MEETING

STATE OF CALIFORNIA

PUBLIC EMPLOYEES' RETIREMENT SYSTEM

BOARD OF ADMINISTRATION

INVESTMENT COMMITTEE

OPEN SESSION

ROBERT F. CARLSON AUDITORIUM

LINCOLN PLAZA NORTH

400 P STREET

SACRAMENTO, CALIFORNIA

MONDAY, MAY 13, 2019

9:00 A.M.

JAMES F. PETERS, CSR
CERTIFIED SHORTHAND REPORTER
LICENSE NUMBER 10063

A P P E A R A N C E S

COMMITTEE MEMBERS:

Mr. Rob Feckner, Chairperson

Ms. Theresa Taylor, Vice Chairperson

Ms. Margaret Brown

Mr. Henry Jones

Ms. Fiona Ma, also represented by Mr. Frank Ruffino

Ms. Lisa Middleton

Mr. David Miller

Ms. Eraina Ortega

Ms. Mona Pasquil Rogers

Mr. Jason Perez

Mr. Ramon Rubalcava

Ms. Betty Yee, also represented by Ms. Lynn Paquin

STAFF:

Ms. Marcie Frost, Chief Executive Officer

Mr. Matt Jacobs, General Counsel

Dr. Ben Meng, Chief Investment Officer

Mr. Dan Bienvenue, Interim Chief Operating Investment Officer

Ms. Sarah Corr, Interim Managing Investment Director

Ms. Caitlin Jensen, Committee Secretary

Ms. Anne Simpson, Investment Director

A P P E A R A N C E S   C O N T I N U E D

ALSO PRESENT:

Mr. Jeff Bailey, Chartered Financial Analysts Institute

Mr. Al Darby, Retired Public Employees Association

Mr. Allan Emkin, Pension Consulting Alliance

Ms. Ann Glatt, Gig Workers Rising

Ms. Emily Claire Goldman, Educators for Migrant Justice

Mr. Steve Hart, Meketa Investment Group

Mr. Andrew Junkin, Wilshire Associates

Mr. Jeff Perry, Gig Workers Rising

Ms. L.R. Roberts, National Lawyers Guild

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P R O C E E D I N G S

VICE CHAIRPERSON FECKNER: Good morning. We'd like to call the Investment Committee Meeting to order. The first order of business will be to call the role.

COMMITTEE SECRETARY JENSEN: Rob Feckner?

VICE CHAIRPERSON FECKNER: Good morning.

COMMITTEE SECRETARY JENSEN: Margaret Brown?

COMMITTEE MEMBER BROWN: Here.

COMMITTEE SECRETARY JENSEN: Dana Hollinger?

VICE CHAIRPERSON FECKNER: Excused.

COMMITTEE SECRETARY JENSEN: Henry Jones?

COMMITTEE MEMBER JONES: Here.

COMMITTEE SECRETARY JENSEN: Fiona Ma?

VICE CHAIRPERSON FECKNER: He's coming.

COMMITTEE SECRETARY JENSEN: Fiona Ma represented by Frank Ruffino?

ACTING COMMITTEE MEMBER RUFFINO: Present.

COMMITTEE SECRETARY JENSEN: Lisa Middleton?

COMMITTEE MEMBER MIDDLETON: Present.

COMMITTEE SECRETARY JENSEN: David Miller?

COMMITTEE MEMBER MILLER: Here.

COMMITTEE SECRETARY JENSEN: Eraina Ortega?

COMMITTEE MEMBER ORTEGA: Here.

COMMITTEE SECRETARY JENSEN: Jason Perez?

COMMITTEE MEMBER PEREZ: Here.

COMMITTEE SECRETARY JENSEN: Mona Pasquil Rogers?

COMMITTEE MEMBER PASQUIL ROGERS: Here.

COMMITTEE SECRETARY JENSEN: Ramon Rubalcava?

COMMITTEE MEMBER RUBALCAVA: Here.

COMMITTEE SECRETARY JENSEN: Theresa Taylor?

COMMITTEE MEMBER TAYLOR: Here.

COMMITTEE SECRETARY JENSEN: Betty Yee?

COMMITTEE MEMBER YEE: Here.

VICE CHAIRPERSON FECKNER: Thank you.

The next order of business will be the approval of the May 13th timed agenda. What's the pleasure of the Committee?

COMMITTEE MEMBER MILLER: So moved.

COMMITTEE MEMBER TAYLOR: Second.

VICE CHAIRPERSON FECKNER: It's been moved by Miller and seconded by Taylor.

All in favor say aye?

(Ayes.)

VICE CHAIRPERSON FECKNER: Opposed, no?

Motion carries.

Item 3, swearing in ceremony for new Board Members. Mr. Jones, would you please swear in our new Board member.

PRESIDENT JONES: Thank you, Mr. Feckner. Before we get started, I'd like to extend my congratulations to our newest Board members Eraina Ortega and Lisa Middleton. And Ms. Ortega serves as the ex officio member of our Board -- of the Board. And she's the Director of CalHR. Ms. Middleton was recently appointed by Governor Newsom as our local government elected official. She is a Palm Strings City Council Member.

As is customary, we will now have a brief ceremonial swearing in of our two new members. So Ms. Ortega and Ms. Middleton, would you please join me over the side of the dais.

PRESIDENT JONES: Stand here.

Okay. Great.

Please raise your right hand and repeat after me.

"I", then state your name.

BOARD MEMBERS: I, Lisa Middleton/Eraina Ortega --

PRESIDENT JONES: -- "do solemnly swear and I will support and defend the Constitution of the United States"--

BOARD MEMBERS: -- "do solemnly swear that I will support and defend the Constitution of the United" -- states

PRESIDENT JONES: -- "and the Constitution of the State of California" --

BOARD MEMBERS: -- "and the Constitution of the

State of California" --

PRESIDENT JONES: -- "against all enemies, foreign and domestic" --

BOARD MEMBERS: -- "against all enemies foreign and domestic" --

PRESIDENT JONES: -- "that I will bear true faith and allegiance" --

BOARD MEMBERS: -- "that I will bear true faith and allegiance" --

PRESIDENT JONES: -- "to the Constitution of th eUnited States" --

BOARD MEMBERS: -- "to the Constitution of the United States" --

PRESIDENT JONES: -- "and the Constitution of the State of California" --

BOARD MEMBERS: -- "and the Constitution of the State of California" --

PRESIDENT JONES: -- "that I take this obligation freely" --

BOARD MEMBERS: -- "that I take this obligation freely" --

PRESIDENT JONES: -- "without any mental reservation or purpose of evasion" --

BOARD MEMBERS: -- "without mental reservation or purpose of evasion" --

PRESIDENT JONES: -- "and that I will well and faithfully" --

BOARD MEMBERS: -- "and that I will well and faithfully" --

PRESIDENT JONES: -- "discharge the duties upon which I'm about to enter".

BOARD MEMBERS: -- "discharge the duties upon which I'm about to enter".

PRESIDENT JONES: Okay. Thank you for acknowledging your commitment. And we look forward to working with you and with you serving our 1.9 members. Okay. Thank you very much.

Okay.

(Applause.)

VICE CHAIRPERSON FECKNER: Congratulations to you both.

Item 4, the Election of the Chair of the Committee. For that, I call on Mr. Jones.

COMMITTEE MEMBER JONES: Thank you, Mr. Feckner. The item is to elect the Chair of the Investment Committee, because as most of you know, Bill Slaton was replaced by Ms. Middleton on the Committee, and -- on the Board. And so we now have to elect a new Chair of the Investment Committee, since Mr. Slaton was the Chair of the Committee. So with that, I will now open the floor for nominations for Chair of the Investment Committee.

Mrs. Theresa Taylor.

COMMITTEE MEMBER TAYLOR: Thank you. I would like to nominate our Vice Chair, Rob Feckner to Chair of the Investment Committee.

COMMITTEE MEMBER JONES: Okay. Are there any further nominations?

Are there any further nominations?

Are there any further nominations?

Hearing none.

I would entertain a motion to appoint Mr. Feckner as Chair of the Investment Committee by acclamation.

COMMITTEE MEMBER TAYLOR: So moved.

COMMITTEE MEMBER JONES: Moved by Ms. Taylor.

COMMITTEE MEMBER ORTEGA: Second.

COMMITTEE MEMBER JONES: Second by Ms. Eraina Ortega.

And so all those in favor say aye?

(Ayes.)

COMMITTEE MEMBER JONES: Opposed?

Hearing none.

Congratulations, Mr. Feckner.

CHAIRPERSON FECKNER: Thank you.

(Applause.)

CHAIRPERSON FECKNER: Thank you, everyone. We're certainly going to miss Bill and his wisdom on this Committee and on the Board. So we wish him well on his new endeavors.

It bow opens up the election for Vice Chair of this Committee. So I'm now going to open the nominations.

Mr. Rubalcava.

COMMITTEE MEMBER RUBALCAVA: Thank you, Mr. Chair. I'd like to nominate Ms. Theresa Taylor as Vice Chair of the Committee.

CHAIRPERSON FECKNER: Okay. Ms. Taylor has been nominated.

Any further nominations for the Office of Vice Chair?

Any further nominations for the Office of Vice Chair?

Third and final time, any further nominations for the Office of Vice Chair?

Seeing none.

I'll entertain a motion for a unanimous ballot got Ms. Taylor for Vice Chair.

COMMITTEE MEMBER ORTEGA: So moved

COMMITTEE MEMBER PASQUIL ROGERS: Second.

CHAIRPERSON FECKNER: Moved by Ms. Ortega, seconded by Ms. Pasquil Rogers.

Any discussion on the motion?

Seeing none.

All in favor say aye?

(Ayes.)

CHAIRPERSON FECKNER: Opposed, no?

Motion carries.

Congratulations.

VICE CHAIRPERSON TAYLOR: Thank you.

(Applause.)

CHAIRPERSON FECKNER: We're going to take a short 10-minute recess right now to give staff an opportunity to rearrange the dais. So hold your seats close. It won't be long.

(Off record: 9:06 a.m.)

(Thereupon a recess was taken.)

(On record: 9:10 a.m.)

CHAIRPERSON FECKNER: All right. Thank you for your patience. They got it done quicker than we thought. I did want to say it was kind of like the first day of a college class, but you all sat in the front row and that doesn't normally happen, so...

(Laughter.)

CHAIRPERSON FECKNER: It was awfully -- too awfully quiet.

Before we move on with the agenda, I'm going to take a moment of personal privilege and call on Mr. Perez.

Will you push your button, please, Jason.

Thank you.

There you go.

COMMITTEE MEMBER PEREZ: Thank you, sir. I'm wearing my uniform this week. This week is National Police Officers Memorial Week. 177 police officers were killed in the line of duty last year throughout the United States, and 10 of those were here in California. So that's why you see the black band over the badge to memorialize those men and women that died serving our great State.

CHAIRPERSON FECKNER: Thank you.

Just thought it was important for everyone to understand why he was wearing his uniform on the dais today.

So moving on with the agenda. Agenda Item 5 is the Pledge of Allegiance. I've asked Ms. Ortega to please lead us in the pledge.

(Thereupon the Pledge of Allegiance was recited in unison.)

CHAIRPERSON FECKNER: Agenda Item 6, Mr. Meng.

CHIEF INVESTMENT OFFICER MENG: Good morning, Mr. Chair, members of the Investment Committee, Agenda Item 6 is a action consent item.

CHAIRPERSON FECKNER: So we before us right now is the minutes from April 15th.

What's the pleasure of the Committee?

VICE CHAIRPERSON TAYLOR: Move.

CHAIRPERSON FECKNER: Moved by Taylor.

COMMITTEE MEMBER MILLER: Second.

CHAIRPERSON FECKNER: Seconded by Miller.

Any discussion on the motion?

Seeing none.

All in favor say aye?

(Ayes.)

CHAIRPERSON FECKNER: Opposed, no?

Motion carries.

Please show Ms. Middleton as abstaining.

Item 7 is an information item. I have no request to pull anything off of the information agenda.

We have 7a. Mr. Meng, anything on there?

CHIEF INVESTMENT OFFICER MENG: Yes.

CHAIRPERSON FECKNER: Thank you.

CHIEF INVESTMENT OFFICER MENG: Before we continue the discussion with private equity co-investment, with your permission, I would like to share a piece of very exciting news about personnel.

As you know that it's part of our Investment Belief, we manage or we look at our portfolio companies that manage three forms of capital, financial capital, fiscal capital, and human capital. For CalPERS, as a investment -- I view them as an investment management organization. The most important asset we have is human capital.

So on that note, I would like to share with you that after a very extensive and competitive search, we have selected Mr. Greg Ruiz to be the Managing Investment Director of Private Equity. And he is with us in the audience today. I would like to have him to stand up in the audience and to be acknowledged.

(Applause.)

CHIEF INVESTMENT OFFICER MENG: Greg has worked his whole career in private equity, most recently as a principal at Altamont Capital Partners based in Palo Alto. He has also worked in private equity at FFL Partners in San Francisco and also at Goldman Sachs.

Greg understands that complex nature of the asset class and will be a wonderful addition to our team when he joins us this summer. While Greg moved to the east coast to attend Princeton for his undergraduate degree and lived in the Bay Area while getting his MBA at Stanford, and throughout his professional career, so coming to CalPERS is actually like coming home. He grew up just down the street in Davis. He also has a very personal stake in CalPERS. Some of his family members are CalPERS members.

So his commitment to our mission is already very strong.

And at this time, I also would like to take this opportunity to thank Sarah Corr for her work as Interim Management Investment Director of Private Equity. Her leadership and skills have been essential to the success of the asset class, and I cannot thank her enough for all she has done.

In addition, I also want to thank the entire private equity team for their excellent work as we searched for a new MID. They're commitment to the fund, even in these times of transition, has been exceptional and fundamental to our success. I look forward to their continued contribution as we go forward with our work on behalf of our nearly 2 million members.

So with that, back to the IC Chair.

CHAIRPERSON FECKNER: Thank you. Appreciate that. So I think we're ready for you to move on with your --

CHIEF INVESTMENT OFFICER MENG: Discussion.

CHAIRPERSON FECKNER: -- agenda items.

CHIEF INVESTMENT OFFICER MENG: Yes.

Slide please.

(Thereupon an overhead presentation was Presented as follows.)

CHIEF INVESTMENT OFFICER MENG: So as you may recall, last month at the Investment Committee, we presented two items to you on a similar topic, which is the co-investment -- a review of the co-investment activities in private equity. And the two items -- one was in open session where we talk about generally speaking what is the current market practice and what are the risk return profiles and considerations around co-investment in private equity. The closed session item, the second item, we discussed our CalPERS performance, our approach in the past, and our observations of other global peers, how are they -- how they are approaching co-investment in private equity.

So today is the -- an effort of bringing part of the closed session discussion to this body to be discussed in public -- in public format.

So with that, we have three brief topics.

Can I have the slide, please.

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CHIEF INVESTMENT OFFICER MENG: So we'll briefly talk about the history of CalPERS co-investment, then followed by the performance of our co-investment. And we'll conclude with our observations. What are the success factor in managing co-investment in private equity.

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CHIEF INVESTMENT OFFICER MENG: So if you look at the history of CalPERS co-investment, I would like to break it down into three eras. So the first era is really in the 1990s. We started our first co-investment actually in 1993. So we have had more than 25 years of experience in private equity co-investment.

But in the first era, in the 1990s, we did not adopt or did not develop a systematic effort, and we made one or two co-investments a year in the 1990s. Then the second era is really in the early 2000s. We continued with the opportunistic approach. And we were in and out of the markets. And there was some years it was no co-investment, as you see in the chart on the next slide.

And then the third era is in the 2010s. That's where we started more dedicated co-investment effort. And we begun to see some better results from co-investment. The program was suspended in 2016.

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CHIEF INVESTMENT OFFICER MENG: This slide shows the performance and also the amount of capital deployed to co-investment since 1993. So as you can see, that first ear in the 1990's, we didn't do a lot of co-investment. And the second era, in the 2000s, we continued with opportunistic approach. And then from 2000 -- early 2010, 2011, 2012, we started a more dedicated approach.

And dark blue bar is the cost. And the light blue bar is the total value. So as you can see, particularly in the early years, there were a number of years that we lost money in co-investments when the total value of the investment is lower the cost.

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CHIEF INVESTMENT OFFICER MENG: So more importantly, what we have learned, we observed from our global peers as well, how to manage a successful co-investment program in our private equity. So first -- the first two bullet points is really about our approach. For a long-term investor, long-term strategy, we need to develop a more consistent approach to co-investment. And also, we need to -- on the same note, we need to commit to steady deployment, regardless of the market cycle, because market timing is very difficult.

So again, for a long-term strategy, for a long-term investor, we need to adopt a steady deployment of capital approach, regardless of the market cycle.

The third bullet point is about portfolio construction. What we learn is very important to build a diversified portfolio by the co-invest -- in the co-investment approach:

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CHIEF INVESTMENT OFFICER MENG: The

diversification by vintage year, by manager, by industry sector, as well as by geographic areas.

The fourth bullet point is about how to select the partners in co-investment. It is important to partner with manager to have a strong track record of the deal -- of the co-investment deal that they're offering to us.

And the last bullet point is about how, as we know that co-investment is becoming more and more popular, as more and more investors like us demanding more co-investment, for us to improve our competitiveness in the co-investment universe, we need to establish -- continue to establish our credibility with the GP, the manager's community, by demonstrating and delivering a methodical, and quick and consistent process, so that we can respond to co-investment opportunities in a timely manner.

So with that, I will pause for any questions that you may have.

CHAIRPERSON FECKNER: Thank you, Mr. Meng.

One question, before I move on to Board members, how do you plan to staff the co-investment part of your program? Do we need to hire more people? Are we going to rearrange current staff?

CHIEF INVESTMENT OFFICER MENG: Very good question. Currently, we don't have answer how to get more staff. We will need more staff in private equity. So just this morning, we were having -- the senior management team was having a group discussion with the entire private equity team. And one of the questions that came up is about staffing.

So private equity will need more staff. And we will work with -- once Greg join the team, we will work with Greg and Sarah continuous to develop a staffing plan as well.

CHAIRPERSON FECKNER: Thank you.

Ms. Brown.

COMMITTEE MEMBER BROWN: Thank you.

I want to start with page 4 of the slides. So I think we heard last month that we had sort of started staffing up in 2011 and 2012. And then we saw success, it looks like, in '13, '14, and '15. And then you said we halted co-investments in 2016. But we didn't actually say why we halted. So can you tell us why we stopped? Because it looked like -- it seems odd that we would stop something that was successful.

CHIEF INVESTMENT OFFICER MENG: Thank you.

My understanding is that that was -- during that time, the Investment Office was conducting a review of the Private Equity Program. And as what we've seen now part of the new business model, the discussion really started back then. And then the Investment Office decided, at that time, was prudent to stop the co-investment program as part of the overall review.

COMMITTEE MEMBER BROWN: Yeah. Well, I might disagree that it was prudent, because it looks like we stopped something that was very successful and it may have harmed our returns actually.

Let me go on to page 5 then, the slide 5. You know, you talk about a commitment pay -- the consistent commitment, or a pace is essential for success. But why would we buy -- consistently buy when prices are high, instead of when prices are low, because I'm sure you're not saying that Mr. Warren Buffett is wrong.

CHIEF INVESTMENT OFFICER MENG: I don't know your reference to Mr. Warren Buffett. But as a human being, I believe there are times that he would be wrong as well. But my point to this is your question about the4 consistency, there -- there are two aspects to it. For one, market timing is very difficult. For all of you, I'm sure you read financial journals. How long -- how many times we have and how long we have been hearing it's the end of the cycle, the end of the cycle, the end of cycle?

So market timing is very difficult. And also, the renowned economist Paul Samuelson once said famously that market timing is a scene. So it means it's very difficult to do.

The other benefits of a steady approach to a long-term strategy is something we call dollar averaging. So when the market is high, you deploy the same amount of capital. And then when the market is low, the valuation is low, you deploy the same amount of capital. But when the market is low, your -- the share you're buying with the same amount of capital is higher, the number of shares, than the number of shares you would be buying when the market is high.

But overall, over the long term, if you do dollar averaging, you will come out ahead, just mathematically speaking, dollar averaging, because you bought more shares at a lower price than the shares at a higher price.

So that's it is important in absence of any market timing skill to deploy a steady approach to a long-term strategy.

COMMITTEE MEMBER BROWN: So in January, you know, in your presentation to us you talked about being more or less aggressive, depending on the opportunities. And I really like that answer versus this answer today. So I'm hoping that's what we're going to stick with is sort of being more aggressive when we see the opportunities. I assume -- we have a new manager coming on board, and we'll probably have more discussions about that.

CHIEF INVESTMENT OFFICER MENG: So I totally agree with you. What I said in January and today is -- they are consistent in that approach. We'll be more aggressive where we see we have a competitive advantage. And we see we do have a competitive advantage in private equity and in co-investments. That's where our scale and brand really come in to benefit us. So that's exactly consistent with the spirit of my talk in January.

COMMITTEE MEMBER BROWN: Thank you.

Just a few more questions, Mr. Chair. We also talk about hiring -- or working with managers that have a track record of success. But from my reading, all the data suggests that there is no persistence in quartile rankings.

CHIEF INVESTMENT OFFICER MENG: The analysis of research I have seen you see more consistency in manager performance in private markets than public markets. So again, as I said in the past, one of the challenges with private market is the lack of the data and lack of transparency. So it really depends on what data -- what source of data you use, what time periods you chose. The study results vary drastically.

So we read a lot -- again, we read a lot of financial reporting researchers, when -- particularly when it comes to private markets, I really caution everyone, myself included, be very mindful of the source of data and the time period. As you can see, the time period can have a significant impact on the study results.

COMMITTEE MEMBER BROWN: Okay. So if you have any recent data that tells us that we should rely on successful managers, I would be happy -- in private markets, I'd be happy if you would share that with me. And then to piggyback on what the Chair asked about in terms of building staff, and -- so my question was going to be, how do you propose getting skills -- co-investment skills on our staff? And so I hear you're working on a -- you'll be working on a plan, and hopefully sharing that with us in the future. I just think it's critical that we staff up and develop those skills as we move forward. I just think it's a shame that we abandoned something that was working for us in 2016. And maybe we can get -- maybe we can get right back to where we were and keep on growing.

CHIEF INVESTMENT OFFICER MENG: Yeah. If I may, I would just like to remind everyone, again myself included, in hindsight 2020. So in -- what happened in 2016 back then, given the information was available back then, and the consideration back then. In investments it's very difficult and even dangerous look at things in hindsight. It's just what -- did we make the best decision given the information we had and constraints we had, and considerations we had back then?

COMMITTEE MEMBER BROWN: It would be happy -- it would be helpful if we had anything in writing, so when -- as we move forward with this strategy or we abandon this strategy, it would be great to have a white paper, or some sort of report, or something in the files, because as you -- as I read back -- I wasn't on the Board then, but as I go back, there's nothing in writing about that. It seems like it was more conversations that happened in closed session. And it would be helpful to have something to document why we abandoned a strategy or we moved forward with a strategy.

Thank you.

CHAIRPERSON FECKNER: Thank you.

Ms. Yee.

COMMITTEE MEMBER YEE: Thank you, Mr. Chairman. Thank you, Ben, for the overview. I've just got a couple questions. We haven't talked about fees yet. But I wanted to just get your sense of -- if you could provide some flavor as to how much you anticipate both the average co-investment commitment to be compared to the current GP/LP commitments, and then also your anticipation about how much lower fees might be?

CHIEF INVESTMENT OFFICER MENG: Yeah. Thank you.

So usually in the markets, the fee structure is we call 2/20, so 2 percent management fee, and then 20 percent carry, or the performance fee.

But again, because our size and brand. So on average, and also the drive by the team -- by the team in the past years -- in the recent past, we were -- we have been able to drive the fee lower than the market standard. So that's on the co -- on the Pillar 2, or, what you call, the traditional fund investment business.

On co-investment, normally we get -- it's no fee, no carry. So all right saving right there, and that can be quite meaningful actually.

COMMITTEE MEMBER YEE: Okay. Good. Thank you.

And then are we going to be presented -- I guess I'm wondering if there's a proposed pacing plan for co-investments that you're going to be developing?

CHIEF INVESTMENT OFFICER MENG: Yes, we are working on that. And we hope by June, or next month, we can bring something to you. But depending on -- the team is working tire -- has been working tirelessly. As you know from last month, the closed session discussion, the team did a lot of arranging the work ourselves on this very important topic. So we do plan to come back to you with a plan, when we are ready in the very near future.

COMMITTEE MEMBER YEE: Okay. Great. Thank you very much. Thank you.

CHAIRPERSON FECKNER: Thank you.

Ms. Pasquil Rogers.

COMMITTEE MEMBER PASQUIL ROGERS: Thank you, Mr. Chairman. Thank you, Ben.

So I just want to clarify, because I might have missed it, but back in 2016 when all these decisions were made, the staff is completely changed since then, right? I mean, I don't think that you -- you're all new, you're all -- right? And you're still trying to hire. So I just want to make sure that -- it almost sounded like, you know, you all were responsible for that, but you're not because you're all new, and you're bringing on new people, right?

CHIEF INVESTMENT OFFICER MENG: Correct.

COMMITTEE MEMBER PASQUIL ROGERS: Thank you.

INTERIM CHIEF OPERATING INVESTMENT OFFICER BIENVENUE: Let me. I'm sorry. Just to step in really quickly. There's been a great deal of turnover. I do want to just, in the interest of accountability, I was on the ISG at the time. There were other members. But, yes, there are a number of new, including most importantly, the CIO.

CHIEF INVESTMENT OFFICER MENG: This is a key -- your right, the key leaders, the head of private equity and the CIO has changed.

COMMITTEE MEMBER PASQUIL ROGERS: Right.

CHIEF INVESTMENT OFFICER MENG: And plus, a few other senior rank. But Dan is absolutely right, that there are a few senior members on the investment decision body still here today.

COMMITTEE MEMBER PASQUIL ROGERS: Okay. Thank you.

CHAIRPERSON FECKNER: Thank you.

Mr. Jones.

COMMITTEE MEMBER JONES: Yeah. Thank you, Mr. Chair. Yeah. Thank you, Ben.

I was just looking at your success factors, but a couple of more come to mind I would like you to comment on. And one is greater transparency, because I know there was quite a bit of discussion surrounding the fact that we're going to have less transparency, but -- and differentiate between transparency for CalPERS and transparency for the public?

CHIEF INVESTMENT OFFICER MENG: For the public.

COMMITTEE MEMBER JONES: And also if you could comment on the alignment of interest, how that's going to be improved with this new concept.

CHIEF INVESTMENT OFFICER MENG: So on the transparency, if you compare co-investment with the traditional fund investment, both transparency and control will be increased to us to CalPERS, to the Investment staff, so that we can make better investment decisions, and in the hope of deliver higher return for our beneficiaries. However, for that to happen, the increased enhance transparency and control is only to CalPERS, not to the general public.

The reason that we -- we'll have enhanced transparency and control in co-investment, because we are a little bit -- we have more time and will be involved in early stage of the deal structuring process, in the investment process than the commingled fund approach. So we have more lead time into it. We will -- depending how we approach co-investment, as I show you -- not yesterday, last month. It feels like yesterday.

As I show you last month, there are different approaches to the co-investment. And you can be very involved early on. It's co-lead or co-underwriting, or we can wait until later in the syndicated approach. But even the syndicated approach will have more transparency and more control than the commingled fund, than the majority of our fund now. So that's the first question on transparency and control.

Sorry, I --

COMMITTEE MEMBER JONES: Alignment of interests.

CHIEF INVESTMENT OFFICER MENG: Oh, the alignment of interests. So here the alignment of interests is that, as you may recall, last month, we reviewed why GPs, or general partners, offer co-investment to LPs, and then why LPs want co-investment from the general partners, from GPs.

So the reason -- one of the reasons, or main reasons, GPs offer co-investment is really to strengthen their relationship building strategic partnership with selected LPs. So in that case, if we understand their motives, if they're offering co-investment opportunity to us because they would like to further develop the strategic partnership with us, we can align on the motive.

And then on the fee, once we save the fee -- no fee, no carry, that gave us a lot of margin for cushion -- a margin or cushion. The other alignment is that think of the co-investment mostly happens when the deal size is larger than the risk policy of the commingled fund the GP runs. And usually, the bread/butter business of GP is their flagship commingled funds.

So if the deal is in the commingled funds, it means a lot to them, to the future of the firm. So that's another alignment of interest there.

The other one is that, as I said, we'll have more control. Co-investments we will have a say, whether we want to or not. Is that in our desire to sector or geographical strategy or not. So we'll have a say whether we a co-investment in our portfolio or not. So either way, we can create another additional layer of alignment of interests with our portfolio objectives.

COMMITTEE MEMBER JONES: Okay. Thank you.

CHAIRPERSON FECKNER: Thank you.

Ms. Taylor.

VICE CHAIRPERSON TAYLOR: Yes. Thank you, Mr. Chair. So I had a couple of questions, Ben. And thank you so much for your presentation. I know you're going to be hiring more staff. Since we stopped in 2016, we still have some co-investments, right?

CHIEF INVESTMENT OFFICER MENG: We still have co-investment in the portfolio, but we stopped doing new co-investment --

VICE CHAIRPERSON TAYLOR: Right.

CHIEF INVESTMENT OFFICER MENG: -- from 2016. Yeah, right.

VICE CHAIRPERSON TAYLOR: So we still have some relationships.

CHIEF INVESTMENT OFFICER MENG: We do. We do. Yeah.

VICE CHAIRPERSON TAYLOR: Okay. So the team that you're -- that you have currently is working with those

GPs right now?

CHIEF INVESTMENT OFFICER MENG: Yep.

VICE CHAIRPERSON TAYLOR: Okay.

CHIEF INVESTMENT OFFICER MENG: And the current team has some capabilities in co-investment. It just prioritization --

VICE CHAIRPERSON TAYLOR: Right.

CHIEF INVESTMENT OFFICER MENG: -- what we would like them to work on.

VICE CHAIRPERSON TAYLOR: Okay. Okay. So then -- and then we we'll be hiring more, so you're allocating more resources?

CHIEF INVESTMENT OFFICER MENG: To private equity.

VICE CHAIRPERSON TAYLOR: Okay.

CHIEF INVESTMENT OFFICER MENG: That's the plan.

VICE CHAIRPERSON TAYLOR: Then -- excuse me -- as you talked about the co-lead and the co-underwriting, how do we decide to make that decision, if we determine we want to do one of the three?

CHIEF INVESTMENT OFFICER MENG: Yeah. So that's to come, either in June or in later months. So once we develop a strategy - I was answering Controller Yee's question - we'll be coming back to you very soon.

VICE CHAIRPERSON TAYLOR: Okay. And that

strategy will include whether or not you want to go in as a partner, as a co-lead, a co-underwriter?

CHIEF INVESTMENT OFFICER MENG: Yes.

VICE CHAIRPERSON TAYLOR: But wouldn't that change with each partnership?

CHIEF INVESTMENT OFFICER MENG: It can.

VICE CHAIRPERSON TAYLOR: Okay. So the strategy would be an overall feel them out of however it's being presented to us, and whether or not --

CHIEF INVESTMENT OFFICER MENG: (Nods head.)

VICE CHAIRPERSON TAYLOR: Okay. And then finally, I want to make sure alignment of interests include our ESG strategies and our Investment Beliefs. So I'd like you to kind of opine on that a little bit, as I know, and as you know, that our private equity has -- sometimes has a tarried past.

CHIEF INVESTMENT OFFICER MENG: We all care about issues like ESG. And in private markets actually, because of -- we can have more control, it means, that we can have more influence. And this is, again as I just mentioned to answer Chairman Jones question, that we'll have additional of -- or more control in this strategy, in terms of weighting our portfolio. So we'll be happy to look into -- in the co-investment activities, how do we incorporate our ESG goals as well.

VICE CHAIRPERSON TAYLOR: So -- and my concern is I just don't want to see us -- while I agree, we want to be aggressive, I don't want to see us be so aggressive that we're getting ourselves involved into -- in a situation that could end up like a Toys"R"Us situation, or Sears situation, because it hurts our brand. And that's a risk to the fund. It also, you know, ends up being a loss for us. So thank you.

CHIEF INVESTMENT OFFICER MENG: Noted.

CHAIRPERSON FECKNER: Thank you.

Mr. Miller.

COMMITTEE MEMBER MILLER: Yeah. Thank you, Ben.

I think most of my questions have been addressed. But I will circle back to kind of my broken record, kind of comment is, I really appreciate this. I'm really looking forward to the work of the team and the planning, particularly in the context of kind of a more -- I hate the word "strategic", but more of a mid-horizon or longer term workforce talent flow management kind of planning.

And, of course, we're doing our budget now, but I think we'll see this ultimately alignment in, you know, future revisions and budget as well. So I'm looking forward to that too.

CHIEF INVESTMENT OFFICER MENG: Thank you. On that note, if I may, since you mentioned budget, and many of -- a number of you mentioned about resourcing. So private equity, it is a more expensive asset class in both terms of resources, the type of talent, and budgeting due diligence. So we are very grateful for your support.

It is -- has been, and, we believe, will continue to be the highest returning asset class. But almost like everything else in the market, in the life -- in life, it also is a more expensive asset class as well. So thank you for your support.

CHAIRPERSON FECKNER: Thank you.

Mr. Perez.

COMMITTEE MEMBER PEREZ: Thank you.

Ben, the -- I had asked this question before speaking about the alignment of interests, specifically in regards to the ESG. And I thought the answer then was -- you know, the focus is the return on investment. So I don't -- the ESG component is important so much that it evaluates our risk. But I think that the goal -- I'm sure the goal. I just want to hear -- want to hear you say it again.

CHIEF INVESTMENT OFFICER MENG: Yes.

COMMITTEE MEMBER PEREZ: It makes me feel better. The goal is just to make us money?

CHIEF INVESTMENT OFFICER MENG: Yes. So E -- let me put a little caveat there. It's a risk-adjusted return. And ESG can be a risk. It's not as well understood as the -- the definition of risk in the financial markets, we define as volatility, or the uncertainty of the return. That's really around the financial return.

And -- but ESG let's think about climate risk. It's a little bit longer term than what we see now is why they're -- the GDP number is a higher -- lower than expected that will move the market right away, if there's surprising underlying economic data.

But certain risk could be longer term than what we see. But as we're a long-term investor, we should bring other considerations, such as ESG, as how soon and with what kind of certainty it will translate into financial risk. So that's the way I answer to your question, yes, in that sense, that we're looking at a risk-adjusted return. But the risk, again as in our Investment Brief, is multi-faceted. And not just the financial risk definition of volatility.

And if they know the history of the financial literature, that was introduced by Dr. Harry Markowitz in the 1950s. But before the 1950s, the discussion with risk was not as prevalent. People knew return, but didn't -- know the risk, but didn't know how to define it or quantify it.

My point is that in 1950s when Dr. Markowitz defined risk as volatility, even though it's not perfect, but as a simple and measurable risk, it took off. And since then, the entire financial literature and the majority part of asset management industry is running on that limited definition of risk.

So we need to be mindful of the historic context of the financial risk, how it came -- how it came about, and the imperfect -- the imperfectness of that definition. So risk is multi-faceted. And other source of risk, even though it will be further down the road in the horizon, it may translate into financial risk in the near term. So that's how we monitor all the risks together.

COMMITTEE MEMBER PEREZ: I understand the climate issues, the risk, and your need to assess that. I think I have a little more heartburn with the social issue risk.

CHIEF INVESTMENT OFFICER MENG: Social risk, like for -- if you bring up ES&G, so the G components, the governance component, we have experts here in the audience, Beth and Anne Simpson in the audience. So let me take first stab. If you are not satisfied with my answer, we'll call on the true expert.

So the G component is better understood and there's data -- more data to support it, better -- would better governance lead to stronger long-term performance?

And I believe there are some evidence under G.

And under S, the definition of social, if you talk to 10 different investors, probably you'll get 20 different definitions of social. So that is the indication of the early stage of that development. And then on climate change, we have seen some really drastic change in climate patterns. The question really to us, I agree with all of you, that, you know, we put on our fiduciary hat is risk-adjusted return.

So how much data or conviction we have of that data assessing that risk compared to the risk in front of us and how do we do a tradeoff? What's the framework?

So on that topic, Beth and I, actually, we have had a number of conversations developing a tradeoff framework in -- among all the different risks.

So now -- yes.

MANAGING INVESTMENT DIRECTOR RICHTMAN: So how -- Beth Richtman, CalPERS Investment staff.

So I think I'll respond in a way that addresses both Mr. Perez and Ms. Taylor's question about co-investments. So last week, we actually had a private equity manager in our office. And it was interesting because they talked about how they were looking, in particular, at certain social factors when they underwrite investments, because they're concerned about the returns.

And a couple examples they gave were, one, that was a -- it was a company that was a brand that was consumer facing, that when they did their due diligence, even though it looks like a very attractive, you know, investment on the face of it, they found that going deep into the supply chain, that there were actually labor relations issues and actually child labor issues within that supply chain that they saw as a huge risk to that brand. And they couldn't get their in pricing and decided not to touch it. And they walked away, because they saw that as a material risk to the investment.

And if they hadn't been looking at the S part of it, they wouldn't have necessarily seen that. So that example captures two S topics, which are important. One is on the labor side, the risk, and understanding the workers within the company, but it also expresses something which is the consumer sentiment about these type of topics.

Consumers care more and more about the type of products and services they're taking, the companies that produce them. And so that brand value matters a lot. And so as an investor, when you're underwriting a company, you tend to put a lot of value on the brand of some of these companies. And so things that could imperil the brand matter a lot, when you're underwriting investments.

Relatedly, they also talked about looking at certain companies that would supply to big -- I guess, big customers, or corporate customers, like say a Walmart, that now have very strict guidelines for the types of products they're buying. I mean, they're very much looking at the chemicals, they're looking at the carbon footprint of the products they're buying. And so if companies have say -- you know, are selling to Walmart as their major customer, if they're not thinking about the carbon footprint of their products, they might be excluded from that giant market.

And so these are issues that affect the value of private companies, and that we need to make sure we're looking at. And one thing we're doing in real assets, for instance, that SI recently updated with the Real Assets team is we had these ESG considerations matrixes, when we underwrite real estate and real assets. And those help guide that team in pricing these risks. And I think tools like that can be utilized in the private equity process as well to help make sure that our staff is aware of those, and that our external managers are making sure they're factoring these topics in.

COMMITTEE MEMBER PEREZ: Thank you.

CHIEF INVESTMENT OFFICER MENG: Thank you.

CHAIRPERSON FECKNER: Mr. Jones.

COMMITTEE MEMBER JONES: My question has been answered.

CHAIRPERSON FECKNER: Thank you.

Ms. Taylor.

VICE CHAIRPERSON TAYLOR: Thank you. And I just want to thank Ben and Ms. Richtman for their explanations. And I also wanted to just go a little bit deeper. We have -- when we look at the S on the ESG, we already have an example for ourselves where we lost money because of the S on the ESG, and the G actually, because we were invested in a fund where Toys"R"Us was one of the companies they were invested in. They bankrupted the company. The governance of the equity fund was questionable to me, and we lost money on that.

The reputational risk for that for us is bad, because that hurts our reputation, and it hurt the reputation of the private equity fund. So when -- and it was a governance issue as well as them not treating their workers well, when they -- when they closed the company, they ended up with a whole -- 33,000 unemployed workers. And that's just not a good look for CalPERS to be invested in number one.

But number two, it hurts the fund. It's a risk to the fund. We lost money on that. So I just want to be clear, that's kind of what I was referring to. But Ms.

Richtman did a very broad definition of that, which is helpful as well.

But I was -- I think we -- when we can see these examples, my concern is that we don't get involved in a company that's going to take money out of that company for the CEOs, close down the company, and put 33,000 workers out of work, which is where we need to be very wary of. So I appreciate everybody's help with that.

Thank you.

CHAIRPERSON FECKNER: Seeing no other requests, back to you, Mr. Meng.

CHIEF INVESTMENT OFFICER MENG: Thank you. So next agenda item is -- let me open my binder. I know it's the CFA. We have esteemed guest with us today from CFA. We also would like to thank our CalPERS colleague, Anne Simpson, for her help and contribution to this project.

So with that, let's start with the Board education workshop. And the topic today is investment risk and the return.

So these will be our very first --

CHAIRPERSON FECKNER: Before we move on, we did just get a request to speak on Item 7a. Mr. Darby.

Microphone will be turned on for you. Please identify yourself for the record, and you'll have up to 3 minutes for your comments.

MR. DARBY: Mr. Chair, Board members, good morning. Al Darby, Vice President -- excuse me, President Retired Public Employees Association.

Regarding co-investing, when there was an effort afoot to create two independent GPs, I was told that most PE deals were in the 100 to 500 million dollar range. But CalPERS, with its bigger purse, could do the 1 to 3 billion dollar deals in PE that would be potentially enhancing our ability to operate in the PE area.

Well, as a co-investor, CalPERS should be able to swing these bigger deals, while at the same time being almost invisible to the public, which is what was one of the ambitions of the two independent GPs was to keep CalPERS as the -- not the -- the open partner, but a silent partner and an invisible partner to these companies that would be targets for PE.

Also, these deals, which could be more favorable with co-investing for CalPERS, would retain transparency, accountability, alignment, and direct -- with enhancing ROI to CalPERS and while almost remaining invisible to the general public.

Thank you.

CHAIRPERSON FECKNER: Thank you.

Mr. Meng.

(Thereupon an overhead presentation was

Presented as follows.)

CHIEF INVESTMENT OFFICER MENG: Thank you, Mr. Chair. As I said today, we have an esteemed guest, Mr. Jeff Bailey from CFA to help us with the Board education workshop. And as I said, again, thank -- we'd like to thank Anne Simpson for her input and contribution to this very important project. This is the very first of a series of education workshops. And today's topic is investment risk and return basics.

So without further ado, I turn it over to our CFA guest.

INVESTMENT DIRECTOR SIMPSON: Thank you very much, Ben. And good morning, Board members, and welcome to new Board members. This is a special day, because it's the very first of a new series of Board education. And if we go to the next slide -- thank you.

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INVESTMENT DIRECTOR SIMPSON: Just to remind the Board and to let new Board members know, last year, CalPERS went through a process of self-evaluation looking at how the performance of the Board could be strengthened, both individual members of the Board, but also the Board as A whole. And the evaluation was facilitated by the National Association of Corporate Directors.

And when the findings came forward in January, the issue of education and developing a curriculum was really at the top of the list of feedback from Board members. And our Board President, Henry Jones, established a number of workstreams. And I'm delighted to say that the workstream being lead on education and the development of the curriculum by Theresa Taylor and Mona Pasquil Rogers is off to a flying start with today's event.

So I'm very pleased to be able to with Ben welcome Jeff Bailey to speak to us. But I'd also like to acknowledge Amy Borrus who's here from the Council of Institutional Investors. This effort really is teamwork. We have CalPERS, of course, ready to learn and eager to find out more. But we're really fortunate to have CII, as well as the CFA Institute as our partners in this project.

The next thing I'm going to recap --

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INVESTMENT DIRECTOR SIMPSON: Oh, there we go. The Pension Buck. That's actually the most important graphic on anybody's day job around the investment work.

Before we start the workshop, I wanted to put this. It's something many of you will know. It's more like Monopoly money. It's a little CalPERS dollar. And I think what's so important, it's such a simple image. But what it shows our members is where the money comes from.

For every dollar that CalPERS pays out to our almost 2 million members as they retire -- and that's over $20 billion a year at the moment. For every dollar, $0.59 comes from the investment returns. This is why I understand Ben has a mighty responsibility as the CIO with the investment team.

But if we could go to the next slide, please.

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INVESTMENT DIRECTOR SIMPSON: The important thing to remember for today's education is that we're not looking at the role of the staff, the internal managers and the external managers. What we're looking at today is the role of the Board. And as was mentioned by Ben and Beth earlier, we have very good evidence to show that good governance has a really positive impact on performance. And we believe that's true for ourselves, that the quality of the governance of CalPERS is really going to make a difference to the organization's ability to fulfill its mission.

So what we've got on this slide is just a summary, before we start the workshop with Jeff, just to remind everyone what is the role of the Investment Committee. It's very different from the staff. And the Board has four areas of responsibility. And you can read them all in glorious detail in the full delegation. It's a public document.

And the first responsibility of the Investment Committee, which is given its authority by the Board, which delegates to the Investment Committee, is to set the Investment Beliefs, and these have been referred to a couple of times already this morning. They really set out our thinking about where risk resides, what causes the creation of long-term value, and so forth. The Committee also sets the total fund and the asset class benchmarks.

And Jeff this morning will be talking a little bit about how do you construct a benchmark, what is that, and where does it come from. The Committee also sets the investment risk appetite, that's also been touched on today; and the criteria and the triggers for information; and the flow of information that you need in order to play your role as a Committee of the Board.

The Committee also has important responsibilities where you will approve activity undertaken by the Investment Office. You will approve investment policies, asset class strategic plans, and also litigation where there's a material sum involved.

We go -- ah, but I'm not finished. Unfortunately, there's another slide, just to realize what an important job the Investment Committee has.

Can we go to the next slide, please.

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INVESTMENT DIRECTOR SIMPSON: Thank you. Back again to slide 5.

In addition, this Committee has responsibilities to conduct strategic asset allocation, and also selection, and, of course, review the performance of Board consultants, and finally, very important for any Board Committee and the Board itself is oversight. And we've listed out the key areas of oversight this Committee has: Performance, liquidity management; oversight of the selection and performance of partners, managers, and consultants; also cost effectiveness; risk assessment and the control environment; environmental, social and governance matters; and overall management of risks. Now, this isn't the doing off. This is the oversight of what the staff are doing.

So with that brief recap on what the role of the Investment Committee is, and ever with that CalPERS Pension Buck at the back of our mind, thinking about where does that $0.59 come from, let me turn over to Jeff Bailey.

You do have his biography in the meeting materials.

You could go to the next slide, please. Thank you.

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INVESTMENT DIRECTOR SIMPSON: There's two things I want to flag about Jeff's background. First of all, that he's a trustee. So he's very much in your world. He's not some financial wizard sitting in a back room. Although, I'm sure you have done that from time to time. But Jeff actually is a trustee. And I think therefore he's coming to the investment role that you have very much as a peer, as somebody who understands the responsibilities that are involved.

He's also on the Board of the CFA Institute Research Foundation. Now, why does that matter?

Well, CFA stands for Chartered Financial Analyst. And this is the standard setting and professional training body worldwide for the financial industry.

So obviously, Jeff has been a student. That's why he can put the letters, CFA, after his name, but also he's sitting on the Research Foundation, which is looking at all of the education and training for financial professionals, and several hundred thousand of them in many, many countries.

So with that now, and a special thanks really for coming out at what was not a convenient time on family matters. We're looking forward very much to Jeff's presentation.

Thanks, Jeff.

MR. BAILEY: Thanks, Anne. Thanks, members of the Board. Let me perhaps just start just give you a little bit of background on myself very quickly. I actually started out at the Minnesota State Board of Investment out of grad school. And over the years, I rose through the ranks and became the Assistant Director of the organization for 5 years.

And I moved then to a consulting firm down in Chicago, where I did a lot of work with large pension funds on performance analytics. But being a Minnesotan, I got homesick and I wanted to head back to Minnesota. And I took a job at Target Corporation as the Chief Investment Officer there. And among other duties, I was responsible for the investment of our pension fund and our 401(k) plan, and spent two decades there at Target. And I actually retired from target about a year and a half ago.

Over that time, while I was in those roles, I also spent a fair amount of time still at the Minnesota State Board of Investment just knowing you always come home. And I was the Chair of the Investment Advisory Council for many years. And I left that role when I retired from Target.

I continue as a trustees of the University of Minnesota Foundation Investment Advisors. As Anne noted, I'm also on the board of trustees at the Research Foundation of CFA Institute. And just to keep myself busy, I'm a finance lecturer at the University of Minnesota now.

And so I've continued on in this business, because I really love it, and I love being on the trustee side. And so it's important to me to be able to try to work with groups, this one included, to try to enhance the whole idea of trustee education, because it's a hard job, and I want to spend a little bit of time talking about that as we move along here.

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MR. BAILEY: And my agenda is lengthy. I'll put it that way. We're going to cover a fair amount of ground. But this is meant to be basics. So different members of this group are in different places, I'm quite certain, in terms of your knowledge of investments. And that's fine. And I'm going to get to a moment here, where I'm going to say it actually doesn't matter how deep your investment knowledge is to be a good trustee. But our focus is going to be on basics.

So, you know, there's some areas where you say I get that. Fine. Relax. And we'll continue on. I'll bet we catch up with something that you're not completely familiar with. But for those of you that are really new trustees, this is a great opportunity to just try to take it.

This is a workshop. Normally, when I would do a workshop, I'd have my jacket off, I'd be walking around in front of you, and we'd be very intermingled here. This is a little bit more formal setting than I'm used to in those sort of situations. But I still urge you to sit back and relax. This is education. There are no decisions to be made, no conclusions to draw. This is an opportunity to ask some questions, to absorb some knowledge, and hopefully get comfortable with the idea of your role as a trustee.

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MR. BAILEY: So I believe you were sent this book. This was something that I wrote with a couple of co-authors back in 2011. And it got popular enough where we ended up doing a second edition of it. It's called *A Primer for Investment Trustees*.

Primer, is that right?

INVESTMENT DIRECTOR SIMPSON: I say primer, you sat tomato

MR. BAILEY: Okay. Yeah. *A Primer for Investment Trustees*. I go to the source of true English language. So I'll say primer, *Primer for Investment Trustees*. But it's something that I've firmly believed in over time is that this sort of approach of trying to educate new trustees on a -- in numerous situations is not easy, because trustees come onto boards in all sorts of situations.

Quite often, they're very -- are unconfident about their roles. And the ability to ask questions, and the ability to get -- grasp some of the important concepts is troublesome. And so this book was actually written with the idea of being presented to a new trustee. It's written in sort of a conversational tone, by which a -- essentially a staff member is doing a get-to-know-you session, a long get-to-know-you session, with a new trustee, and trying to explain some of the -- some of the key concepts that that individual is going to be facing when they're on the Board.

And the idea is to essentially introduce those concepts in a way that allows the part -- the Board member to be -- engage in more effective participation in fund governance and setting Investment Policy.

It's -- the organization of it is designed to capture some of those key concepts to develop chapter takeaways. But I actually view the most important thing is the questions there at the end of each of the chapters.

And if you get a chance to read through that, I hope you take in some of those questions, and you think about it how you might form rate it for your particular circumstance.

Every trustee meeting usually involves some knowledge transfer that -- about which you really actually don't know that much about. I mean, that would just be pretty natural. When you're a trustee, you're being inundated with material from a professional staff quite likely that understands it better than you do. And the ability to ask effective questions I think is at the heart of being able to be a good trustee.

So if you get a chance to look through the *Primer for Investment Trustees*, I urge you to do so. I'll emphasize this is a product of the Research Foundation. And there are no royalties attached it. I get paid nothing from it. It -- the Research Foundation is a nonprofit organization, and all our material is in the public domain. So it's yours to pass around as you see -- as you see fit.

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MR. BAILEY: Let me talk a little bit about the intended audience of this, investment trustees. And again, I'm trying to be very basic here. I think you understand your role, but I think it's important to spend a little bit of time just thinking about trustees as a general concept.

There's an organization called The Greenwich Roundtable. It's out on the east coast. And they do a lot of work in research and investor education. And they wrote a report a number of years ago that essentially said -- this just blew my mind, that essentially there were over 100,000 asset pools in this country with long-term investment objectives, in something like 10 years or more is the way they estimated it.

And they said that there were something to the effect of 500,000 people on the governing boards of these organizations. I mean, half a million people were involved in this. And another 500,000 were on various investment advisory groups. In other words, they may not be the fiduciaries for those pools of money, but they were advising.

So now there's probably some overlap in that and so forth. But let's just take the number 500,000. That's an amazing number of people that are involved. And I know when you work in your own -- in your own setting, you get kind of blinders on. You just see. You look just straight ahead and you see your problems.

But the problems of these other organizations -- this could be a small church fund that's collecting money to build a new building or something like that. It's one -- the number of response -- or the number of pools that are out there and the number of individuals that are responsible for this is quite amazing.

Oh, we've got a question here.

Yes. Yes. I'm going to get to that, Ben, in just a second.

(Laughter.)

CHIEF INVESTMENT OFFICER MENG: Sorry.

MR. BAILEY: No. That's quite all right. Now, I've worked with groups -- these various -- with pools of long-term investment capital in a lot of different roles. I've been the staff. I've been a consultant. I've been a trustee. I've been on advisory councils. And I guarantee you I understand how difficult those particular roles are. And the questions that are going to come up are really the ones that I would like to take some time to address today.

Now, the question that was popping up here and what I intend to do is there -- at various points along the way, I would love this to be an opportunity for you folks to jump in and ask some questions. And I'm going to -- I'm going to try to pause at various points in time, and open it up. Again, I realize this is a relatively formal setting, but if you just listen to me for an hour and a half or so, this is not going to be a terribly interesting discussion. It's going to be a lot better if you're willing to engage with me and ask some questions.

Now, I'm going to bounce it right back. Many of the questions that I'm going to pose, I don't have an answer to. I mean, they're the -- your job, and the job of you engaging with your staffs to come to those conclusions, because they're specific to your organizations. But the questions that I'm going to pose are actually those that I think -- that all organizations ought to take a position on as they develop their investment programs.

So again, please feel free as we go along here to interrupt. Like I said, I'll try to pause at various points in time, but don't -- don't just let me just plow through this material, please. It will be -- it will be a lot more fun if we do it that way.

Questions at this point?

CHAIRPERSON FECKNER: You've already sparked some.

Ms. Yee.

COMMITTEE MEMBER YEE: Thank you, Mr. Chairman.

Thank you. I'm actually very excited about the session this morning. You know, in reviewing the materials for this session and looking at, I guess, just the structure of the agenda today, I was a little surprised. Anne had opened up with just kind of the Committee's main oversight roles in terms of reviewing investment performance and cost effectiveness, risk assessment. And I mentioned this to Marcie last week, but it surprised me in terms of the missing elements of the Investment Committee agenda for this meeting, in terms of some of those oversight elements.

And so just making an observation. And I think it really speaks, you know, how much information do we need to really fulfill our responsibility. So I'm just going to put that out there. No need for an answer now. But it was just kind of startling to kind of see in preparation for this, and then not have kind of the usual elements that we see in the Investment Committee agenda with us today. Okay.

MR. BAILEY: All right. Well, let me continue then with a --

CHAIRPERSON FECKNER: We have one more.

We have one more. Mr. Jones,

MR. BAILEY: Oh, I'm sorry. Go ahead.

COMMITTEE MEMBER JONES: Yeah. Thank you, Mr. Chair. You sat through the previous agenda item --

MR. BAILEY: Yes.

COMMITTEE MEMBER JONES: -- on the private equity discussion. And as you go through, there were some questions that in my mind may have been not an oversight issue, but a transactional type question. I would like you to comment on those two elements as you go through today --

MR. BAILEY: Sure.

COMMITTEE MEMBER JONES: -- that shed some light on those roles.

MR. BAILEY: Um-hmm. Completely fair, and I will, most definitely.

Let me say one other thing as a form of introduction, and then we'll move on into some of the -- the meat of the discussion here today. As I said here, and maybe, Mr. Jones, this may go a little bit to your point who is an investment trustee? Well, it's -- I say it's anyone who's charged with high level supervision of investment assets. And the adjective "high level" is, I think, a very important term there.

You don't have day-to-day responsibilities for managing the assets. And the focus, as I say, is really on picking the top leadership, making sure that that element of governance is in place, setting the appropriate investment policy, and monitoring performance relative to objectives.

I think the key is that to do that, you don't necessarily need extensive investment experience. It certainly doesn't hurt. Although, I actually have seen some trustee boards where too many investment professionals on the board actually disrupt things quite a bit, because everybody has their own particular opinion about how the world ought to work. And that -- then they lose sight of the high-level supervision of investment assets that's supposed to take place.

I'm constantly reminding people that in Minnesota we actually had an actor/body builder as a Governor, I think, before you did.

(Laughter.)

MR. BAILEY: And in that setting, that individual was the Chair of the Minnesota State Board of Investment. And while I was not associated with the Minnesota State Board of Investment at that time in my career, I had a lot of friends that were there. And they said that he was actually quite effective. That he was a good listener, that he didn't step into situations where he didn't have the competence to do so. And he let the staff do their jobs when they were supposed to do their jobs.

So no one would claim that this gentleman was an investment expert, but most of the people, again I've talked to, thought he did a very good job.

So the whole notion that you have to be an investment professional I think is -- to do a good job on this I think is misguided. But you do have to have some knowledge of investment basics, and that's really what we're here for.

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MR. BAILEY: And that's really what the investment -- the *Primer for Investment Trustees* is all about, is to be able to provide some of that basic education.

And we're hoping to fill the gap that we have for individuals that are trying to develop that, because so many of the books and education materials that you see today just are really associated with very strict and limited discussions of fiduciary duty. You can find investment text books all you want, but there's actually very little education that goes on for training investment trustees. And the Primer/Primer is meant to fill that gap, so...

Questions?

Okay. All right.

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MR. BAILEY: Well, let's the Primer itself has 9 separate areas. And we're going to focus on two really: Investment risk tolerance, we call -- that's the chapter title. I'm going to refer to it as investment risk as we go along here, and investment assets. And as we move through this, you'll see a number of different slides. While I have questions on the right, Anne warned me that you've been given a list of questions that you might be interested in asking at some point. And I'll say that it would be a great opportunity to jump into some of those, if you have that list.

Again, I'll probably push back and say I don't necessarily have the answers to those. That those are discussion items. But it's -- it would be great to throw some of those out on the table and get a little bit of your sense of what's appropriate. So let's start with the idea of asset classes here.

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MR. BAILEY: And as I said in the beginning, I have a simple premise, that trustees don't and shouldn't deal with individual investments. That's not your job. And if you're doing that, then you've really moved into an area of trustee work that you don't belong in, to be quite honest.

Your key role is setting investment policy. And one of the ways that you set investment policy is to establish a policy asset mix. And most organizations do that by identifying a combination of asset classes that they believe expresses the appropriate level of risk for their investment program. And an asset class is really just a collection of individual investments that behave similarly in important ways.

And also the asset class tends -- the assets that are in the asset class tend to behave differently than assets that are in another asset class. I mean, that sounds a bit circular, but it's actually a fair statement. There's no specific definition of what is an appropriate asset class.

You could probably say that I'm going to split the world up into equities and bonds and walk away. And you would be pretty chose to doing your job as an investment -- group of investment trustees.

Now, most assets are more nuanced than that, and it pays to get a little more granular. But it's also the case that equities and bonds are a very high level description of what most investments that you could engage in, they capture the fundamental elements of that.

This slide shows a potential division of assets into different publicly-traded types of assets and private market assets. I want to emphasize this is not exhaustive. It's not necessarily the way you want to do it. It's just a sample, but each one of those asset classes, in a sense, is a shorthand. I mean, that's how I view asset classes.

If you went to an investment professional and you said we're 70/30, 70 stocks, 30 bonds, that investment professional would understand what you're trying to say at that moment. I mean, you don't have to actually say a lot more than at that moment. Why? Because the investment professional reads the shorthand. The investment professional understands what's behind equities, what's behind bonds, what you're trying to say when you say you're 70/30.

If you said, well, my 70 is -- or my 30 maybe is composed of 20 percent government bonds and 10 percent high-yield bonds, now I've split my bond side into additional asset classes. And again, the investment professional would read that shorthand and understand what you're saying about the government bonds and what you're saying about the high-yield bonds. So asset classes are just a way to express, in my mind, some of the fundamental characteristics of the underlying investments that you might participate in.

If you have 1,000 investments, you could have 1,000 asset classes. I mean, that wouldn't make much sense, but you could do it that way. As you start to aggregate, you start to tell stories about the individual investments in groups and that's helpful. That's what you start to create that shorthand. And your goal ultimately when you create a policy portfolio is to create the most efficient combination of -- and from a risk and return standpoint, the most efficient combination of investments that you possibly can. And the shorthand that you use with asset classes is just one way to try to get at that expression of your Investment Policy.

So there's nothing magic about asset classes. You decide for yourself what is the appropriate granular level. Understanding you get too granular, and then the investment professionals start to lose track of the shorthand, exactly what do you mean by that particular investment. You get too aggregated, and you maybe lose some of those key nuances that go on in those particular asset classes.

So there's a middle ground there, and different organizations take it differently. I mean some organizations take publicly-traded equities and they split it up between U.S. and the rest of the world. Other organizations want to just have a global. I mean, there's no right or wrong answer to that.

So I've -- notice how I've split that into a publicly-traded side and a private market side, or oftentimes called alternative investments. Institutional investors, there's a tendency to do that. And different organizations treat this differently.

On the left side, the publicly-traded side, I mean, we know a lot about those asset classes, however we slice them up. So we know -- we have great data on U.S.

equities. We have timely frequently calculated clean comprehensive data. There's no doubt about that. We can build benchmarks for that data. We can develop correlations, understanding how these assets tend to move relative to each other. And we know that the market for those publicly-traded asset classes is quite efficient, that the price of the asset is probably very near the true investment value of those assets. All right. I mean, that's just standard stuff.

Private markets, there it's a little bit of the other side of the coin. You know, we don't have great data on private markets. It's not necessarily timely. It's not necessarily frequent. Oftentimes, it's very dirty in the sense of it's just hard to separate the notice out in the valuations. We don't have great benchmarks for that sort of data, and we are kind of sketchy on the correlations, how these assets tend to move relative to one another.

So the -- I think it's -- that's the reason that I and most institutional investors tend to split out publicly traded from private Markets is a lot of the information that's available on the public markets is very different than the information that's available in the private market side.

Now, I'm not going to get deep into alternative investments.

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CHAIRPERSON FECKNER: Before you go forward, we do have a few requests.

MR. BAILEY: Yeah, please. Please.

CHAIRPERSON FECKNER: First of all, when you refer to asset classes --

MR. BAILEY: Yes.

CHAIRPERSON FECKNER: -- is that the only lens by which to review a fund?

MR. BAILEY: Well, yes, I think that's a great question. Not, yes is in that's the only way. I think there are different ways to view it. Go back to my statement about the shorthand. So you could think of asset classes as being sort of bundles of what I would call exposures to economic events. So when you think about equities, you could think about equities as being exposure to the U.S. economy. You could think about it as being exposure to corporate profits.

So I could actually kind of build a model that didn't talk about equities. It talked about those exposures to the economy. It's called factors. I mean, there are ways to build asset -- investment policies that are just based on factors.

Think about bonds for a minute. I mean, bonds have an exposure to nominal interest rates. When the Fed raises interest rates, bond prices tend to go down. Bonds have an exposure to inflation, so I could build an Investment Policy based on some of these exposures.

Again, I think -- I'm sorry.

CHIEF INVESTMENT OFFICER MENG: If I may. So when Jeff is talking about factors, you're very familiar we use risk segments. So that work that's under your leadership in the past couple years. The risk segment work is -- that Jeff is talking about is risk factors. So to your question, there probably is another way further to align the different asset class by risk segment, let it be we call growth or income. So we can also look at the portfolios through a lens of risk segments or factors.

CHAIRPERSON FECKNER: Thank you.

MR. BAILEY: That's a very good point. So, Mr. Feckner, when you asked that question, it -- the answer is clearly yes. That's a long-winded yes, but it's clearly yes. I think what happens though is that most organizations have a difficult time with that alternative form of shorthand. So I could talk about an economic exposure in my portfolio, but -- or trustees and even staffs have a tough time manipulating that.

Ultimately, I have to invest in something, so I can't invest in economic factors. I can invest in stocks.

So, I mean, that's the other reason why you tend to see that expressed that way.

CHIEF INVESTMENT OFFICER MENG: Yeah. And for those of you who were on the Board when I was here the first time, you probably still remember my soup analogy. So that's -- the soup is the factors.

(Laughter.)

CHIEF INVESTMENT OFFICER MENG: Thank you.

CHAIRPERSON FECKNER: Yes. And you didn't bring soup either.

(Laughter.)

INVESTMENT DIRECTOR SIMPSON: Next time.

CHAIRPERSON FECKNER: Mr. Perez.

COMMITTEE MEMBER PEREZ: Mr. Bailey, I was intending to go ask the question when you went over it, but it -- you -- we didn't talk about it.

MR. BAILEY: No, please.

COMMITTEE MEMBER PEREZ: Under roles, Section 1 -- and this is the PDF of your book. We didn't -- I didn't get this. I got the PDF. Under roles and responsibilities, page 13 of the PDF, the Board -- it says the CIO -- now, I understand this is the -- your version of a best practice or in the perfect world. The CIO reports directly to the Board on an annual basis. And then we discuss and determine compensation for the following year. And then it also says that we approve the CIO's selection of senior staff members, and sign off on his or her evaluation of those staff members. This leadership team is critical to effectively translating your vision of investment policy into a concrete investment program.

That's not how we do it here. And can you speak on the benefits and the risks of the way that CalPERS does that, please?

MR. BAILEY: Well, and I want to be a little careful about speaking on the benefits and risks of a specific organization. Different organizations treat this -- treat this in a -- in different ways. And there's nothing -- I think the -- it's really the question of micromanaging, right? I mean, whenever an organization -- whenever a trustee group gets too deep into the decision making, I think you run the risk of micromanagement. And it could be that you -- it's quite reasonable to say that an organization is going to appoint one individual and deal directly with that individual. And then that individual is delegated the responsibility to make all the decisions below that. That makes complete sense.

I think the description that you're taking in there -- that you took from that page 13 is an alternative view, but it isn't going much deeper. You know, it's completely reasonable also to say that a trustee board might have some say over the senior managers that are one step below the CEO or the CIO of the organization.

I think it's more a question of a slippery slope once you start getting too far down into the decision making of personnel, then you run the risk of essentially freezing the power of the leader of that organization.

So it's completely fair, and I would point out everything that goes on in this particular book is just one stylized organization. I would read it in a nuanced way that, you know, we're not saying that that's the only way that a board can operate.

CHAIRPERSON FECKNER: Marcie.

CHIEF EXECUTIVE OFFICER FROST: Yeah. Mr. Perez, so currently under the CEO delegation you've delegated that to me. But one of the process pieces that I put in place is when we hired the CIO, with we hired the CFO, I invite Board members in to participate on those panels. So they are -- you are involved in the selection of some of the senior management positions here in the organization by the fact that you're sitting on these interview panels, giving input, and giving whether you think that those are individuals who could come before this body and be successful.

CHAIRPERSON FECKNER: Anything else, Mr. Perez?

COMMITTEE MEMBER PEREZ: No, sir.

CHAIRPERSON FECKNER: All right. Thank you.

Mr. Jones.

COMMITTEE MEMBER JONES: Yeah. Thank you, Mr. Chair.

Yeah, I was -- back to your --

CHAIRPERSON FECKNER: Hold on. Just a second. There you go.

COMMITTEE MEMBER JONES: Okay. Thank you. Thank you, Mr. Chair.

Back to your slide 12, 12 of 55. Looking at the asset classes and then you made reference to the benchmark. So the benchmarks allow the Board oversight to determine -- to assess success, so -- but if you go down to breaking out these asset classes to several subclasses, then you also mention that the -- it becomes difficult to have a benchmark for those items. So how do you create these subclasses if you can't evaluate success by using a benchmark?

MR. BAILEY: Well, Mr. Jones, let me get to the notion of benchmarks here in just a second.

COMMITTEE MEMBER JONES: Okay.

MR. BAILEY: I mean, I really a slide or two away from --

COMMITTEE MEMBER JONES: Okay.

MR. BAILEY: -- dealing wit that very important question. And I think let me come back then to your question at that point.

CHAIRPERSON FECKNER: Ms. Taylor.

VICE CHAIRPERSON TAYLOR: Thank you, Mr. Chair.

So, hold on. Let me open my book back up to my question. So on -- and actually, now that I look at my question and heard your answer to Mr. Jones, maybe we might want to wait. But I was -- I was at your class. First of all, I want to thank you for being here. And I was at your class at the CII Institute.

And I want to kind of go into something I remember that you said, which was that the private equity and public equity markets are not dissimilar, in that they're -- they're kind of the same thing.

MR. BAILEY: Right. Right.

VICE CHAIRPERSON TAYLOR: So we're not getting into a different investment when we get into private equity. But, in that, we don't have a real easy time benchmarking that.

MR. BAILEY: That's true.

VICE CHAIRPERSON TAYLOR: And I think you're going to get to that.

MR. BAILEY: I am. Yes. Absolutely. I think it's a very important question.

CHAIRPERSON FECKNER: Ms. Brown.

COMMITTEE MEMBER BROWN: Thank you. My question is not about benchmarking. It actually piggybacks on Mr. Perez's comments. We did not compare notes, but I actually highlighted page 13 and dog-eared that page about the CIO reporting directly to this Board.

And the CIO used to report directly to the Board. They used to have come to the Board and the selection, and I believe some other key members did as well.

And it -- in -- we didn't back off because of micromanagement issues. It was more because of -- there was a report done by Steptoe and some other reports after a bribery scandal and a suicide, and the Board sort of changed its oversight model. But I have concerns that the CIO doesn't report directly to the Board, because I can't get questions from -- I can't get answers to the CIO, and it's got to go through the CEO, and a memo has to be pre-approved.

So there are issues with our organization. And I know that's not the point of this training. But I think it is very important for us to look at if we want our CIO to have the best returns and do the best for us, I think The CIO should report directly to the Board.

My other concern is just overall. You know, you talk about micromanagement, but what you really don't talk about at all in this book is the opposite, is when the Board actually becomes a rubber stamp. And so I hope eventually we'll get to that. You've been a staff member a very long time, and so you would, of course, come to it from a Board meddling point of view. But there also is another problem, which is on the other end, when the Board just does exactly what the staff says, and hasn't had the draining or the expertise. So I really appreciate this training and it is about time.

Thank you.

MR. BAILEY: Well, thanks, Ms. Brown. And I do spend most of my time now as a trustee, not a staff member. So I completely understand that. And I would point out one item, too, on the primer, is that we have a Chief Investment Officer in the stylized organization. It's not meant to be so big an organization as you run here, where you need a CEO and a CIO.

So, I mean, again, my point simply is there are differences in how organizations work. And each organization has to identify the appropriate lines of authority that work best for them with the underlying principles that don't want a rubber stamp body at the top, and you don't want to -- you don't want a group of trustees that are becoming involved in day-to-day activities. So there's a fine line.

CHAIRPERSON FECKNER: No other questions. Feel free.

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MR. BAILEY: Okay. Let me move ahead to talk a little bit about market indices just for a moment here. A market index, as I say here, is just a basket of securities. It's designed to represent the performance of an asset class. And you're familiar with sort of the standard ones, the Dow, the S&P 500. Knowing how -- exactly how they're constructed and so forth isn't as important as understanding what they're attempting to do.

I think people lose sight of the fact that there are literally thousands of market indices out there. They -- you can take your asset classes and slice them up into an incredibly broad number of subclasses. And different organizations produce various market indices. Some of them very much overlapped, but you can go out and find a -- in any large investment banking firm, you can find them producing market indices. You find organizations that do this for a living. So they're out there.

The -- I always say that when you think about a market index, there's really three things you should think about: one is purpose, second is security selection, and third is security weighting.

So why do we have this index? What's it attempting to do? It may seem simple in the case of the S&P 500. It summarizes the performance of the market. There are a lot of smaller, more finely cut indices that are designed to capture specific investment styles. With the rise of exchange-traded funds, we've seen all sorts of market indices pop up, just as essentially a tracking target for these exchange-traded funds.

So understanding why the index exists I think is important. Security selection. You know, you have broad inclusion, which would be something like the Wilshire 5,000, which is technically every publicly-traded equity security in the United States within certain rules, or you have the Dow Jones Industrial Average, which is 30 stocks these days. When it started out, it was 12 back in the late 1800s.

Security weighting is the other key issue. Most weighting schemes that are involved in building a market index are what are referred to as value or capitalization weighted. Each security inside the index gets an importance equal to its market value, a number of units of the security times the price per unit.

But you do have different -- there are different ways of weighting things. I'm not going to go into some of these secondary forms, but it's important to understand that they do exist.

I think what I really want to concentrate on is some of the uses of market indices. The standard use, of course, is just to explain the market environment. When somebody says that the Dow like -- or the S&P 500 today is down 2 percent plus, something like that, you immediately though that the stock market is performing poorly today. I mean, it's -- that's, again, a shorthand. You don't need to say anything more.

But what you find is that when market indices were originally created, they were used primarily for that. But in recent years, we've used them for performance and passive management strategies, which is why I think you see so many of them today, because we do want to find ways to evaluate investment programs. And we do want to implement particular strategies in the marketplace, and we need some sort of benchmark for those strategies. So I think the prevalence of market indices today is really associated with those last two items.

Questions.

CHAIRPERSON FECKNER: Mr. Rubalcava.

COMMITTEE MEMBER RUBALCAVA: Thank you.

You know, I've always been intrigued by this little thing of active versus passive management. And a lot of people always ask me you know, especially when there's -- the fund performed below expectations didn't meet its benchmark, and say why don't you just invest in the index. So can you speak to that issue?

MR. BAILEY: Can I come back to that a little bit later.

COMMITTEE MEMBER RUBALCAVA: Sure, please.

MR. BAILEY: I think it's a great point. We're going to spend some time on the whole idea of active/passive. And we're going to transition right now into investment benchmarks, and some of the characteristics of benchmarks that would allow you to do exactly -- or think about the problem in exactly the way you just described it.

COMMITTEE MEMBER RUBALCAVA: Thank you.

MR. BAILEY: So I think it's a great question. Let me just get to that here in just a second.

CHAIRPERSON FECKNER: Go right ahead.

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MR. BAILEY: Okay. Well, like I said, let me move from market indexes to investment benchmarks. They are not one in the same. And I think that's important to understand. This is kind of a nerdy term here, but I'll say a benchmark is a passive representation of an investment process.

I like to think of it as the fishing hole. So if you're saying I'm going to carry out a investment program, where am I going fishing? And depending on your answer to the question, you're going to evaluate your program differently and build a benchmark differently than someone else who as a different fishing hole.

This idea of persistent and prominent characteristics of the process in the absence of investment management. This is exactly what we were just talking about a moment ago, when we -- this idea of passive management what would I -- what would I envision would be the characteristics of a portfolio if I didn't have any knowledge about what was going to outperform?

So the idea is I need to be able to describe what this passive portfolio looks like. And I say investment process, because it might not just be an Investment Manager. It could be bigger parts of an investment program. But it may be easier to think about for a moment just in terms of an Investment Manager.

So if I told you that I had a small cap growth manager, and there's a bit of a shorthand going on there, you kind of get some impression of what that might be. Somehow it's investing in smaller company stocks, stocks that are expected to -- earnings are expected to grow rapidly over time, or at least above average over time. We have a sense of that.

And the idea of a benchmark is to try to quantify that. So can we build something that I could actually own that would capture those persistent and prominent characteristic or small cap growth manager.

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MR. BAILEY: And so when I think about an investment benchmark, I want to build that fishing hole that's associated with that investment process.

So it's a great concept, not necessarily so easy to do all the time. I'm going to get to that in just a minute. Let me talk about functions though. Because, I mean, these are really pretty critical. There -- I list four. You might think of a few more. But I think where we most commonly think about benchmarks is we use them in performance evaluation.

So trustee boards feel an obligation, and appropriately so, to say is our investment program performing well? Well, relative to what? Well, relative to appropriately designed benchmark. And that's where the performance evaluation issue comes in.

You have to have confidence in the benchmarks that you're working with before it makes sense to pass some sort of judgment on the effectiveness of the program.

Policy asset allocation. This again goes back to this sort of shorthand. But I need something that is going to reflect the various types of asset classes that I might invest in, so then I can build a portfolio of those asset classes. And again, if I wanted to be very high, I'd say stocks and bonds. Maybe I'd have some global benchmark for stocks and some global benchmark for bonds. If I want to be more nuanced, I'll still start to split it up.

But I want to build a benchmark that's investable in each of those particular asset classes or subclasses that I can use to express my policy asset allocations.

Very closely related to that is the whole idea of risk control. If I've built an appropriate benchmark, I should be able to start to manipulate it in a risk control manner. I should be able to put them together to simulate the outcomes that might occur, to look in the past and see how that combination of benchmarks what it did for me. I should get an idea of how risky my portfolio is based on looking at that combination of benchmarks.

So it's a critical element in your whole risk budgeting program. And lastly, performance fee calculations. I mean, if you're going to pay somebody based on their performance, you ought to have confidence you're paying for them based on their performance relative to an appropriate benchmark.

So all four of those, I think, are very critical.

And we can applaud them at the individual manager level, the asset class level, and the total fund. And I'm quite confident that your staff takes that whole process to heart and wants to have appropriate benchmarks assigned to each of the elements of their investment program that you work with.

But let me talk a little bit more though about benchmarks in the sense of what is a valid benchmark.

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MR. BAILEY: And these are five characteristics of a benchmark that I've espoused for decade. My old firm Richards & Tierney did that. It's part of the CFA curriculum. It's -- and these are actually difficult characteristics to hit for benchmarks. And let me go through them very briefly, but they're important to understand.

Unambiguous. So you should be able to clearly define the benchmark. I mean, it may seem just obvious, but what is involved in that particular benchmark? What are the components of the benchmark? You should be able to identify those. It shouldn't just be some sort of statement of, well, perform well relative to good performance.

I can say my benchmark is made up of the following 500 securities in case of the S&P 500. I know exactly what it is.

It should be investable. You have to be able to own that benchmark. I mean, without that passive -- Mr. Rubalcava, that -- I think that's where you were going on that. You have to be able to own that particular benchmark. That has to be an option for you. Otherwise, it really isn't a -- it isn't a measure that you can compare the performance of your active program against, because you never had the option to own the passive piece of it.

You have to be able to measure it on a reasonably frequent basis. It has to be appropriate. That's -- that can be interpreted in a number of different ways. I like to say that it has the same level of risk, however you want to define risk for that particular investment process, but it should have a similar level of risk.

And finally, very importantly, it should be specified in advance. And you should know what its composition is prior to the start of the evaluation period. Let me pause for a moment. Are there questions on these characteristics, because those are really pretty critical?

CHAIRPERSON FECKNER: We have one question.

Mr. Miller.

COMMITTEE MEMBER MILLER: Yeah. I've got two questions. But generally, could you speak a little bit about, you know, how -- in terms of constructing benchmarks, how uniform are the approaches or are there standards or rules for constructing them, and then, you know, the utility, or necessity, or challenge of benchmarks for use with private assets?

MR. BAILEY: Um-hmm. Sure. Two good questions. I go back -- I would go at it from the standpoint of there are a number of different ways to construct a benchmark. And actually, I've given some examples over on the other side of this slide. To the extent that those proc -- those methods of constructing benchmarks produce benchmarks that satisfy those 5 criteria, I'm quite comfortable with the benchmarks.

So proving that they satisfy those criteria are a little bit -- is more difficult. And that's where you get into the question of private markets. That can become a problem.

The examples that I show there, you can sort of think about how they might apply to private markets. Absolute. T-bills plus 3 percent, I mean, you'd be surprised how often that shows up, and especially when you're evaluating hedge fund managers. They'll come up with something similar to that. They'll add some premium onto a T-bill rate, and say, well, that -- that's our benchmark. Just judge us whether we've outperformed that or not.

I'm going to argue that that is not investable. I don't know of any particular investment alternative that I have available to me that is T-bills plus 3. It's -- may or may not be appropriate. I don't know. I mean, I'd have to understand the -- how the manager actually operates. But quite likely it doesn't have the same amount of risk that that particular hedge fund manager takes on. So, I mean, there are some pretty severe problems there.

Manager universes are one that has always been a big challenge from my point of view for most trustees. It's quite common to compare yourself against other organizations. And that's problematic for several reasons. First of all, it's not investable. You can't own the median of another -- of a peer universe. It's not specified in advance. I don't know who that organization is at the start of the evaluation period. That organization may not have similar risks. It's oftentimes unambiguous -- or it's oftentimes ambiguous in the sense of the universe that I'm dealing with may not be well specified in terms of who are the components of it.

So manager universes are a really serious problem, when it comes to building benchmarks. And I know the horse race game is what most trustees get sucked into, and I understand that, and I know the temptation. But I think you should sit back and challenge it as a trustee, about whether that's appropriate or not.

You moved on to market indices. Oftentimes, the S&P 500 uses a benchmark. And it may well be for a broad equity manager. We talked about the example with small cap growth manager. That would seem to me to be pretty obvious that that's not appropriate, not the same level of risk that's going on.

Then we start to get into style indices. You know, these are slicing the market in different ways. They now -- maybe we can design something by that slicing that gets us closer to the risk of the particular portfolio that we're tying to evaluate.

Then there are returns-based benchmarks, which are combinations of style indices. Those are pretty interesting. And lastly, you can build custom security based benchmarks, which literally involve interviews with managers and saying, well, what is your fishing hole? Let's identify that.

Let me pause for just a moment, because I think Ben is going to say something here.

CHIEF INVESTMENT OFFICER MENG: Thank you.

If I may to add something to Mr. Miller's question -- your observation. You're absolutely right that one of the challenges we face is the benchmark for private asset classes. For example, in our private equity benchmark, it's public equity plus a spread. And it's plus 150. So if we look at on slide 16 on the left, what are the characteristics of a valid benchmark, and look at investable, the second on the left, investable?

So just to follow on what Mr. Bailey just said, the public equity plus 150 as a benchmark for private equity is not investable for our need and our scale, right?

And then the other one you can also challenge is it appropriate? Does public equity and private equity have similar risk or not? So that's sort of an issue, but still is not perfect. So that's the highlights, that challenge we face in private asset classes to have a benchmark, and what can benchmark do in private asset class. We had to be very mindful.

And then on the right, the benchmark -- the very first one, absolute, the T-Bill plus 3 percent. Again, as Mr. Bailey said, that's not deliverable, or investable, or guaranteed. But on that note, if I may extend a little bit, something we may want to consider future down the road. Currently, we run our portfolio with a benchmark relative -- each asset class relative to a benchmark. For example, public equity is relative to a combination for public equity benchmark. And each asset class, fixed income is relative to a fixed income benchmark. But if we think about our goal is really the long term to deliver the 7 percent rate of return, would that make sense or as an alternative to set 7 percent as an absolute benchmark for the fund?

And that may be better aligned with our long-term goal. Just something for the Board and all of us to think about, should we be relative benchmark to an asset class or should we be benchmarked to our long-term goal, which it should deliver the 7 percent return.

MR. BAILEY: And I understand where Ben is coming from on that. A lot of organizations do have that as a target. I think it does run into the investable notion. I don't know of anything out there that I can guarantee 7 percent from. So I have to have an alternative that I could invest in that would deliver 7 percent if I was going to go that route.

CHIEF INVESTMENT OFFICER MENG: And if you did, I would so happy to transfer my seat to you.

(Laughter.)

MR. BAILEY: Exactly. And it's -- I think that's -- to me, that's one of the dilemmas that public funds face today is that the expected returns on their portfolio is actually derived from a bygone era, when interest rates were higher and you actually -- there were options to hold something that delivered almost 7 percent back in the -- oh, as late as the late 1990s you could do that.

And so today, the public pension funds have been, in a sense, almost marooned on an island, because the water level has fallen. And yet, the expected rates of return haven't fallen anywhere near as rapidly. And so the ability to create an alternate -- investment alternative that just foregoes active management and says I'm going to hold this passively and produce that result isn't there.

CHAIRPERSON FECKNER: Anything else, Mr. Miller?

COMMITTEE MEMBER MILLER: No.

CHAIRPERSON FECKNER: Mr. Jones.

COMMITTEE MEMBER JONES: Yeah. Thank you, Mr. Bailey. You -- the investable benchmark again I was going to ask you, but I'm going to now defer to Mr. Meng, because he indicated he's going to be looking at some of these benchmark categories, because we have a number of asset classes that are using some index plus a given measure amount, you know, infrastructure, private equity, real estate.

So I'm glad to hear, Mr. Meng, you're going to be looking and see if there's a better way to use some kind of investable benchmark going forward.

CHIEF INVESTMENT OFFICER MENG: Yes. So together with the senior team in the Investment Office, we are conducting a very comprehensive review for all the benchmarks and to how align with our long-term goal.

CHAIRPERSON FECKNER: Ms. Ortega.

COMMITTEE MEMBER ORTEGA: Yeah. Thank you.

I'm not quite sure how to ask this question. But it seems to me that so much of the benchmark conversation with pension boards is around performance. And so you're looking at it -- and in terms of compensation as well. And so what I find really difficult is a lot of times when a proposal comes forward to change the benchmark, it seems to be aligned with some long-term underperformance against a benchmark.

And then the discussion is about how the benchmark doesn't really reflect where the investments were made. And then it becomes hard to -- it becomes hard to evaluate that from a Board member perspective, because you're tying it to a compensation outcome. And so kind of related to the issue as you raised it, Mr. Meng, about looking at total fund performance and other ways of thinking about it. Are there other models of compensation out there as well that maybe don't tie kind of direct performance compensation to the benchmark on particular asset classes? Because I think I'd be interested in thinking about benchmarks more bodily in terms of that as well?

CHIEF INVESTMENT OFFICER MENG: Right. You're absolutely right. But I would defer the conversation detailed discussion in -- later. I think -- I believe that's next month. But back to your earlier part of your question, and part of the discussion this morning. When we have a benchmark -- say each asset class has a benchmark, and we -- one of the functions of a benchmark is performance evaluation, so how well or poorly we have done against that particular benchmark?

But the conundrum here is the question we are considering now. And one of my colleagues, Paul Mouchakkaa, the MID for Real Assets, constantly reminded us how do we define our success?

We can measure ourself against a relative benchmark as -- that's what we do now. Say if the benchmark portfolio -- knock on wood -- say the benchmark is down say 10 percent, we only lost 9 percent. Relative to the benchmark, we beat the benchmark. But we did not help to deliver the 7 percent return.

Then on the flip side of the case, it could be I delivered the -- we delivered the -- no, I, sorry. We delivered the return, say 10 percent, but the benchmark delivered 11 percent. So relatively speaking, we underperformed the benchmark, but we achieved our long-term goal.

So how do we design or how do we define success for the Investment Office? We -- it very difficult to have it both ways. I haven't seen -- probably, Mr. Bailey can opine on it. Some organizations try to design both ways, ask the staff to do -- you know, to achieve both goals, deliver the outperformance relative to a benchmark in short-term, as well as deliver the long-term absolute return.

And that is very difficult to do. Use one analogy. Basically, you'll be asked to put your pens down, you know, sitting down, you know. Very difficult to achieve both goals at the same time. But that's the struggle or challenge we face. And we look forward to working with you and the team to find a better solution.

Compensation that ties into -- again, as I said, that I believe next month, we'll have a compensation discussion. Ideally, we should define the success first, and then have the compensation plan to be aligned with that definition of success. So with that, I will defer either to Marcie or someone who would like to opine on the compensation discussion.

COMMITTEE MEMBER ORTEGA: Can I just ask a follow-up question before you answer?

CHAIRPERSON FECKNER: Um-hmm.

COMMITTEE MEMBER ORTEGA: I think what would be helpful for me to understand are maybe some best practices about what information, what analysis a board can get that gives us confidence in being able to review what the staff recommendation is, because I do feel in -- you know, in a prior experience, I feel the board -- boards find themselves in tricky places around this conversation, because you're getting recommendations from a staff maybe endorsed by a consultant. But how do we know we really have the right information about the benchmark and then how we're evaluating success?

INVESTMENT DIRECTOR SIMPSON: Thank you very much. Anne Simpson. One of the benefits of doing this Board governance work in a partnership with the Council of Institutional Investors is this is the broader group of public funds who we can really learn from.

And likewise, teaming up with the CFA Institute looking at how a broad range of private sector boards work. So when we come to do our workstream reports to you next month, we'll be setting out how we'll be doing another form of benchmarking, which is how does CalPERS approach something -- how does the CalPERS Board approach something, and how do our sister funds in the public sector work, and look at examples from the private sector as well?

So that you've got someway as a Board of level-setting against the experience of other pension funds. So we're looking forward to that work with CFA and with CII.

I would also say that the National Association of Corporate Directors we're about to enter into the second phase of work with them. So that's also going to give us a bigger pool of examples to look at, which we hope is going to be beneficial, just to put it all in context.

MR. BAILEY: Can I answer any other questions on that topic?

CHAIRPERSON FECKNER: Ms. Yee.

COMMITTEE MEMBER YEE: Thank you, Mr. Chairman. I -- and Ben, thank you. I really appreciate the more comprehensive look at all of our benchmarks, because I do think kind of in this era of where there's a lot of unknown with respect to particularly the private asset classes. And it is a balance in terms of, you know, kind of where we've set our sight relative to the benchmark, and whether -- in looking at whether it helps to align with our long-term goals. I just think about kind of how that reverberates in terms of some of the decisions or considerations we need to make going forward. And that is -- and the question that rolls in my mind is that does that necessarily? That didn't have us poised to look at taking on less excessive risk, you know, down the road. And so I think it's kind of all integrated in that conversation as well. So I look forward to the study coming back. And hopefully, to just really lay the foundation and kind of a set of considerations that we need to make, because it is a departure from how we've traditionally looked benchmarks.

CHIEF INVESTMENT OFFICER MENG: Yes. Thank you. And that -- as I said that, you know, we started thinking about that question. It will be, relatively speaking, a longer term project, because it touch upon pretty much everything from benchmarking, as you say, compensation, and more importantly, we have been encouraging ourselves among the senior management team at the Investment Office how would our portfolio change?

Say if we shift away from the relative to a short-term benchmark to a long-term absolute benchmark, say 7 percent, how would you restructure your portfolio? And I can think of a few things quite drastic in the portfolio.

So this is -- will be a little bit longer term, and a much deeper discussion. And we look forward to working with you. If that -- you have -- if this body has the appetite for us to continue that discussion and continue that research, we'll be very happy to do so.

INTERIM CHIEF OPERATING INVESTMENT OFFICER BIENVENUE: And just one -- just one thing to add is just remember that as part of the ALM process, that we review the benchmarks as part of the process, and then in the mid-cycle, when certainly we know we owe some work on dual class shares and dual voting rights. But then there will be, you know, part of that work also on the other benchmarks as well.

INVESTMENT DIRECTOR SIMPSON: Dan, you should explain your acronym, ALM.

INTERIM CHIEF OPERATING INVESTMENT OFFICER BIENVENUE: ALM is the asset liability management. Apologies. And I know we use too many acronyms. Thank you, Anne. Asset liability management process, where we take the assets and the liabilities and figure out how to try to make the assets meet the liabilities.

CHAIRPERSON FECKNER: Thank you.

Okay. Mr. Bailey.

MR. BAILEY: All right. I'm going to switch gears just a bit and take a little bit of time to talk about market returns. And the goal of this is really to just give a little bit of context for some of the discussions on risk budgeting as we get a little later in this presentation here.

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MR. BAILEY: But feel free to jump in at any point. And ask some questions about some of this capital market history. But this is again just more to provide context than anything else. And this is sort of, as I say, the standard paradigm, stocks beat bonds and bonds beat cash.

And I like to say they beat them by phenomenal amounts. The ability of stocks to over even this relatively short period of time from 1972 to the end of 2018 to outperform bonds by 2 percentage points a year. That compounds into amazing amounts of money over time. And if you compare that to a cash return, it's even a greater surplus.

So it's -- the notion that stocks beat bonds is sort of embedded in every investment program. And that's not surprising given these sort of results.

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MR. BAILEY: But I always say that this is the way that we don't usually spend a lot of time thinking about it. And these are the annual returns on stocks over the period 1926 through 2018. And these really heart stopping downdrafts that you can see in the performance of the markets is something not to be ignored. As recent as 2009, we were looking at a period where there was an annual return of almost minus 40 percent in one year. And any organization that says their long-term investors has to be willing to put up with that sort of outcome.

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MR. BAILEY: This is the other -- oops. Excuse me. This is the other way I like to look at it. And in some ways I think it's a more valuable way to look at it. These are referred to as drawdowns. So essentially, you can think of it as a situation if you take today and you say did the stock market go up or go down? Well, let's say it went down. And then I start -- I get interested in the market at that point. It went down. Now, how long does it stay down before it comes back to even? I call that a drawdown.

And so you can -- these are inflation adjusted. So investors ought to care about the inflation factor when they look at their investments. So I'm taking away the inflation rate from the returns. And you can see the rather massive drawdowns that S&P 500 has experienced.

Jeremy Siegel years ago wrote a really great book called *Stocks for the Long Term*. Really an interesting book, and essentially said, look, if you're a long-term investor, how could you not be in stocks?

Well, okay. You -- there's a lot of truth to that. But you have to be willing to put up with these periods of time. And the dotted lines are a period from really -- oh, I think it was early 2000 or so, maybe it was 2001, starting at that point, that first drawdown there, and it extended all the way out into 2013.

So stocks for the long run, I was -- it was fun to discuss that in 2012. I'd say you haven't gotten back yet. I mean, it's been 10 years. Most people, 10 years is a lifetime on an investment board. In fact, this might be two lifetimes on an investment board.

So stocks for the long term. Well, you -- even the most long-term investors possibly not willing to put up with that.

CHIEF INVESTMENT OFFICER MENG: If I may? So as Jeff has said, that stock in the long-run, as he showed in the previous slide, outperformed cash and bond by a big margin. And Jeff said to do that, in order to benefit from that, you have to be willing to sustain the extended period of drawdown. In addition to willing to, we also had to be able to. So what may happen in the drawdown when we have a liquidity need, because we do need to pay members benefit every month.

And that is a -- that's the reason we exist. We're here to serve the members. So we do have a current cash flow need. When the drawdown happens during extended period of time, are we able to sustain or not? That's another question. When -- are we willing to take on the risk and willing to? The other one is are we able to or not?

Now, on that note again, we talk about the liquidity project. Why it's so important for us now to have a very comprehensive liquidity framework, and to know where we are, and how long we can or will be able to sustain that drawdown in order to benefit from the long-term equity premium.

MR. BAILEY: I couldn't agree more.

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MR. BAILEY: Investment returns and risk. I think the point I'd like to make here is that investors tend to like to discuss returns. They're very tangible. You can -- you earned 8 percent last year, something along those lines. And you can talk about it in very specific discussions.

Risk is in the future is the way I like to think about it. You have a range of possible investment outcomes. And it's a very -- it's a very intangible idea. It's hard to -- it's hard to imagine what risk really means. I mean, you can say we're going to talk about volatility in just a little bit, and we're going to try to find quantitative measures of it, but it's really hard to imagine exactly what risk is. You experience returns. You try to manage risk is Essentially the way I'm arguing here.

Most investment committees, you would not be alone if you'd do it this way. You spend a lot of time in the -- in your quarterly reviews. You'll get a rate of return. You might have some sort of benchmark that you believe is appropriate. And you set a -- you look at it, and you see results relative to it. But that's really just looking at the return side of things. And most organizations don't spend a lot of time talking about the risk side of things.

And I think trustees really ought to be spending some more time on risk and a lot less time on returns, but it's just the nature of the beast that organizations tend to get caught up on the return side.

CHAIRPERSON FECKNER: Ms. Taylor.

VICE CHAIRPERSON TAYLOR: Thank you, Mr. Chair.

I agree. I think we ought to be looking at risks. And I think part of our asset allocation looks at that. But while I think we manage risk by looking into the future, we sort of do it by looking at the past, right? So we're looking at what happened in the past. And I think, as I was reading information on this class and other stuff, when we were looking at risk in the future before 2008, we looked at diversification. It didn't help. So managing -- I mean, 2008 we crashed. So it didn't necessarily give us a big risk mitigation process.

So there are -- when we look at data, I mean, it's just so hard for us to look at how we manage that risk. Volatility looks at past -- we have past -- we look into the future for ESG strategies that can down the road pose material risks, whether that's in the environmental, the social, or the governance issues. And we can see those sort of pop up here and there right now, right?

So I'm just trying to figure out how do we manage overall market risk like that and what are -- what are your sage views on that?

MR. BAILEY: Ms. Taylor, if I could defer that just for a little bit. We're going to talk -- we're going to try to address that. 2009 was a pretty interesting example for a lot of organizations. And I actually would argue that diversification did work in 2009. It was painful. 2000 -- I mean, you don't get off scot-free in this world. If you're going to have an equity exposure, you're going to take a hit. But I'll bet in 2009, that your diversification programs actually benefited you quite a bit. I'll be surprised if that isn't the case.

It certainly is true at any investment practice that I've witnessed. 2009 actually was a great year for diversification in a lot of ways. But let me get to that in just a minute.

VICE CHAIRPERSON TAYLOR: Okay. Thank you.

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MR. BAILEY: And to my point, this is a quote from the fabled Benjamin Graham. "The essence of investment management entails the management of risk, not the management of returns". And I really truly believe for trustees, that's where your focus ought to be is on managing risk.

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MR. BAILEY: These are just some returns that we already saw in that graph. But just to be aware of them. Over an extended period of time, the arithmetic return, we won't get into the -- unless we feel the need to, the difference between the arithmetic and geometric return. But let me just say the arithmetic return, the -- kind of the average of all the annual returns for stocks, 11.9 percent, versus T-bills of 3.4 percent is a huge difference. But the volatility. And we're going to talk about what we mean by volatility here in just a second. The volatility of those stocks returns at 20 percent per year versus 3 percent return for T-bills is significantly different. And we should all be aware of that difference as trustees.

The other thing that I mentioned too, and I don't -- I don't have a great segue to -- out of that, but is that the U.S. stock market is -- there's a lot of selection bias that goes on when we look at those numbers for the U.S. stock market. I mean, we won World War II. You know, there -- all sorts of good things have happened in the United States that didn't necessarily happen for some countries. And so if you invested in the Russian stock market before the revolution in 1917 or something like that, your results didn't turn out so well.

So the U.S. stock market is a -- there's a selection bias that goes on. And I always worry when people look at that, 11 or 12 percent return per year, that they start to extrapolate that out. That somehow that that has to be what we're going to get in the future. And this was a -- you know, this was an extremely productive period for U.S. stocks, so in the time that we're looking at. We should all be aware of that.

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MR. BAILEY: This is worthwhile paying attention to for just a second. Why should stocks beat bonds?

And I say, well, because they're riskier, right? Well, but think about what we mean by that. And that --

this is -- this is kind of important when you think about how you want to diversify yourself. Stocks represent ownership in corporations. That's a straightforward statement. Corporate earnings are sensitive to the economy. Therefore, stocks ought to be sensitive to the economy.

And they are. But there's something probably more important about that I think is worthwhile paying attention to. That -- and this goes to Ben's point here just a second ago, is that stocks do bad just at the time you don't want them to do bad.

So when you think about a public pension fund, the time when you might have to make additional contributions to the plan, because your equity portfolio performed poorly is just the time that tax revenues are going down, and your liquidity situation is stretched. And that's true for an endowment fund as well. Contributions start to dry up for an endowment plan about the time that you have big recessions.

A corporation, it's the same thing. Target, when I worked there, our worst period of time to be able to put money in that plan was 2009. But that was the time when we really wanted to put some money into the plan.

So stocks do badly at the wrong time. And so they need to do something to make up for that situation.

And they have to do better in normal times. I mean, that's -- that's a long way to say that's compensated risk. So when you expose yourself to stocks, you expect to get compensated. Why? Well, because, you're going to get hurt at the times you don't want to get hurt. And the only reason you'd own stocks is because in those normal times, you get paid more than the assets that wouldn't hurt you in those bad times, those bad economic times.

So bonds are the opposite side of that coin. Why do bonds earn less than stocks? Well, they're less risky. But why are they less risky? They don't hurt you at those times when you can't afford to be hurt.

So it's -- compensated risk is a key element for investment programs. And I think trustees sometimes lose sight of what's compensated risk and what's not compensated risk. We're going to talk a little bit about active and passive management a little later here. Active risk is not compensated. You hope you're smart and you pick the right folks, but you don't get paid for taking active risk. You expect to get paid for taking equity risk, the compensated form of risk. So as you build your investment policy, it's important to pay attention to those sort of differences.

CHAIRPERSON FECKNER: So before you go further, we're at our 2-hour period. We need to take a break for the court reporter.

MR. BAILEY: Please.

CHAIRPERSON FECKNER: So we'll reconvene at 11:25.

MR. BAILEY: Thank you.

(Off record: 11:14 a.m.)

(Thereupon a recess was taken.)

(On record: 11:25 a.m.)

CHAIRPERSON FECKNER: If we could all please take our seats, we'd like to begin.

All right. Let's begin again, please. Mr. Bailey.

MR. BAILEY: All right. Thank you, sir.

I'd like you to move to slide 25. I want to talk a little bit about expected returns. So we talked about the idea of compensated risk, and this notion that stocks ought to return more than bonds, because they hurt us in periods when we don't want them to.

Expected returns is the -- sort of the translation of this notion of that stocks are riskier, and how do we go about calculating the future returns on those instruments?

Well, as I point out here, high quality bonds, it's a fairly straightforward way. We can look to current yields. If we see the current treasury is yielding 2. --

a 30-year treasury is 2.8 percent. Pretty much if I invest in treasuries today and hold it for 30 years, I'm going to get 2.8 percent. There isn't a whole lot of argument about that. Stocks it's less clear. Any risky investment, it's less clear.

And I'd just point out that there's really two primary methods that people go about using to calculate expected returns. One is historical returns are probably used more often than it ought to be, is we look back and we say, well, how did stocks do over some particular long time period? And we say, well, maybe that's a barometer of how they're going to do in the future.

Certainly, we know stocks have outperformed bonds. And so we're comfortable making the statement we think in the future that that's a likely possibility, but by how much? And historical returns are a questionable way to look at that excess.

Fundamentals is a -- probably a more appropriate way to do it in the sense that you might have some sort of long term PE ratio. There's a thing called cyclically adjusted PE, a Shiller PE. That's a pretty interesting way to go at this. But essentially -- price over earnings is one way to think about it. So if I know what the earnings are today, and I have some ratio that I'm comfortable with -- price over earnings might be 10 times or something like that. If I can make a forecast of the E today, I could make a forecast of what my price is going to be in the future based on those earnings today.

The problem is that that PE tends to fluctuate over time. And that's difficult to use in a forecast. But it's -- it's an interesting way to go at it. Another way that's commonly used is what I call risk free plus historical equity risk premium. That's essentially the idea that stocks ought to perform, as we talked about -- ought to perform some excess over other instruments like bonds or treasury bills.

And so the idea is that I may have some premium that I think that stocks historically deliver. And I -- if I know what my risk-free rate is today, maybe long-term treasuries, something like that, I would add that premium on top of that, and that might be my forecast for future returns. That means that as the risk-free investment, the treasuries go up and down, the yields, then my expected return for the future goes up and down as well.

The other way to think about that is to try to really breakdown the building blocks and say, well, I'm going to break down my stocks returns into an income piece, and a growth piece, and an inflation piece. And I'm sure your staff has probably done this sort of analysis before. And I won't go into details about how we might try to put that together.

But again, the idea is that there's some market-based building blocks that we would use to forecast future returns. And I think that's a -- probably a commonly accepted way to approach that problem.

And so you do get fluctuations over time. And some periods of time stocks could be reasonably expected over the long term to do better or worse than they've done historically. We're at a period of time when stocks have been very -- have performed extremely well. If you looked at the PE side, we look at PE ratios as being very high right now.

And so the Shiller PE would forecast that expected returns on stocks would be relatively low over the next 10 years. And that's a conundrum for investors that are trying to build portfolios that rely a lot on stocks. But it's a fundamental way to try to approach the problem. And I think it's a sound one.

Alternative assets are a little bit more difficult to engage then in. Once you've discovered -- once you've made some sort of estimate of what you think your publicly traded equities are going to do, how do you attach a premium then to private equity.

More often than not, it's some sort of additional amount, one or two percent, on top of that. Presumably, there's some payment for an illiquidity -- illiquidity that you go through in owning private equity. Maybe there's some element of active management that you attach to owning private equity. But usually, there isn't a market-based rationale for having that premium. It's just some sort of expectation that you're essentially anticipating the -- this additional amount will be earned. But it's not driven by any -- anything other than perhaps some historical observations. So it's a difficult situation to develop expected returns for private equity, to rationalize them in the same way that you can rationalize public equity returns.

Questions?

CHAIRPERSON FECKNER: Ms. Brown.

COMMITTEE MEMBER BROWN: Thank you.

And you may have already answered my questions. But we have been hearing from staff and our consultants that expected returns will be declining. And that's because equities are overvalued, and we're looking at the ratio? Instead of being 10 times, they're like at 15 or 17. Is that what we're looking at? Or can you help us -- because it looks like the stock market is doing well, so we should be doing well.

MR. BAILEY: I will -- you don't pay me enough to be a market prognosticator.

COMMITTEE MEMBER BROWN: Well, we will. I'll pay you.

(Laughter.)

MR. BAILEY: In fact, the zero that I get paid is about what you should expect in terms of the value of my giving you market prognostications. So I'm going to defer on that question. You have much wiser advisors than me that could give you the answer on the future.

COMMITTEE MEMBER BROWN: It just would be helpful to have that explained more broadly in terms for this Board and for our stakeholders, because we keep talking about that the investments or the returns are going to be lower. But, you know, if anybody who even -- you don't even have to watch Bloomberg or CNBC. You could just watch the regular news and hear that -- not today, but that stocks are going up. So it just seems counterintuitive to laypeople about the returns are going to be lower.

MR. BAILEY: Well, I guess my response would be simply that you should look to some of these fundamental measures that I've pointed out there. So if -- the analogy would be with bonds. So, right now, you're basically -- it isn't quite calculated this way, but if I took the current yield on bonds. And so long treasuries are yielding 2.8 percent. In the 1990's, they were yielding 7 percent.

Okay. I had a lot of confidence in the 1990s that I would earn at least 7 percent by owning a long treasury, if I held it to maturity. Today, I'm pretty confident I'm going to earn 2.8 percent. How come? Well, the P has gone up essentially and -- or the E has gone down, whichever way you want to look at it. But in the bond world, the price earnings is a lot higher in bonds than it was in the 1990s. So you think of that as being lower expected return on bonds. That's not a -- no one has problem thinking about it that way.

But then you move on to stocks, and the same sort of phenomena is going on, where the price has been bid up significantly relative to the earnings.

In the bond world, we're happy to say I think I'm going to earn less. Well, in the stock world, yes, there are a number of other things that impact the E that I may not know about, and I might be hopeful that there will be positive influences on the E. But you can't deny that the P over the E is a lot higher now than it was in 2009.

COMMITTEE MEMBER BROWN: Right. Thank you.

CHAIRPERSON FECKNER: Go ahead.

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MR. BAILEY: All right. Let me talk a little bit about risk. I want to not get too deep into this issue, because we could -- this -- we could go down a rabbit hole that we'll never come out. But I think there are some important elements of risk that I want to just layout from -- in this session on basic risk and return issues.

There are lots of measure -- or lots of categories of risk. And I like to think of risk in this very broad sense, that it's really the idea that you're going to experience losses in pursuit of a fund's mission. And I read some of your mission statement material and it's very well written. And I can see all sorts of ways that you might have problems accomplishing that mission. Not because you've done something wrong, but because risk is present in those -- in your program.

And so investment risk, but there's funding risk, operational risk. Anne has pointed out, you know, all sorts of other risk issues to me that you might encounter. I completely understand those, and -- in the sense of how they could impact your decision making. Our focus is going to be on investment risk. But I realize that you have a very difficult job in dealing with those other forms of risk. But our -- like I said, we're going to talk about investment risk in this session.

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MR. BAILEY: The other thing that I'd love you to pay a little bit of attention to -- and again, this goes back to this notion of blinders, I think, that people running one organization get -- suffer from, where you just see your mission, and you forget that other organizations have different missions.

And I like to say that all investors really face the same capital markets. I mean, for the most part, we're all choosing from the same list of assets, but we have different missions that influence risk for us. So when you think about the risk for a endowment fund for instance. An endowment fund has to pay out a stream of -- make a stream of payments to beneficiaries inside that fund. And there's a lot of organizations that -- whose mission is to make sure that they don't have big fluctuations in those payments to their beneficiaries. A university, or something along those lines, wouldn't want to cut those payment.

That's a completely different mission than a pension fund in a corporate plan that's frozen, and there are no new members coming in. There, the mission of that organization is largely to just protect the funding surplus that might exist.

Well, you folks face a completely different sort of situation. A public fund that is open. New members are coming in. You're trying to protect the interests of the taxpayers. If you can earn a high level of return, you reduce the amount of contributions. On the other hand, if markets perform poorly, and additional contributions have to be put in, it can hurt the beneficiaries. It can hurt the taxpayers.

So there's a lot of different elements of those missions that I think are important to recognize. And I think it influences what risk is to each of those various organizations. And that's simply the aside that I want to make sure that everybody understands. That it is -- risk is not necessarily a one-dimensional item. There's a lot of different elements to risk that -- and different organizations face it in different environments.

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MR. BAILEY: Quantifying risk is one of the big difficulties. A lot of organizations don't even try. I mean, they just accept some sort of basic rules of thumb. And they'll set some policy asset mix. And they don't revisit the issue. I personally think that's a mistake, but it's not uncommon unfortunately.

Practitioners I think that are aware want to look at some sort of measure of the volatility of their outcomes relative to the mission. And that can be done through a number of different ways. I -- despite all of the problems, and we'll talk about them just a little bit with measures -- a measure known as standard deviation, it's probably the most common risk measure out there. And it's a measure of how much a particular metric fluctuates around a mean. And like I said, I'll talk about that in just a moment. There are more complex risk measures. Various measures of downside, just looking at one part of the distribution of possible outcomes.

Value at risk. Stress test. They're all interesting. And I'll bet your staff probably spends some time looking at each one of those. But in terms of conversation and making a presentation to a group of trustees, and how you folks ought to think about this, I'm a believer in using standard deviation returns as a measure of risk.

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MR. BAILEY: This is your standard bell curve. And for those of the uninitiated in the statistics world here, I won't dwell on it for a long time. But if we think of the mean here as just being 0, one standard deviation around the mean captures 68 percent of the outcomes. Three standard deviations captures over 99 percent. And so we use standard deviation as a measure of volatility around that mean, whatever the mean is.

In your case, let's say you chose the mean to be 7 percent, your expected rate of return on your portfolio. You might ask what's the volatility of our investment program or on that 7 percent? That would be one question that conceivably could come up.

But when you're looking at a manager's performance, you might say how volatile is that manager's performance relative to the benchmark. You'd use standard deviation potentially as a measure of that.

It's -- there are problems with standard deviation. They assume exactly what I'm drawing up there, that normal distribution, that bell shaped curve. There's a lot of argument that investment returns aren't normally distributed, and that that makes it difficult to use standard deviation as a measure of risk.

I'm sympathetic to those sort arguments. But in the end I really believe that in terms of the conversations that you guys are likely to have, I think focusing on the standard deviation of returns, whatever the particular investment process that you're looking at, whether it's a manager or your asset class returns is probably the most straightforward way to try to address the problem.

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MR. BAILEY: Let me hop to this slide here very quickly. This is on page 31. This is just a stylized view. Again, I'm looking at zero as sort of the center of this distribution, but we can shift it over if we wanted to. But basically, if I thought of the blue as being bonds and I thought of the red as being stocks, we'd say that bonds are lease volatile than stocks. That's what we say when there's a higher standard deviation. So that distribution is less dispersed. The blue distribution is less dispersed than the red distribution.

And probably just as importantly for -- from your perspective, looking at the left side, what I'm going to call the tail of the distribution, the left tail, that's where all the bad things happened. And a bond portfolio has less of its distribution sitting in the negative territory than the stock distribution does. I mean -- and that's the notion of stocks or that's how we would quantify that difference in risk.

So when your -- you know, your team might say that you have a standard deviation of higher on the stock side than on the bond side, they're pointing out that the left tail has more downside than the bond side.

CHIEF INVESTMENT OFFICER MENG: If I may, I would like to provide a little bit of context of our fund. So in the most recent ALM, our assumed rate of return of the mean here that Jeff showed you the distribution mean center as 0. So our targeted rate of return mean is 7 percent. And then the volatility is about 12 percent.

What does that mean, 7 percent mean and the 12 percent volatility? So if you plus or minus one standard, deviation -- if minus one standard deviation is 7 minus 12, so negative 5 percent. If you plus one standard deviation, so 7 percent plus 12 percent, that's 19 percent. So it means that the range of the outcome, there will be about 80 -- 68 percent of the time the outcome of our portfolio will fall between negative 5 percent to a positive 19 percent. So that we put in context of what this means. Plus or minus one standard deviation means that there will be 68 percent of the probability -- if our modeling were right, there would be a 68 percent probability that our portfolio return would fall between negative 5 percent and positive 19 percent.

INTERIM CHIEF OPERATING INVESTMENT OFFICER BIENVENUE: And, of course, the -- just to add to that -- everything Ben said is obviously accurate. But just to add to that, that means that 32 percent of the time, you would expect it to fall outside of that. So losing more -- you know, down more than 5 percent or potentially up more than 19 percent. Just the converse there.

CHAIRPERSON FECKNER: Mr. Jones.

COMMITTEE MEMBER JONES: Yeah. Thank you.

Yeah, Ben, on that comment, this is not symmetric. If we were to lose 5 percent on the tail side, 5 percent doesn't get us back to where we were.

CHIEF INVESTMENT OFFICER MENG: Correct. It is symmetric. The example I just gave you is a symmetric around 7 percent, not around 0 percent. What I was trying to say that the range of outcome is wide. 68 percent is between one -- plus/minus one standard deviation, but which means also that there is 32 percent of the time will be either on the left or the right of that range. And, of course, we're more worried or concerned about on the left.

COMMITTEE MEMBER JONES: Yeah. Right. Yeah, but my point though is that if 7 percent is the center, and we lose 3 percent of that 7 percent, we gain 3 percent back, we're not back to 7.

CHIEF INVESTMENT OFFICER MENG: Oh, correct. Yes, you are talking about once you take a big loss, your base is lower.

COMMITTEE MEMBER JONES: Yeah. Exactly.

CHIEF INVESTMENT OFFICER MENG: Your base is lower. So if you started with $100, you lost 20 percent, it means you get $80. But if you gain 20 percent from $80, it gets back to $96. It does not get back 10 $100. So that what you're talking about.

COMMITTEE MEMBER JONES: Yeah.

CHIEF INVESTMENT OFFICER MENG: Exactly. That's why drawdown protection is so important. If you just at the look return, it seems like you lost 20 percent, you gain 20 percent, you should be back up at par. That's not the case. That's why it's so important to protect the downside.

COMMITTEE MEMBER JONES: Exactly. Okay.

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MR. BAILEY: I'm going to hop ahead a couple of slides to slide 35, if you don't mind. And I want to talk a little bit about risk capacity and risk tolerance. And then I'm going to talk a little bit about protection against tail risk. And actually, Ms. Taylor, I'm going to get to some of your comments at that time as well.

So risk capacity. I think this is really important for any investor. And it's true for a large investor, it's true for an individual investor, is what is your financial ability to endure losses. That's different than what you're willing to incur. And I think so often organizations confuse the two.

I think Ben was talking about some liquidity issues. In a -- in a down market, you may run into serious liquidity issues. You have big payouts that go to beneficiaries on a monthly basis. The capacity to survive large negative returns, large drawdowns, has to take into account the -- a lot of different elements, but one could be liquidity. And if you -- and if you're not taking into account that risk capacity, you might find that you find yourself in a situation where your ability to meet your financial goals has been damaged.

Now, like I said, that's different than your willingness to bear investment risk. And you can get two different tendencies here. Some organizations have a lot of risk capacity and their trustees are not interested in bearing a lot of risk. Other organizations may have less risk capacity and their trustees are willing to bear a lot risk.

The two have to synch up in a someway. And presumably the conversations with the staff and other experts help you to do that. But I think it's important to bear in mind the difference between the two.

Risk capacity is probably a little easier to calculate than risk tolerance. Risk tolerance is a subjective issue. Individuals and groups have different limits on how much volatility they can stomach. The big problem I've always found with organizations that have a lot of turnover is they lose all the institutional knowledge of how bad it was. If you go back to 2009 and you find people that went through 2009, they don't ever want to do it again. It was a very scary time.

I honestly believe that the United States financial system was just one or two serious bad news items away from a much more catastrophic collapse than occurred. It didn't happen. That's great. But if you were there at the time, you remember how scary it was. And that helps you judge, to a certain extent how much volatility you're willing to handle. Those individuals that haven't been through that sort of environment, they're a little bit more willing to say, look, I see stocks beat bonds. I mean, I can handle that. No problem, until the next serious downturn occurs, so -- and then bringing together a group to produce that group risk tolerance measure is extremely difficult. Again, if you have -- to the extent that you have individuals in the group with different experiences.

So I don't have great advice for you how to do it, but I think it's one of your most difficult and important jobs is to arrive at a -- as a -- at a group risk tolerance decision. And if I was going to say to any organization how much time they ought to devote to discussions of returns and discussions of risk, I would point to risk, and I would point to trying to understand our risk tolerance much more than I would try to understand some of the return opportunities. So it's a challenge.

CHAIRPERSON FECKNER: Mr. Jones.

COMMITTEE MEMBER JONES: Yeah. Thank you, Mr. Chair.

Yeah, Mr. Bailey, you make reference to groups. So who are the relevant stakeholders in this risk tolerance discussion?

MR. BAILEY: Well, I think that's a great question. I think looking at some of you documents you've identified stakeholders broadly. And I think that makes a lot of sense. I mean, taxpayers are clearly a big stakeholder in an organization like this. The beneficiaries are huge stakeholders in an organization like this. And I think that makes it -- why your job is so difficult, you not only have your individual risk tolerance ideas in mind when you come into a meeting like this, but you're trying to funnel the attitudes of those other stakeholders into the decision making.

And I don't have a magic formula for it. That's why your job is tough. But certainly, those stakeholders that I just mentioned are clear important elements in that decision.

COMMITTEE MEMBER JONES: Yeah. So trying to honor that involvement, we have 13 members on this Board to discuss risks. And we can't have another 25 going back and forth at a Board meeting.

MR. BAILEY: I agree.

COMMITTEE MEMBER JONES: So we do have our asset management liability workshops. And that would offer the stakeholders an opportunity to come and testify on their beliefs of our risk tolerance during that time. Does that make sense?

MR. BAILEY: Absolutely.

CHAIRPERSON FECKNER: Ms. Middleton.

COMMITTEE MEMBER MIDDLETON: Thank you, Mr. Bailey. This has been, for the new kid on the block, really helpful.

MR. BAILEY: Thank you.

COMMITTEE MEMBER MIDDLETON: But could you give me some ideas as to what benchmarks, what kind of standards should we be using when we're engaging in the discussion as to what our risk tolerance should be.

MR. BAILEY: Well, I think a lot of it has to -- this is just my personal opinion. I think you'll find a lot of other individuals who may take a slightly different approach. I happen to be a big fan of stress tests. And looking at not only what happened in the past, but what the right simulation model is to be able to say what could happen in the future.

And then you get into the question of how -- how much volatility could I actually stand. First of all, you go back to that question of risk capacity. And your staff can help answer, you know, what are our limits on the ability to bear downside.

But then also, how can I place myself in that sort of position, and say, I've seen this happen, or I can see how it might happen. Would I -- how would I answer the questions if I saw that my portfolio was down 25 percent in one year?

Those are issues that are best done with experience. I don't have any doubt about it. But at least having some sort of -- to try to pre-experience the future by having those simulations I think is very helpful.

COMMITTEE MEMBER MIDDLETON: All right. Thank you.

INTERIM CHIEF OPERATING INVESTMENT OFFICER BIENVENUE: I'm sorry, I'll just add quickly. Twice a year, we come with a series of those sort of stress tests. So we do a trust level review twice a year in February and August, and you'll see those then.

CHAIRPERSON FECKNER: Mr. Bailey.

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MR. BAILEY: We touched on the idea of tail risk. I showed you those two distributions. And I want to just talk a little bit about the idea of managing tail risk. Again, tail risk is really the left-hand side of those distributions, and what are the -- what is that third -- three standard deviation event that might occur that is going to cause me, or my organization, so much heartburn?

We've had two long and sharp stock market drawdowns really in the last 15 years. I guess I suppose it's more like 19 years. But going back to 2001 and then going to 2009, those were very serious declines in the equity market. And so tail risk really is something that people pay a lot of attention to.

How do we try to handle that? Well, I list four possible strategies. I say diversification. We'll talk about that in a moment. Insurance strategies. I mean you can buy protection against market declines. It's extremely expensive. Few organizations do it, and on a long-term basis, but it's a certainly possible.

I'm also going to talk about risk parity in just a little bit. Not promoting it, but just as a way to try to tackle tail risk. And then there's this idea of Black Swan strategies. There's a very interesting author, Nassim Taleb, who wrote some good material on this. But basically, these are taking very deep out-of-the-money sort of investments and having this protection that only pays off in catastrophic events. You know, again, I don't -- you don't see very many organizations taking that sort of approach. But those would be four ways to try to protect against tail risk.

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MR. BAILEY: I do want to talk about diversification here for a moment on page 38 -- or slide 38. The cheapest and the simplest option is diversification. The idea is building out a portfolio whose returns don't move to -- the assets don't move together at the same time. We refer to those as low correlation assets. And I truly believe it's the one free lunch in investments. After the fact, as we'll talk about in a moment, you always would rather have had something else.

But basically, in going forward, it's the one way that you can try to protect against risk that essentially just tries to take advantage of compensated returns.

My message to trustees is that they should be ensuring that all the diversification opportunities have been considered. Now, that doesn't mean that you shouldn't be aware of some problems, that there are assets that in a highly stressful environment become highly correlated. And we saw that in 2009. All the world's equity markets declined at once. It wasn't -- you didn't save yourself by being diversified in international stocks versus domestics stocks.

And there are plenty of investments that I would refer to as gratuitous diversification. It really doesn't provide a lot of diversification. It just looks like you have diversification in your portfolio.

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MR. BAILEY: But, Ms. Taylor, the point that I want to get to is right there on this slide. This is slide 40. So I'm looking for assets that even in stressful environments don't have high levels of correlation; that is, they don't tend to move together. And this is why bonds end up in portfolios -- high quality bonds end up in portfolios, because they don't move together. Even in the most stressful environments, they don't move in lockstep. Stocks and bonds don't move in lockstep.

Now, you have to be a little careful. I'm talking about high quality bonds, long-term government bonds, agency bonds, and so forth. If you start to slide down the quality spectrum, then it becomes less clear that they're -- there's a negative correlation -- or a zero correlation between the two.

CHIEF INVESTMENT OFFICER MENG: If I may on this note, a very important note of diversification. So Mr. Bailey just showed you, in terms of diversification, we are looking for the asset class that lowly correlated or ideally negatively correlated during time of crisis.

So he talk about the -- how stable the correlation is. You want it to be low correlation when you need it. The other aspects to it is that very unique to the market environment we're in today. So the biggest source of risk in our portfolio is a growth risk or equity risk. And historically speaking, the best diversification to that risk is really the high quality government bond and the corporate bonds.

But how did it happen?

So normally, in the past, when the financial crisis comes, usually the Federal Reserve will cut interest rates, and that will boost diversification benefit from the government bonds, high quality bonds.

But also in the past, if you look at the recent past, on average, the Fed had to cut 300 to 350 bps. But now our -- we are still in the low interest rate environment. The 10-year note they cut to 40 roughly. We don't -- we won't have another 350 bps to cut in the next downturn. So be mindful that when the next downturn comes, the diversification benefit from the high quality government bonds may not be as strong as it has been in the past.

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MR. BAILEY: At the risk of getting into too much statistics, I'm going to pop back to page 39 and just make sure that the trustees, who aren't statistically minded, understand this idea of correlation. So, basically you measure the way two returns move together with this idea of correlation. And you can go from negative 1 to plus 1.

Plus 1 means that they move in lockstep in the same direction. And so if you look at the left-hand side, you can see the return on stock A is the -- and stock B, you can see how they lineup there, straight line going upwards.

So the idea is that those two return series tend to be almost perfectly positively correlated. So as I say, examples might be stock market returns and economic growth. Those tend to be very highly positively correlated.

Compound yield and total wealth. The higher my yield, the greater my wealth grows. So those are variables that move together in the same direction. So I would talk about those as having a correlation of plus 1.

I'd love to have just the opposite. I'd love to have assets that move in a negative way. So in other words, when one is going up, the other is going down. And that's what you see on the right-hand side. Stock A and stock C, they're negatively correlated. You can think of bond yields and bond prices as being negative correlated.

If bond yields go up, bond prices go down. Gas prices go up, world oil production goes down, we're going to see a negative correlation. Or excuse me, gas prices will go down, if world production goes up.

So the idea is that we'd love to have returns on assets that move and have a negative correlation, a negative 1. They're hard to find, and a lot of times we have to settle for 0.

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MR. BAILEY: And that's what you see in slide 40. Bonds -- long-term government bonds and stocks historically have about a zero correlation with each other. There are periods of time when they can move in the same direction. But more often than not, they're highly uncorrelated, and sometimes they're even negatively correlated, which is why they provide protection, and why so many investment organizations put bonds in their portfolio, not because of the high expected returns on bonds, but because they provide that protection in bad periods of time.

CHAIRPERSON FECKNER: Ms. Taylor, any other?

VICE CHAIRPERSON TAYLOR: Yeah. So I appreciate you bringing that back around, so that you answered my question. But I also -- I guess when I look at that diversification, we also can only invest so much in bonds --

MR. BAILEY: Um-hmm.

VICE CHAIRPERSON TAYLOR: -- because we want to reach a certain rate of return, so it -- that in and of itself sort of counteracts the hopefulness that we -- that diversification will mitigate some of those losses. So what's the solution to that?

MR. BAILEY: Well, if I can put words in your mouth in trying to reach that 7 percent expected return, you have to take more equity risk in that portfolio is the feeling.

VICE CHAIRPERSON TAYLOR: Right. Right.

MR. BAILEY: And so you invest in assets that don't have that zero correlation.

VICE CHAIRPERSON TAYLOR: Correlation.

MR. BAILEY: That's right.

VICE CHAIRPERSON TAYLOR: So we're just stuck.

MR. BAILEY: That's -- that's -- well, that's the dilemma that so many public funds have gotten into. I mean, but endowment funds are the same way. They're trying to earn high real inflation-adjusted returns, and they take a lot of equity risk in their portfolio. And you're more susceptible to 2009s in that situation.

VICE CHAIRPERSON TAYLOR: And historically, I mean, these were not high rates. We've all lowered our rates compared to where we used to be.

MR. BAILEY: Exactly. But if you look at it compared -- we talked about this idea of using the risk-free rate as a base. Again, long -- 10-year treasuries are at 2.4 percent right now. So you have to -- your equity risk premium has to be really high to get you to 7 percent total portfolio return.

VICE CHAIRPERSON TAYLOR: Right.

MR. BAILEY: And that's difficult.

VICE CHAIRPERSON TAYLOR: Thank you.

CHAIRPERSON FECKNER: Mr. Rubalcava.

COMMITTEE MEMBER RUBALCAVA: Thank you.

My question is similar to Ms. Taylor's. Talking about the diversification. And I notice you skipped a slide - maybe you didn't - about the 100-year flood.

MR. BAILEY: Yes.

COMMITTEE MEMBER RUBALCAVA: I mean, that's a concern I guess I have as -- I mean, how much protection can you get in those situations? I mean, you know, the three deviations, whatever you call it, three standard deviations.

MR. BAILEY: I think the 100-year flood slide a ways back. Over here. Page 30.

Yeah. There. Yeah, that's right. Oh, my beautiful picture of the flood was taken out.

(Laughter.)

INVESTMENT DIRECTOR SIMPSON: Sorry.

MR. BAILEY: That's all right.

No. What the point of this was simply that the -- a lot of times we mis-specify the probability distribution that we're concerned with. And that's a risk for any investor. You're only interested in what the world looks like going forward. And so you're trying to estimate the probability distribution of returns for different types of assets. Now, your staff is doing that.

And if you stick with the old history, sometimes it can be that the history is moving -- or excuse me, the expectations are moving and you haven't caught up with it. And so the point of this slide was just simply be careful about looking at history and using that to make your judgments for the future.

Today, the probability distribution for some cities that live near rivers, they can look at their -- the probability distribution from the past and the odds of them being flooded out in 100-year flood was 1 out of 100 basically. And now, all of a sudden, they experience a lot more floods. Well, the answer is the probability distribution has changed. Global climate has changed the distribution of flooding in their area, and so they should be paying attention to that. That was the point I was trying to drive at in that particular slide.

CHIEF INVESTMENT OFFICER MENG: Yeah. If I may, I detect a little bit concerning tone from some of you, which it should. When we talk about diversification or the lack of the tools we have in today's market environment in diversification, what should we do? So we all rightfully -- rightfully so, we all should be concerned. But if I may, can we go back to slide 19 very quickly?

MR. BAILEY: Nineteen?

CHIEF INVESTMENT OFFICER MENG: Nineteen, yes.

So if you look at the drawdowns, so this is the sustained period of drawdown. So in financial history, there has not been a recession that has not been fully recovered yet at least. So what might point is that it's about staying power. As long as you can stay through the downturn, the market eventually recovers. There are individual companies that did not recover.

But as an index, that's the, again benefit of diversification. If you're invested in the index or the broad market, eventually it will recover. So as long as we can sustain the downturn. How do we ensure that we can sustain the downturn? We talk about the importance of liquidity management. What would force us to liquidate or get out of position at the worst time? Either we need money or we panic.

So what do we need? We need money. We need money. We need to pay members' benefits and some other liquidity need of the total fund. As long as we can monitor and manage our liquidity profile very proactively, we can mitigate this risk. And also, we need to remind all of us when the time comes, keep calm and carry on. Do not panic. Do not panic in a downturn. As long as we can -- we have the ability to sustain it, eventually, the market will recover.

And we'll be even better in that situation, if we have dry powder we can deploy in a down market to take advantage of the recovery of the market. That would be even better. So that's a secondary goal. First, make sure we can survive the downturn, and then let's take advantage of the downturn.

And if we can do that, we can mitigate these risks. We cannot -- we can never avoid or eliminate the risk completely, but we can mitigate it. So this should give you some comfort that this is the topic we are constantly, every day, or every minute, or every hour of it, the whole team thinking about this conundrum or the challenge we face now.

CHAIRPERSON FECKNER: Anything else, Mr. Rubalcava?

COMMITTEE MEMBER RUBALCAVA: Nothing.

CHAIRPERSON FECKNER: Mr. Miller.

COMMITTEE MEMBER MILLER: Yeah. Just as you were speaking, Ben, I'm thinking about this diversification. It does strike me that when we look at -- across the entire portfolio, we try to diversify, but also within those asset classes. And looking at the way the equity markets in particular have been changing and evolving, going back to that whole climate change thing. It's not the same world it was 10 years ago in terms of what's happening and our understanding of it, these burgeoning changes.

And so it seems that, you know, part of that discussion needs to be as more of the opportunities that we seek that would help us to diversify are not available in a public equity setting, aside from the extent to which they may be represented in some fund.

It seems like private equity has to be a big part of our diversification strategy. And not just diversification, but also, you know, the flip side trying to avoid undue concentrations. And so is that something you're seeing kind of across the industry, Mr. Bailey? Is everyone grappling with the same kind of challenge?

MR. BAILEY: They are. Let me just highlight just a couple of additional slides here that I might help to drive at that question.

And I'm -- we're getting close to the end, so I'm going to jump around just a little bit here. Let me get to the point about diversification smooths real returns. This is slide 43.

So this is a 50/50 stock/bond diversification, so -- in the red. And you can see that in 2009, a 50/50 portfolio was very effective. You still had a negative draw -- I mean, you still had a drawdown clear, but you recovered much quicker, and you had no where near the depth of that decline. In the 1970s, the stock/bond correlation was actually much higher. And the reason being that bonds were being hit by inflation at that time.

And so that goes back to this issue of the distribution of returns and how correlated assets are. So you're -- these things are changing over time. It's not a static sort of environment. And working with your staff, and consultants, and so forth, I mean, it's -- the job of the trustees is to feel comfortable that they have some sort of vision of the future about how you think the world is going to operate. Of course, this is all expectations. There's no guarantee that any of that is going to work. But you can't -- you can't just sit and look at the history and say this is how things are going to happen.

And my point on that again is on slide 45, you can see these changing correlations between stocks and bonds. And interesting, you also see the changing correlation between U.S. stocks and non-U.S. stocks, where the correlation has gotten greater over time is the world has become more global and more integrated.

So, again, trying to build those expectations into your portfolio I think is one of the greatest challenges that you face, which leads me to one final segue then on that idea is -- Mr. Miller, is on page 46 -- or slide 46.

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MR. BAILEY: What I did was -- these are -- what you have is you have U.S. Equities. Those are valued on a daily basis. And then we have private equity and real estate that are not valued on a daily basis. These are oftentimes appraisal prices or some other estimate of the value of those securities that occur at best on a quarterly basis, sometimes even less.

And in trying to build risk models to incorporate alternatives into the portfolio, you have to rely on some of that stale pricing information that goes into the analysis. And it's a challenge for staff and consultants to try to bring that information into play.

You can see the historical volatility over this period, 1993 to 2018. I picked that, because I had some data on the private equity and real estate world over that erred if of time.

You can see that stocks had a volatility -- a standard deviation of 15 percent a year. That's pretty normal, pretty reasonable. This reports private equity to be 9.8 percent and real estate to be 4.2. I put down believable. I say, no. I mean, it's not believable. It's not the fault of anyone that's building these benchmarks here. But because of the pricing that goes on and inside this -- these models is, at best, stale, you get -- you don't have an apples-to-apples sort of comparison when you try to build those into risk models.

And it's Ben's team's challenge to try to build some sort of way to integrate private equity and real estate into the publicly-traded assets. And that's not easy. I don't envy them. It's -- but I think as trustees you should have your eyes wide open when you see those sort of numbers laid out, how volatile do we think private equity is, how volatile do we think real estate is, what will it do in a 2009 sort of scenario, how do they correlate, is it a good diversifier or not?

It may be a great asset from an expected return standpoint, but what are its risk characteristics? How do we incorporate those into our modeling?

So again, it's hard. You aren't the only organization that's facing that. But as you get larger, allocations to alternatives, it requires you to make those sort of decisions. That's my point. It's not fair to say

I don't know. And as a result, I just won't pay any attention to it. It become a meaningful portion of your portfolio. You have to pay attention to it.

CHAIRPERSON FECKNER: Go ahead, Mr. Bailey.

MR. BAILEY: All right. I'm going to finish up. I am going to skip past a couple of slides here, if you don't mind --

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MR. BAILEY: -- and just finish up with a discussion of active and passive management. And I just want to be clear on this issue, what we mean by active and passive management. Active management, as I say here, is a strategy that's designed to outperform a particular benchmark. And you do that by holding positions in your portfolio that are different than those of the benchmark.

Passive management just means you're trying to track the performance of that benchmark. And we talk about active risk as being how volatile is your performance relative to the benchmark?

And the idea of active management is I take active risk with the idea that I'm going to earn an active return. I'll beat the benchmark by some amount. And we alluded to this earlier. Unlike market risk, you don't get paid for taking active risk. You may be smart. You may hire the best managers, but you don't get paid for it.

On average, the active managers are going to underperform the passive management's approaches. I mean, that's just the math. Bill Sharpe did a great article back in, I think it was 1992, where he wrote the arithmetic of active management. And he just basically laid out a very elegant argument that said active managers in aggregate after fees have to underperform passive managers in aggregate.

Now, if you're smart, you hire the better active managers and you can outperform the passive side of things. But you can't expect to outperform passive management, just by holding active managers.

CHIEF INVESTMENT OFFICER MENG: Sorry. I couldn't hold back. I had to add something here.

(Laughter.)

CHIEF INVESTMENT OFFICER MENG: So I totally agree with, and I am familiar with the study by Dr. Sharpe, the Sharpe Ratio, Bill Sharpe.

So in aggregate, active management has to underperform passive management because of the fee and other friction cost. But on this, I would like to challenge -- not challenge, a question for Jeff as well. Then why so -- there are so many people out there still trying active pursuit of these active risk management? Is that in the hope or in the illusion of overconfidence that you are better than the average? You can beat the market.

So what is it? The fact the simple math is out there, but the activity around it is still prevalent, and people talk about it, still trying to do it.

MR. BAILEY: Right. I wouldn't say that it's a bet that I'd want to make when I work with pension funds. We passively manage the vast majority of our portfolio. But I understand what you're saying, there is a prevalence of active management. I could attribute that to habits, to kind of hoping that we'll all do better than average. I live in Lake Wobegon country. So we know that --

(Laughter.)

MR. BAILEY: -- some -- all of our children are -- can be above average, and we can succeed. But I think it is a -- what Sharpe laid out is a challenge to any large pension fund or endowment fund is how can we take active management and actually turn it into something productive for ourselves?

It -- the fact that there's a prevalence of active management can be chalked up to great marketing on the part of active managers. Like I said, can be chalked up to a whole -- our delusion on the part of funds. I can't say exactly why it's remained that way. But it certainly is true, there's more active management out there than passive management. But the math is pretty straightforward on that issue.

CHAIRPERSON FECKNER: Ms. Middleton.

COMMITTEE MEMBER MIDDLETON: Thank you, Mr. Bailey. Could we go back to slide 48.

MR. BAILEY: Sure.

COMMITTEE MEMBER MIDDLETON: And I'm just intrigued by the concept of risk budgeting and the framework.

MR. BAILEY: Sure. Yes.

COMMITTEE MEMBER MIDDLETON: Should we be using the same type of framework for publicly-traded assets as opposed to private assets?

MR. BAILEY: Ideally, yes. I go back to that slide that I had pointed out before, where the inputs have to work. I mean, the famous idea, garbage in, garbage out is certainly true when it comes to risk budgeting, where you're dealing with a -- usually a fairly intricate model of how assets correlate with each other, and your expected returns, and the volatilities.

And if your inputs are poor, you're going to get a poor result. So I think the challenge for so many organizations is how do you develop the best inputs? And so that's where I go back to saying, well, I think my expected return on private equity is equal to public equities plus something. And my risk is equal to, oh, public equities, or something like that, just -- that isn't the way to approach it. I think you have to -- I think the challenge is much more complex than that.

CHAIRPERSON FECKNER: Anything else, Ms. Middleton?

COMMITTEE MEMBER MIDDLETON: (Shakes head.)

CHAIRPERSON FECKNER: Mr. Jones.

COMMITTEE MEMBER JONES: Yeah. Thank you, Mr. Chair.

Yeah. Could you go back to slide 26. It's something you said that triggered something I saw -- I remembered back then.

MR. BAILEY: Sure.

COMMITTEE MEMBER JONES: And it's -- and I know that at the bottom you say our focus will be on various forms of investment risk. But then right above that, you do list some other categories, one of which is reputational, and also, which I don't see anywhere, is geopolitical risk. We just -- in a tariff war with China and U.S. right now. And some believe it may be short-termism. It may go away in June. But then it's a possibility it's a long term. And the impact of that is not only affecting U.S. And China, but it's the global economy, because we invest all over the world.

So do you have any thoughts about geopolitical and reputational risk to guide us for that discussion?

MR. BAILEY: Well, I -- when you say thoughts, certainly they're worthwhile being concerned with. The question is in terms of your investment analysis, how do you incorporate them into those probability distributions that you're working with.

So when we think about geopolitical risk, I mean it certainly is an element that my U.S. treasury bonds are going to payoff, whether there's geopolitical risk or not. That doesn't affect the probability distribution of U.S. Treasury bond returns.

But my domestic equity investments, it's certainly the case that a trade war with China could impact the value of my domestic equity holdings. So somehow, I have to build some sort of probability distribution that perhaps takes into account the fact that returns are more volatile, because we have an administration now that is more willing to fight globalization and change the potential outcome for domestic companies because of trade wars.

I mean, I don't have a modeling answer for you, but I think it's appropriate to say how are we going to incorporate some of those issues into our expectations?

COMMITTEE MEMBER JONES: Okay. Thank you.

CHAIRPERSON FECKNER: Mr. Perez.

COMMITTEE MEMBER PEREZ: Thank you.

Shocker, I'm confused.

To answer Mr. Rubalcava's question earlier, why can't -- if we should just be more passive or active, than his response to the people asking him would be we're doing it wrong?

MR. BAILEY: I will never say you're doing it wrong or doing it right. That's not fair. That would be incorrect of me to do that. You have to make that decision. I -- you actually gave me a great segue to close the active/passive discussion, if you don't mind?

COMMITTEE MEMBER PEREZ: Absolutely. Thank you.

MR. BAILEY: Okay. I view it in this world, your active management belief statements. And I think there are really five beliefs that you have to be able to say yes to before you would engage in active management.

One is the existence. First, you have to believe that active managers -- successful active managers exist.

Second, you have to think that you can identify them. That's easier said than done. I mean -- and this is going forward. This isn't -- you can't -- you can look at performance in the past and say they were successful, but your judgments are all going forward.

Second, you have -- third, you have to structure them. By that, I mean you have to be able to hire them, to put them together in a portfolio that you're comfortable with the risk level of that portfolio.

Fourth, you have to be able to tolerate the potential volatility. That could be reputational issues or it just could be losses that you suffer because the managers underperform their benchmarks, but you have to be able to tolerate that. And lastly, you should be able to say that I actually need the extra risk that's associated with that portfolio of active managers.

Now, your answer may change depending on the particular asset class that you're looking at. I don't mean to say that this -- you're going to get the same answer by answering once. You have to evaluate that in different levels.

But my argument, and maybe response to Ben is, I think the world is a little bit backwards on this, where passive management ought to be the default option. I mean, you should start with a passive -- this is my -- this is Jeff Bailey speaking. You should start with a default position that passive management is our approach. And only to the extent that we feel like we can answer yes to those five belief statements in a particular set of investments would I be willing to engage in active management.

So when you say am I right -- are we right in doing what we do? Well, I say can you answer yes to those statements in particular asset classes.

CHIEF INVESTMENT OFFICER MENG: So if I may, this is a very important topic. So if you think about active management relative to passive management. Passive management means that you can buy the benchmark, just buy and hold the benchmark passive. Don't do anything active.

So the active means that if you think you can beat the benchmark, you can outperform the benchmark, either by owning more or less than the benchmark on a particular securities, say Apple stock. And for you to do that, say you think Apple stock is going to outperform the passive management, so you overbase the Apple stock. It means that on the other side, someone has be willingly to underweight the Apple stock.

And the Apple stock either go up and down, cannot do both ways, right? So either you are right or the -- your -- the other -- the other party is right.

So it means that for you to -- consistently to beat the benchmark or beat the passive investment management style, you have to be able consistent to be right, or better than the average than the markets. So that's the challenge.

And then Jeff just mentioned that when we say that active -- active management, we are mostly referring to in public asset classes, where the market is rather efficient, the competition is very strong. And that's where we need -- back to Jeff's comments, where do we want to be active? We want to be active where we have a structure of comparative advantages.

In public market it is difficult, because it's so efficient and competition is so strong. But relative speaking, in private markets, such as private equity, we do have some structure comparative advantages, and perhaps we can be more active in private asset classes. So basically, you pick your battle, right? You pick your battle, which battle you want to pick on. And based on your conviction in which market you think, on average, you can beat the markets or beat the benchmark.

So that maybe a way to answer your question. Our view on active risk management, we had to pick what asset class we want to be in. And certain asset class probably were better served to be more passive, and certain asset class will be better served to be more active.

CHAIRPERSON FECKNER: Go ahead, Mr. Bailey

MR. BAILEY: Well, I think that actually, at this point -- I promised I would wind up by a quarter after, and I almost did it.

So I think that concludes my remarks. I'm happy to answer additional questions.

CHAIRPERSON FECKNER: Very good. I see no other questions from the Board, but I do have one from the audience. L.R. Roberts, please come down. Please state your name and affiliation for the record, and you'll have up to 3 minutes for your comments.

The microphone will turned on for you.

MS. ROBERTS: Which one do you want me at?

CHAIRPERSON FECKNER: The one on your -- closest to you.

MS. ROBERTS: So today, I'm being National Lawyers Guild, even though I am member of two retiree groups. I'm on the National Lawyers Guild board locally, but we have many other National Lawyers Guild members who are PERS members. I totally disagree with the idea that classes of investments should not be banned, and totally disagree that trustees should not be involved in picking particular classes or even particular investments, and the CIO should report directly to the Board.

An example of the kind of class of -- and the kind of investments that we shouldn't do is private prisons, especially now that these sleazy organizations are being used to jail small children. I have had clients be held in private prisons, a federal one here in California, for instance. And I would not let a dog be held under such conditions. PERS is our money. I do not want to invest in cruelty and exploitation.

CHAIRPERSON FECKNER: Thank you.

Seeing no other requests to speak, thank you much, Mr. Bailey, Mr. Meng, everybody for your presentation. Seeing no other requests, I think we have exhausted this event.

Great educational opportunity. Thank you very much for your time. Ms. Simpson, thank you very much.

We have Agenda item 9 left on the agenda, that's public comment. I do have two folks from the public that would like to speak, Jeff Perry and Ann Glatt. Please come forward, use the two seats on your right, my left. Speak your name and your affiliations, please. And you'll have up to 3 minutes for your comments.

MS. GLATT: Good morning, Mr. Feckner and Committee. My name is Ann Glatt, and I am a driver for Lyft for the last 4 year, a full-time driver in the Bay Area. I appreciate the opportunity to address this Board regarding the risk that the business models of companies like Lyfts and Uber present.

Our organization Gig Workers Rising and Mobile Workers Alliance have sent you a letter that fully details these issues. To briefly summarize, the classification of Lyft and Uber drivers like myself and independent contractors does not, in our view, serve your interest as public agencies. Treating us as independent contractors lowers tax revenue that funds your system.

Also, because the companies do not pay enough and provide no benefits, drivers are often forced to rely on publicly funded social services further hurting government budgets.

At the same time, these companies depend heavily on public budgets for roads and bridges in order to function. These companies bring more risk to you in the investment markets. For example, both Lyft and Uber acknowledge, in their own documents, the issue of classification of their drivers and driver dissatisfaction in their -- or makes risky -- makes their business model risky. There are many other risks for you to consider, including legal and regulatory issues, and the fact that neither of these companies has shown a plan that will make them profitable.

On May 8th, many Lyft and Uber drivers did not sign on to the app to drive in order to bring attention to these issues. For this reason, I'm here today to ask you to review the information we have shared in our letter and to have your staff engage the leadership of both companies to encourage them to work towards a sustainable business model that serves everyone's interests.

Thank you.

CHAIRPERSON FECKNER: Thank you.

MR. PERRY: Good morning, Mr. Feckner and members of the Committee. My name is Jeff Perry.

I'm a driver for both Uber and Lyft. I live in Sacramento, but I commute to the Bay Area for work primarily. Like my colleague Ann, I appreciate the opportunity to address you guys today. I stand in solidarity with all my fellow drivers who did not sign on for work last week to raise awareness of the issues we face as drivers.

Some of you may have seen the CBS National News I was a part of that aired last Wednesday, and I'm going to briefly share with you why my experience as a driver shows me that the current business model of these companies is not sustainable.

These companies rely on us working unreasonably long hours, under conditions -- these apps are designed to keep people driving and deter drivers from taking appropriate breaks. It makes the roads a more dangerous place. It's devastating culture for driver health and safety. And with the -- as Ann mentioned, the reliance on a lot of the public services that taxes those Medi-Cal and other benefits.

This is also a platform that relies on the defiance of law, and leaves investors on the hook to absorb the financial liability when the law finally catches up with them. The culture at both Uber and Lyft is intentional, and not accidental to defy the law, as became apparent -- as multiple emails they've sent me over the more than 3 years I've worked for them instructing how to avoid law enforcement, and in the event that you get a ticket for say an illegal pick-up at the airport, how they will pay for that ticket.

So these are things that affect public safety and public works as well as the tax base. In closing I hope that you can see why we need to work together to make changes in how these companies operate.

Thank you.

CHAIRPERSON FECKNER: Thank you. Thank you both for being here today and for sharing your information with the Committee.

Thank you.

We have one more request to speak Emily Goldman. Please come forward, speak your name, and you'll have up to 3 minutes for your comments.

MS. GOLDMAN: Good afternoon. My name is Emily Claire Goldman, as many of you know. I'm the founder and director of Educators for Migrant Justice. And I am here on behalf of hundreds of CalPERS members who are outraged that their pension fund is still investing in companies that are aiding and abetting the migrant abuse crisis.

To my knowledge, there has been only one update provided to the Board since this engagement began. So I would respectfully like to request that the Board make a request for another update. If that update, to the extent possible, could be provided publicly, or at least to your stakeholders, that would be very much appreciated. Though I do understand that there is a very limited amount that can be provided in that regard.

But without this follow up, we have no idea what's going on with the engagement process. How many times have they met with the companies? Are they meeting with the executives? Who are they meeting with? Have they visited the facilities? There is a lot that we can't know, if this dialogue and internal communication is not happening.

I would also, and I understand this is not and back forth questioning time, but, you know, I would be curious to know how CalPERS voted it shares at the GEO shareholder meeting last week, specifically on the issue of how they implement their human rights policy, since the board was initially not on board with that. They eventually reversed course. But only days later, they were again restricting access to legal counsel at one of the family detention facilities in Texas.

And there is an upcoming CoreCivic shareholder meeting in a couple days, where I would like to know how CalPERS is planning on voting its shares. You want to talk engagement, this would be an important opportunity.

There is a proposal before CoreCivic to have executive compensation tied to their human rights impacts. And again, they have challenged it. So -- and while challenging it, it's still moving forward. So, that would be another important place for engagement. And one that would be important for your stakeholders to see.

I would also still point out, since I didn't have the opportunity to address you at the last couple meetings, that, you know, specifically when we talk about the fiduciary duty and the training that you all have had, that it's an objective standard, not subjective. And yet, we do have a relatively wide consensus among responsible investors that at least the two for-profit prison companies, CoreCivic and GEO Group are not prudent investments.

And more importantly, one of the factors that's supposed to be considered is whether or not the investments negatively impact your beneficiary's ability -- their employment opportunities.

CHAIRPERSON FECKNER: You've run out of time. Thank you, Ms. Goldman.

MS. GOLDMAN: Thank you so much.

CHAIRPERSON FECKNER: Thank you for your comments.

Seeing no other requests to speak, the open part of the agenda is adjourned. We will be in -- go into closed session at 1:15.

(Thereupon California Public Employees' Retirement System, Investment Committee meeting open session adjourned at 12:35 p.m.)

C E R T I F I C A T E OF R E P O R T E R

I, JAMES F. PETERS, a Certified Shorthand Reporter of the State of California, do hereby certify:

That I am a disinterested person herein; that the foregoing California Public Employees' Retirement System, Board of Administration, Investment Committee open session meeting was reported in shorthand by me, James F. Peters, a Certified Shorthand Reporter of the State of California, and was thereafter transcribed, under my direction, by computer-assisted transcription;

I further certify that I am not of counsel or attorney for any of the parties to said meeting nor in any way interested in the outcome of said meeting.

IN WITNESS WHEREOF, I have hereunto set my hand this 17th day of May, 2019.

JAMES F. PETERS, CSR
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