no-deal
17 situation, there will be MOUs in place which can allow
18 the continuation of the cooperation between the
19 relevant regulators. Its cooperation is needed, for
20 example, for the equivalence decisions vis-a-vis the
21 U.K. CCPs and the U.K. CSD, but the MOUs are also
22 needed, for example, in the context of delegation

1 that only 12 percent of that comes from companies which
2 have a direct or a parent located in the EU.

3 Notwithstanding that, given, as I said, the
4 breadth and the subjectivity of the tiering criteria,
5 CME or other third country CCPs could be determined to
6 have systemic importance and, therefore, fall into the
7 tier 2 category. So my question is, though, about the
8 comparable compliance. And I wonder what your comments
9 are on how ESMA would work with local regulators, the
10 CFTC, for example, in this application of the granular
11 requirements on those CCPs. There could be instances
12 of direct conflict in the regulations, but,
13 nonetheless, I would expect some form of coordination
14 would have to be in place. And I just wonder what your
15 comments are on how that could actually work in
16 practicality.

17 MR. MAIJOOR: So I think your question is
18 mainly on the second one and not so much on the issue
19 of the tiering. And, you know, I think on that, I
20 think we should do -- so, you know, some suggestions,
21 though, about which CCPs can or cannot be. And I think
22 we need to do this in an orderly way. The political

1 masters have given us a legal text, which gives us a
2 direction for how to determine what is tier 1 and tier
3 2.

4 We are currently involved in the
5 consultation. It is important to have the feedback.
6 So it is not for us now to, you know, make any
7 speculation around which ones should be in or which
8 ones should be out. I think that is not an orderly way
9 to do it. I think, as I said in my remarks, clearly
10 Brexit has accelerated our thinking on EMIR 2.2, but it
11 is also fair -- and you can go back to history in that
12 sense -- that we made the point around the
13 inappropriateness of full reliance, also before Brexit.

14 But let me stop there I think on the tiering
15 except to say I fully understand it is a broad range of
16 criteria. I can see it. I think it goes back to the
17 point that risks are and stability risks are complex to
18 capture. And ultimately, of course, we need to base
19 our tiering on the legal text.

20 On the issue of comparable compliance, of
21 course, when you want to understand foreign regulatory
22 systems, you need to talk to the experts, you know, in

1 that relevant country. And so for those regulators
2 that have been involved in our equivalence assessments,
3 they know that you talk to the local regulator in terms
4 of understanding the regulatory environment,
5 understanding how the rule works.

6 I think the text regarding comparable
7 compliance clearly makes clear that it is not about
8 identical requirements. And also there is some wording
9 on the interaction there with the local regulator and
10 the CCP. And so I think I would like to make very
11 clear there will not be a situation where there will
12 be, you know, a surprise in the sense that suddenly
13 there is a decision by ESMA. They will be talking to
14 the CCP. They will be talking to the regulator.

15 And I think it is also important to realize
16 this is around an orderly process also internally at
17 ESMA. It is not ESMA first that is deciding this, but
18 it is the ESMA board ultimately after a proposal by the
19 CCP supervisory committee that needs to take a decision
20 on the issue of comparable compliance.

21 CHAIRPERSON ZAKIR: Thank you. I guess just
22 another question on that topic. Can you also describe

1 some of the work that ESMA is doing with local
2 regulators in hoping to sort of interpret the legal
3 text here and what the role and interaction will be
4 there?

5 MR. MAIJOOR: So maybe to add one more point.
6 So the consultations that we have just published are
7 much more about the criteria for comparable compliance,
8 the criteria for and how we would apply it, but it is
9 not so much on the process. Obviously further down the
10 process, we will move into the cooperation with the
11 regulators themselves. Also, there will be the need to
12 look again at the MOUs. And so there were obviously
13 issues around how do you interact on these types of
14 decisions will be on the table in that moment.

15 In terms of how do the current legal text and
16 the current consultations need to be viewed at, that is
17 precisely the reason for being here. So we also had a
18 discussion on the consultation papers earlier this
19 morning. And so we are happy to talk to any regulator
20 that wants to further and better understand the
21 proposals that we have made.

22 CHAIRPERSON ZAKIR: Mr. Raiff?

1 MR. RAIFF: Thank you. Thank you. And I
2 would like to thank Chair Maijoor for sharing his
3 thoughts with us today and also would like to thank
4 Commissioner Behnam for inviting the chair to discuss a
5 number of very important topics. My question pertains
6 to the trading obligations under MiFID. I mean, under
7 Brexit, there will be both an EU MiFID and a U.K.
8 MiFID. I believe just last week, ESMA acted to clarify
9 the share-trading obligation. How can ESMA act to
10 facilitate the trading of interest rate swaps cross-
11 border or is the only common ground to be found between
12 the U.K. and the EU or is the only common ground to be
13 found in SEFs, where we are going to have to onboard
14 clients to SEFs, which obviously presents its own
15 complications.

16 MR. MAIJOOR: So I am not sure I fully
17 understand your question. So you may need to come back
18 to that issue.

19 So, first of all, on the share-trading
20 obligation, as it says, it is around the trading of
21 shares. And I don't think your question is around
22 shares if I understand it correctly. On that one, what

1 we have done regarding the share-trading obligation is
2 that, although, you know, we would have preferred to
3 some extent to have equivalence in place -- and
4 equivalence will be in place in case of the withdrawal
5 agreement. And so if you go back to the withdrawal
6 agreement as being agreed between the EU 27 and the
7 U.K. government, in the withdrawal agreement, it is
8 ambitious that during the withdrawal time period, there
9 would be -- equivalence would be ambitious, both for
10 the U.K. and the EU, because, as you rightly say, the
11 MiFID is unsure by the U.K. And so the share-trading
12 obligation but also the derivatives-trading obligation
13 is both relevant from an EU 27 perspective and also
14 from a U.K. perspective.

15 On the derivatives-trading obligation, I
16 think that is the one where you were referring to,
17 there we know and we have closely followed to what
18 extent there have been movements by trading venues from
19 the U.K. to the EU 27 to allow the continuous trading
20 in derivatives from an EU 27 perspective.

21 MR. RAIFF: But do you think that there is
22 any common ground other than SEFs that will likely --

1 do you think equivalence will be granted between U.K.
2 and EU venues before the derivatives-trading obligation?

3 MR. MAIJOR: Okay. Now I understand
4 precisely. Sorry for being slow in recognizing this
5 issue. No. The general line -- so, first of all, it
6 is important to realize equivalence is ambitious in the
7 case of a withdrawal, in the case of an orderly
8 withdrawal, and in the case of the withdrawal agreement
9 being agreed.

10 For the case that there is a no-deal Brexit
11 and the decision has been taken, it is that only for
12 those issues where there are stability risks is that
13 for those issues, equivalence would be determined and
14 would be decided upon. That is the reason for having
15 equivalence regarding the CCP clearing in the U.K. It
16 is not, therefore, not considered for trading, neither
17 for shares, nor for derivatives, not because it is not
18 negatively in terms of impacting markets. I think I
19 would -- you know, it is negatively impacting markets,
20 but it goes back in my view to the fact that the U.K.
21 is leaving, the EU capital markets is leaving the
22 commitment to the EU 27 rules. And, therefore, I would

1 not expect because ultimately this is not for ESMA, but
2 it is for the commission. But the commission has been
3 very clear that only in the case of stability risk,
4 there should be equivalence in the case of a no-deal.
5 But let me repeat again that if the withdrawal
6 agreement is agreed, that equivalence is ambitious.

7 MR. RAIFF: Thank you.

8 CHAIRPERSON ZAKIR: Mr. Michaels?

9 MR. MICHAELS: Hello. I was wondering if you
10 could give us an update on the progress of discussions
11 with the Securities and Exchange Commission on
12 equivalence, first question. And the second question
13 is with the tiering, it was mentioned is very broad.
14 It is subjective in many areas. Should we expect more
15 quantifiable metrics forthcoming?

16 MR. MAIJOOR: So the first one is the
17 clearing for the equivalence for clearing, I suppose,
18 for the SEC. I think for that one, I am not in the
19 best position to answer that one because an equivalence
20 decision is determined by the commission. And I think
21 they would be better able to decide, you know, where
22 they are in the process in terms of the actual case of

1 the clearing, which is within the mandate of the SEC.

2 On the tiering and the making it more
3 explicit in terms of quantitative measures, I think
4 what is -- it goes back to one of the earlier comments,
5 that the way it is reflected in the legal text is that
6 there is a wide range of risks. It is identified as
7 being relevant for the determination whether a CCP from
8 outside the EU should be in the category, in the tier 2
9 category, should be -- you know, the relevant criterion
10 is that it is systemically irrelevant or likely to be
11 systemically relevant, either for the EU as a whole or
12 for an individual member state or multiple member
13 states, different from I understand the plans here in
14 the U.S. There is not a quantitative threshold. That
15 has been the decision from a legal perspective. We
16 have no possibilities or powers or to change that. So
17 I think we need to work with the regulatory
18 requirements around tiering as they are reflected in
19 the legal text. Of course, we will try to become more
20 specific in our advice.

21 The current consultation paper,
22 understandably, is very open. But I think we precisely

1 did that because we want a true consultation and get
2 feedback from the stakeholders. Subsequently, we will
3 try to be more narrow in our final advice of clearly
4 the legal text does not allow, you know, one measure or
5 a quantitative measure to be used as deciding on
6 whether there should be tier 1 or tier 2.

7 CHAIRPERSON ZAKIR: Ms. Rosenberg?

8 MS. ROSENBERG: Thank you, Chairman Maijoor,
9 for joining us today and then speaking on these
10 important topics.

11 The question that I had was with the member
12 default, the clearing member default, that NASDAQ
13 clearing may be, now nine months behind us. I would be
14 interested in you providing us some color on the work
15 that has been done or is still ongoing with ESMA to
16 review existing EMIR standards or determine whether any
17 additional guidance or interpretation of EMIR is
18 needed.

19 MR. MAIJOOR: So, obviously, we are -- you
20 know, first of all, this should be primarily for the
21 Swedish regulator to look into this issue but,
22 obviously, also through the college and the involvement

1 of ESMA, we are looking into this matter.

2 One of the specific issues that we have
3 looked into is the fact that there is here -- that
4 there was here a natural person that was a clearing
5 member. This has raised questions and thinking,
6 further development of our thinking, first of all,
7 having natural persons as a clearing member but also
8 more generally having nonfinancials as a clearing
9 member. And so there has been further reflection on
10 that issue.

11 And, as I mentioned earlier, you know, it
12 should not come as a surprise that we are looking into
13 concentration risks in our stress testing. And so at
14 this stage, the evaluation is still ongoing. So I
15 think it is too early to say whether this should result
16 in any change of the specific requirements. But I said
17 we are looking into clearing member characteristics,
18 natural persons versus nonfinancial. And also we are
19 stress testing for concentration risks.

20 CHAIRPERSON ZAKIR: Mr. Berger?

21 MR. BERGER: Thank you, Chairman Maijor, for
22 joining us here today. Brexit threatens to fracture

1 the unified pan-European data set that the MiFID II and
2 EMIR frameworks currently rely on for determining the
3 scope of the trading and clearing obligations,
4 conducting liquidity assessments, calibrating waivers
5 and deferrals from transparency requirements. What
6 steps is ESMA taking to address that potential outcome?
7 And even independent of Brexit, is ESMA considering
8 ways to use broader datasets to better gauge the
9 liquidity and trading activity of instruments that
10 trade globally, as opposed to regionally?

11 MR. MAIJOOR: So, as you rightly point out,
12 currently, the collective data collection across the
13 EU, across all of the 28, is very important for some of
14 the parameters that we set for capital markets in the
15 EU. And so things like the pick size, to what extent
16 dark pool trading is possible, bonds which should be
17 declared being liquid and should be subject to more
18 strict transparency requirements, all of these issues
19 are now determined at a European level, taking all 28
20 member states into account.

21 And, obviously, in the case of a no-deal
22 Brexit, there will be no legal basis anymore to collect

1 the data from the U.K. And so for part of the no-deal
2 preparations, we had to clarify to stakeholders how we
3 would transition the calculations because you will
4 understand that until, let's say, the Brexit date, all
5 of the data from the U.K. are still determining these
6 parameters that I just mentioned. The question, then,
7 is, how should, then, let's say, the historical U.K.
8 data be used in future calibration? Because typically
9 these calibrations are done backward-looking, taking
10 into account, for example, trading behavior in the past
11 quarter or the past quarters?

12 What we have done is that we have clarified
13 to market participants how we would use and how we
14 would phase out the U.K. data from our calculations. I
15 think you need to see it from, you know, case-by-case
16 because it is really quite a granular system, but the
17 general approach has been there to try to avoid any
18 cliff-edge effects, trying to smooth the exit of the
19 U.K. in terms of the implications for the various
20 parameters that we need to calculate.

21 Separately from that, of course, it points to
22 the issue that we have very integrated capital markets.

1 So also in the case of, you know, after Brexit, these
2 markets will continue to be very integrated. What I
3 have said recently, for example, is that we should try
4 to find a solution for the fact that for market abuse
5 investigations, currently the exchange of data between
6 our market regulators across all 28 is extremely
7 important.

8 And equivalence doesn't foresee an
9 arrangement for this. This is going beyond the type of
10 data exchange you can do on the basis of an MOU. This
11 is around legal obligations, how you report data, you
12 know, like what kind of fields need to be reported for
13 a derivative or for a share. And I think one of the
14 issues that we need to think about and need to consider
15 is how we can at least ensure that this data exchange
16 can continue. That is something to be thought about
17 once we are in the withdrawal period, but, obviously,
18 there is an issue around making sure that the capital
19 markets continue to work well, but also is that
20 regulators have access to the relevant data. Any place
21 where there is a global trade, it is important
22 ultimately that the regulators have the possibility to

1 access the data related to, you know, the global
2 capital markets, is that if there is cross-border
3 capital markets, is that there is the possibility for
4 regulators to also access the related data.

5 CHAIRPERSON ZAKIR: Chairman Maijoor, you
6 mentioned in your remarks that many members of the
7 market are already relocating or have relocated to the
8 EU 27 in preparedness for Brexit. Can you speak a
9 little bit about the preparedness of local regulatory
10 authorities to be able to manage the additional
11 financial risk and any specific challenges that have
12 been raised as a result?

13 MR. MAIJOOR: So quite quickly after the U.K.
14 referendum, there were the first relocations or, you
15 know, plans to relocate from the U.K. to the EU 27.
16 What we can see is that the model is a different model
17 than the current, let's say, financial model, where it
18 is centralized in London, is that you see it is going
19 to various financial centers. And so we can see that
20 -- you know, Dublin and Luxembourg, especially we see
21 the asset management firms. We see investment firms
22 being interested in Frankfurt. In Paris, we can see

1 trading venues and benchmark administrators being
2 interested in Amsterdam. And this raises the issue
3 around supervisory consistency and making sure that
4 these relocations are the appropriate response in my
5 view to the risk of a no deal and also for the long-
6 return preparations by the relevant market
7 participants. But what is important is that these
8 relocations are done in an appropriate way. And that
9 means that there is going to be sufficient substance at
10 these newly relocated entities.

11 You can see the risk of trying to get an
12 authorization in an EU 27 member state but then
13 subsequently not moving sufficiently, staff, senior
14 capacity, to these EU 27 entities. The guiding
15 principle for us has been there, is that the entity in
16 the EU 27 should be a supervisable entity, is that it
17 should be an entity where there is senior management
18 that can access and that can take responsibility for
19 the services that are provided in the EU 27. And
20 precisely because we have this model where this is
21 under the responsibility of national regulators, what
22 we have done is, first of all, we have expressed our

1 expectations regarding what should be there in
2 substance in these relocated entities to these
3 financial centers.

4 But also, in addition, we have established a
5 network where, nearly on a monthly basis, all
6 regulators or the relevant regulators get together at
7 ESMA. And they share on an anonymous basis in these
8 cases with them and say this is a relocating investment
9 firm, trading venue, asset manager. This is the way
10 they want to structure the business in the EU 27 and
11 get the feedback from their peers on whether that is an
12 appropriate arrangement to ensure that it meets the
13 regulatory requirement and also, again, going back to
14 the point that was sufficient substance. Of course, it
15 goes back to an issue which is very generic and very
16 general. For every regulator, we know that global
17 companies frequently have outsourced entities, are
18 using central departments that are relevant for
19 different regulators across the world. And so that
20 touches upon a very fundamental issue we are confronted
21 with in the regulation and supervision world. And, as
22 I said, specifically here, it is focusing and making

1 sure that the entities are sufficiently prepared for
2 the fact or the risk that the U.K. entity will not be
3 recognized anymore under EU 27 or under EU law in the
4 case of a no-deal Brexit.

5 CHAIRPERSON ZAKIR: Thank you.

6 At this point, I wanted to just open it up to
7 see if there were any questions from members on the
8 phone.

9 (No response.)

10 CHAIRPERSON ZAKIR: Mr. Chatterjee?

11 MR. CHATTERJEE: Chairman Maijor, thank you
12 for your comments and your views. I just wanted to ask
13 you about your opinion or where, you know, your agency
14 stands on the issue regarding unclear margin and the
15 phase 5 implementation date. Obviously, there has been
16 a lot of concern and requests from the industry to take
17 a more risk-based practical approach in terms of the
18 implementation date, you know, of asking for exemption
19 for these that, you know, don't require to post the
20 minimum and exempting them from documentation or other
21 requirements. Any views on, you know, how that
22 thinking is progressing or, you know, alternate ways of

1 looking at that?

2 MR. MAIJOOR: So, to be very precise, this is
3 around the issue around changing the timing of the
4 phase 5 and the -- well, first of all, two things.
5 There is the timing of the phase 5, but there is also
6 the interpretation. You know, how does it precisely
7 work with the 8 billion versus the 50 million and the
8 burden for a lot of the counterparties that would make
9 a billion but subsequently would never get to the 50
10 million. I think that has been -- the last issue that
11 has been clarified in my view that has resulted in a
12 significant relief, the fact that that has been
13 clarified and making sure that the ones that are
14 crossing the 8 billion threshold but, in all
15 likelihood, will not ever need to exchange 50 million
16 in a margin is that they don't need to, you know, go
17 through the costly preparations. And I think that
18 clarification has been useful and valuable.

19 On the changing of the phase 5, ESMA has been
20 -- and I should be fair here that, although there are
21 some different voices, it is not necessarily unanimous,
22 there is broad support for maintaining the current

1 phasing. One of the reasons for that also relates to
2 the fact that making changes to these timetables is
3 extremely difficult.

4 And I can remember very well when we made
5 this agreement on this phasing. I think it must have
6 been five -- you probably better know it than I, but it
7 must have been six, seven years ago when the timetable
8 was agreed. Precisely at that time, we said it is
9 important to get to a common timetable, but once we
10 have it, then to stick to it because once you start to
11 move it and considering the complexities of the
12 different regulatory systems, you might get to
13 different timing of the phasing. And so that is a
14 reason we are very -- we stick to the current timing.
15 We are very reluctant to change that because we see the
16 risk that it might result in different -- that some
17 will make some changes, other ones not. I think it is
18 important that we stick to the predictability.

19 And then, in addition to that, we get very --
20 so I understand that parts of the industry are
21 concerned about preparedness. At the same time, we are
22 also getting a lot of evidence, a lot of information

1 that they should not be postponed, that they are
2 prepared. And, therefore, we should go ahead with the
3 existing phasing.

4 CHAIRPERSON ZAKIR: Okay. If there are no
5 further questions, I would like to thank Chair Maijoor
6 again for addressing the MRAC today. And many thanks
7 to today's speakers and members for attending. I also
8 wanted to take a minute again and thank the chairman;
9 commissioners; and, in particular, Commissioner Behnam,
10 for your sponsorship and leadership of the MRAC; and
11 definitely last but not least, Alicia Lewis for all of
12 her tireless work and efforts in coordinating and
13 managing this meeting.

14 This concludes the business part of the
15 agenda.

16 MS. LEWIS: So it is now time for closing
17 remarks. We will start with Commissioner Berkovitz.

18 COMMISSIONER BERKOVITZ: I would like to
19 thank the Chair Zakir -- congratulations on your first
20 chair -- and Alicia and Commissioner Behnam for
21 sponsoring this meeting. I appreciate those of you who
22 have traveled here and Chairman Maijoor for traveling

1 all the way over here and presenting an informative
2 presentation to the committee. And I would also like
3 to thank all of the panelists today. It has been very
4 informative. I look forward to further exploration of
5 all of the issues we have discussed today.

6 Thank you.

7 MS. LEWIS: Commissioner Stump?

8 COMMISSIONER STUMP: I echo everything
9 Commissioner Berkovitz said. Thanks to everyone. It
10 is always fantastic to have these meetings. And,
11 truly, in this case, I think that it highlights the
12 fact that our task here is to ensure that our market
13 participants can hedge their risk and ensure that they
14 can mitigate the risk that they face. And the risk is
15 constantly changing.

16 So whether we are talking about geopolitical
17 risk, environmental risk, or in some cases regulatory
18 risk, which we covered all of those today, we have to
19 be nimble enough to respond.

20 So thank you all, to Commissioner Behnam and
21 Alicia and to Nadia for presenting these issues in such
22 a way that our panelists and our participants could

1 weigh in before the Commission. Thanks.

2 MS. LEWIS: Thank you, Commissioner Stump.

3 Commissioner Quintenz?

4 COMMISSIONER QUINTENZ: Thank you. That was
5 very well said. I completely agree with Commissioner
6 Stump.

7 And thank you, Nadia, Alicia, Commissioner
8 Behnam, for arranging this very interesting and
9 important meeting. And, again, I would like to express
10 my personal thanks to Chair Maijoor for being willing
11 to participate. And I found your comments very, very
12 encouraging. And I am looking forward to continuing
13 those discussions.

14 Thank you.

15 MS. LEWIS: Thank you, Commissioner Quintenz.

16 Chairman Giancarlo?

17 CFTC CHAIRMAN GIANCARLO: Thank you, Alicia.

18 In my opening remarks, I talked about the
19 long tradition of our CFTC advisory committees, of
20 thoughtfulness, of candor, of cordiality, and
21 bipartisanship. And all of those characteristics are
22 very much on display today. So my great thanks to all

1 of the members and to some of -- the future members of
2 some of the new subcommittees have been formed -- and
3 volunteers for all of the work that is to be done. But
4 we will very much benefit from all of your work.

5 And as part of that cordiality and
6 bipartisanship, I want to thank our distinguished
7 guests, Chair Maijoor, for coming and speaking so
8 openly and candidly about some of the issues and
9 answering everybody's questions very patiently. It is
10 rare that we have such a distinguished guest with us.
11 So I am really grateful. And you honor us with being
12 here today. So thank you for that very much and to my
13 colleagues on the panel, my fellow commissioners for
14 your thoughtful questions, to Alicia for your fine
15 work, for Nadia for your good chairmanship, and to my
16 colleague Ros Behnam for putting together a great
17 meeting today and with some nimble work, probably one
18 of the most well-attended, both in person and on the
19 telephone, that we have had in a long time.

20 So with help from some major national press,
21 it has been a great day, I think, to explore some very,
22 very important issues. And so well done, and thank

1 you.

2 MS. LEWIS: Thank you, Chairman Giancarlo.

3 Commissioner Behnam?

4 COMMISSIONER BEHNAM: We should just end on
5 that I think.

6 (Laughter.)

7 COMMISSIONER BEHNAM: Thanks to the members.
8 Again, great to see everyone. I know we are getting
9 accustomed to our biannual meetings. This was an
10 important one. Thanks to all of my fellow colleagues.
11 Nadia, well done. And thank you for your
12 participation, Alicia. Chair Maijor, really
13 appreciate you attending. I can't repeat any better
14 what the chairman said. It is rare that we have these
15 opportunities to have leaders like yourself here and
16 share your viewpoint and in a candid way.

17 I think, among other things, there is never a
18 shortage of issues to discuss. There is never a
19 shortage of issues which will challenge each of us, but
20 I think if we all commit to transparency, honesty, and
21 communication, we can resolve these issues, really, for
22 the people around the room.

1 We have to serve our constituents. We have
2 to serve the market. And I think we all care about
3 transparent, fair, you know, foreign markets. And I
4 think we can strive to achieve that goal together for
5 many years in the future.

6 So, with that, thanks again to the committee
7 members. And we will be in touch. We had a lot today.
8 Obviously, the morning was extremely important for me
9 personally. And I hope we can use this as a sort of
10 starting point for a larger conversation about
11 financial market risk and changing climate and as we
12 sort of unpack those issues and, as I said earlier,
13 with the workstream subcommittees, which will, again,
14 be a little bit more informal and would welcome your
15 input certainly, past and present, and just remaining
16 flexible with those because I think those are going to
17 be more off-the-cuff opportunities for us to really
18 discuss issues that are relevant to each of your firms.

19 So, with that, thanks for your patience. And
20 we will look forward to seeing you soon. Enjoy the
21 summer. And we are available if there is anything that
22 we can do for you. Thank you.

1 MS. LEWIS: Thank you, Commissioner Behnam.

2 I want to thank everyone for attending this
3 meeting. And we will probably see you in November for
4 our next meeting.

5 And, really, in keeping with the agenda, this
6 meeting is adjourned.

7 (Applause.)

8 (Whereupon, at 2:43 p.m., the meeting was
9 adjourned.)

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