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

TUESDAY, FEBRUARY 19, 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. Bill Slaton, Chairperson

Mr. Rob Feckner, Vice Chairperson

Ms. Margaret Brown

Ms. Dana Hollinger

Ms. Adria Jenkins-Jones

Mr. Henry Jones

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

Mr. David Miller

Ms. Mona Pasquil Rogers

Mr. Jason Perez

Mr. Ramon Rubalcava

Mr. Theresa Taylor

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

Ms. Natalie Bickford, Committee Secretary

Mr. Dan Bienvenue, Interim Chief Operating Investment Officer

Mr. John Cole, Investment Director

Ms. Kit Crocker, Investment Director

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

STAFF:

Mr. Sarah Corr, Interim Managing Investment Director

Mr. Paul Mouchakkaa, Managing Investment Director

Mr. Beth Richtman, Managing Investment Director

Mr. John Rothfield, Investment Director

ALSO PRESENT:

Ms. Lisa Bacon, Meketa Investment Group

Mr. Terry Brennand, Service Employees International Union California

Mr. Al Darby, Retired Public Employees Association

Mr. Allan Emkin, Pension Consulting Alliance

Ms. Christy Fields, Pension Consulting Alliance

Mr. David Glickman, Pension Consulting Alliance

Ms. Emily Claire Goldman, Educators for Migrant Justice

Mr. Steve Hartt, Meketa Investment Group

Mr. Dane Hutchings, League of California Cities

Mr. Ruben Ingram, School Employers Association of California, Capitol Advisors Group

Mr. J.J. Jelincic

Mr. Andrew Junkin, Wilshire Associates

Mr. Ali Kazemi, Wilshire Associates

Ms. Steve McCourt, Meketa Investment Group

Mr. Geoff Neill, California State Association of Counties

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

ALSO PRESENT:

Ms. Martha Penry, California School Employees Association

Ms. Kate Riley, Educators for Migrant Justice

Ms. Hannah Schriner, Meketa Investment Group

Mr. Larry Woodson, California State Retirees

I N D E X

I N D E X   C O N T I N U E D

P R O C E E D I N G S

CHAIRPERSON JONES: I'd like to call the Investment Committee meeting to order.

The first order of business is roll call, please.

COMMITTEE SECRETARY BICKFORD: Henry Jones?

CHAIRPERSON JONES: Here.

COMMITTEE SECRETARY BICKFORD: Margaret Brown?

COMMITTEE MEMBER BROWN: Here.

COMMITTEE SECRETARY BICKFORD: Rob Feckner?

COMMITTEE MEMBER FECKNER: Good morning.

COMMITTEE SECRETARY BICKFORD: Good morning.

Dana Hollinger?

COMMITTEE MEMBER HOLLINGER: Here.

COMMITTEE SECRETARY BICKFORD: Adria Jenkins-Jones?

COMMITTEE MEMBER JENKINS-JONES: Here.

COMMITTEE SECRETARY BICKFORD: Fiona Ma?

COMMITTEE MEMBER MA: Here.

COMMITTEE SECRETARY BICKFORD: David Miller?

COMMITTEE MEMBER MILLER: Here.

COMMITTEE SECRETARY BICKFORD: Mona Pasquil Rogers?

COMMITTEE MEMBER PASQUIL ROGERS: Here.

COMMITTEE SECRETARY BICKFORD: Jason Perez?

COMMITTEE MEMBER PEREZ: Here.

COMMITTEE SECRETARY BICKFORD: Ramon Rubalcava?

COMMITTEE MEMBER RUBALCAVA: Here.

COMMITTEE SECRETARY BICKFORD: Bill Slaton?

COMMITTEE MEMBER SLATON: Here.

COMMITTEE SECRETARY BICKFORD: Theresa Taylor?

COMMITTEE MEMBER TAYLOR: Here.

COMMITTEE SECRETARY BICKFORD: And Betty Yee represented by Lynn Paquin?

ACTING COMMITTEE MEMBER PAQUIN: Here.

CHAIRPERSON JONES: Okay.

Thank you. The next order of business, we are going to create a new practice where we're going to Pledge the Allegiance also for -- at the Investment Committee. So this morning, I've asked Jason Perez to lead us in the Pledge of Allegiance.

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

CHAIRPERSON JONES: Thank you.

And you probably -- for those of you that were not at the off-site, we do have three new Board members. And Jason Perez, who just led us in the Pledge of Allegiance, he's a Sergeant from Corona Police Department and President of his Police Officer's Association; Fiona Ma, the ex officio member of our Board, newly elected State Treasurer; and Mona Pasquil Rogers, appointed by

Governor Brown, Director of the State Personnel Board. So welcome to all three of you.

And at that time, we will move to the next action item is the election of the Chair and Vice Chair for Investment Committee.

Okay. We've got Ms. Mona Pasquil Rogers.

COMMITTEE MEMBER PASQUIL ROGERS: I beg your pardon?

CHAIRPERSON JONES: Oh, you're -- Okay. That's okay. Okay. Yeah, when you hit that button your name comes up okay, so that -- Ms. Hollinger.

COMMITTEE MEMBER HOLLINGER: Yes. I am proud and pleased to elect Bill Slaton -- nominate, pardon me -- nominate Bill Slaton as Chair of the Investment Committee.

CHAIRPERSON JONES: Okay. It's -- Bill Slaton has been nominated to be the Chair of the Investment Committee.

Are there any other nominations?

Are there any other nominations?

Are there any other nominations?

Hearing no additional nominations, I would entertain a motion a elect Bill Slaton as Chair of the Investment Committee by acclamation.

COMMITTEE MEMBER HOLLINGER: I move.

CHAIRPERSON JONES: It's moved by Ms. Hollinger.

Second by --

COMMITTEE MEMBER MA: Can we take a roll call vote?

CHAIRPERSON JONES: Okay. You'd like to -- okay. I can take a roll call.

Let's take a roll call vote at the request of a member of the Board.

Oh, second. Did you second it, Ms. Ma, also?

COMMITTEE MEMBER MA: No.

CHAIRPERSON JONES: Okay.

COMMITTEE MEMBER BROWN: I'll second it.

CHAIRPERSON JONES: Okay. It's been seconded.

I have no problem of withdrawing the request for a motion by -- a nomination by acclamation to have a roll call vote, unless the Committee members disagree, then I'll have a roll call vote.

So seeing no disagreement, roll call vote, please for the nomination, and it's been seconded for Bill Slaton to be Chair of the Investment Committee.

Hit your button.

(Thereupon an electronic vote was taken.)

COMMITTEE MEMBER JONES: Okay. Congratulations, Mr. Slaton.

(Applause.)

COMMITTEE MEMBER JONES: Mr. Slaton, would you --

Mr. -- Bill, would you do the Vice Chair from there and then after that we'll make the move around.

CHAIRPERSON SLATON: Absolutely.

COMMITTEE MEMBER JONES: I guess I have to call on you.

Okay. Just a second here. Mr. Slaton.

CHAIRPERSON SLATON: Thank you. And thanks to the Board for their confidence in me to Chair this very important Committee.

The next order of business is the election of Vice Chair. So I'll -- let's see I have to --

COMMITTEE MEMBER JONES: I'll call on them.

CHAIRPERSON SLATON: You'll have to call because I can't see the Board.

COMMITTEE MEMBER JONES: Ms. Taylor.

COMMITTEE MEMBER TAYLOR: Thank you.

I'd like to nominate Rob Feckner for Vice Chair for the Investment Committee.

COMMITTEE MEMBER JONES: I'll second.

CHAIRPERSON SLATON: Okay. It's been moved to elect Mr. Feckner as Vice Chair of the Committee.

Are there any further nominations?

Any further nominations?

Third and last time, any further nominations?

If not, nominations are closed.

I would entertain a motion to elect Mr. Feckner by acclamation.

COMMITTEE MEMBER TAYLOR: So moved.

COMMITTEE MEMBER HOLLINGER: Second.

CHAIRPERSON SLATON: It's been moved and seconded.

All those in favor say aye?

(Ayes.)

CHAIRPERSON SLATON: Opposed?

Motion carries. Congratulations.

(Applause.)

COMMITTEE MEMBER JONES: So now we will give the staff 10 minutes to change the chairs on the deck.

(Off record: 9:05 a.m.)

(Thereupon a recess was taken.)

(On record: 9:09 a.m.)

CHAIRPERSON SLATON: All right. We'll now resume.

The next item on the agenda is approval of the February 19th, 2019 Investment Committee timed agenda. I'll entertain a motion.

COMMITTEE MEMBER BROWN: Move approval.

COMMITTEE MEMBER HOLLINGER: Second.

CHAIRPERSON SLATON: Motion from Brown, second from Hollinger.

All those in favor say aye?

(Ayes.)

CHAIRPERSON SLATON: Opposed?

Motion carries.

By the way, we did receive on behalf -- on behalf of the Investment Committee, the Full Board received letters both from the California Professional Firefighters, as well as the California School Employees Association. And we appreciate their input.

Now, we'll move to the Executive Report. And it's your -- Ben Meng, it's your first report of an official Committee meeting, so welcome, and we look forward to hearing your comments.

CHIEF INVESTMENT OFFICER MENG: Good morning, everyone. Congratulations, Investment Committee Chair Mr. Slaton. So this morning, the review -- my understanding in connection is that every year there's -- we do these trust level review twice, one we start with our consultant first, and then the second time we will start with the staff first. So today is the time that we'll start with Wilshire on the trust level review, then followed by the staff.

Sorry. That concludes my comments.

CHAIRPERSON SLATON: Okay.

CHIEF INVESTMENT OFFICER MENG: Sorry.

(Laughter.)

CHAIRPERSON SLATON: That was -- that was short and concise. Thank you very much.

(Laughter.)

CHAIRPERSON SLATON: So now we'll move to the action consent items. Do I hear a motion?

COMMITTEE MEMBER JONES: Move approval.

COMMITTEE MEMBER MILLER: Second.

VICE CHAIRPERSON FECKNER: Are you taking items off though?

CHAIRPERSON SLATON: No, no. That's on the -- that's on the action -- information consent. Okay. Motion from Jones. Who seconded?

Miller. Second from Miller.

All those in favor say aye?

(Ayes.)

CHAIRPERSON SLATON: Opposed?

Motion carries.

I've been asked to pull two items off of the Item -- Agenda Item 6, Information Consent, 6a, Annual Calendar Review, and 6b, that was from Mr. Perez and from Lynn Paquin representing the Controller, 6b.

So before we move to Item 7, let's go ahead and address those items. So we'll start with 6a. And, Mr. Perez, you asked. If you'll hit your request button and we'll go there.

Mr. Perez.

COMMITTEE MEMBER PEREZ: Thank you.

In light of the training that I just received in preparation for the -- to be a Board member, I realized that the onus of the fiduciary responsibility is pretty high. And so doing that, we are still responsible for the decisions of the past Boards. So I wonder if we can put on the agenda, during the calendar, sooner rather than later, a reassessment of our divestitures, please.

CHAIRPERSON SLATON: Okay. This is all -- when is the next time we do divestment review. I just wanted to -- do we know? Can staff...

INTERIM CHIEF OPERATING INVESTMENT OFFICER BIENVENUE: So there are -- there are various different reviews, as we go through --

CHAIRPERSON SLATON: Um-hmm.

INTERIM CHIEF OPERATING INVESTMENT OFFICER BIENVENUE: -- but I think we moved everything to a five-year plan. And it's out -- it's out a ways. I don't know exactly what the date is, but it's out a ways.

CHAIRPERSON SLATON: Um-hmm. Well, in consideration of Mr. Perez's request, I don't think there's anything that prevents us from having a discussion on this, at least to bring new members up-to-date. But let's see if staff has any further commentary.

INTERIM CHIEF OPERATING INVESTMENT OFFICER BIENVENUE: So 2021 is our expected date for all five of the divestment reviews. However, if we need to do it sooner, certainly if directed, we certainly can do it sooner.

CHAIRPERSON SLATON: Um-hmm. Do we have any comments from other Board members regarding this issue?

Yes. The board lit up.

Ms. Taylor.

COMMITTEE MEMBER TAYLOR: Yes. Thank you. We have reviewed and discussed these divestments ad nauseam, I will say. Most of them are done through the Legislature. There's very few that the Board has made on its own. And we've recently reviewed I think that one. So I'm not sure that it's necessary for us to bring -- I don't feel that it's necessary for the Board to bring it up. So I would oppose this.

CHAIRPERSON SLATON: Okay. Ms. Brown.

COMMITTEE MEMBER BROWN: Thank you, Mr. Chairman. I would appreciate if you would agendize for either next month or March, just an overview of the Divestment Policy, and where this Board stands. We have four new members and then myself and Ramon are also new from last year, and so is Mr. Miller. But I think it would be helpful to at least have and overview of the policy, so we can all learn about it and find out where we're going.

Thank you.

CHAIRPERSON SLATON: Mr. Jones.

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

Yeah, I would support bringing something back from an overview perspective, so that particularly the new members can get an opportunity to know about the strategies, the consequences, et cetera. However, I would not support bringing it back right now for a decision, but I would support bringing it back for an overview. And we will be able to make our decision in 2021 as scheduled

CHAIRPERSON SLATON: Okay. Well, let's see. Mr. Miller.

COMMITTEE MEMBER MILLER: I guess I have kind of a question and a comment. When -- I'm not sure. Maybe staff could inform us, when was what the last kind of Board or Committee level review of this topic? And I know that those materials would be available to us to review or perhaps have a briefing for us by staff for the folks who weren't there.

And then second, could we get, in terms of an overview at a future meeting some time soon, any kind of -- since that last review, whether anything really significant that has happened in the interim that we should be aware of rather than waiting till 2021, the full new analysis.

INTERIM CHIEF OPERATING INVESTMENT OFFICER BIENVENUE: So I'll have Kit answer the questions. This is Kit Crocker who's our Investment Director over ICOR, which is where the divestment activity is handled. I'll have Kit answer kind of when each one was gone through. As far as level of significance since then, it's -- you know, I'd say probably the most significant that's changed is the -- is the members of the Board. However, I do think, you know, certainly in all cases there have been, you know, sort of, you know, news updates. And so we'll -- you know, really the question is do any of those rise to the level of wanting to do the full review?

INVESTMENT DIRECTOR CROCKER: Good morning. Kit Crocker, Investment Compliance And Operational Risk. And my jurisdiction over divestments is from a compliance perspective. We -- the five-year -- we have a, I think, five active divestments. Each of them is, of course, reviewed before it is implemented by the Board. The Board makes a fiduciary duty decision at that time.

The concept of -- the idea that we would want a five-year assessment -- reassessment comes from a desire of the Board to make sure that its fiduciary duty still supports the divestment in -- so that it doesn't go on in perpetuity without a reexamination of whether today's circumstances would still merit that.

The five-year review requirement is relatively new. I think it was included in the Total Fund Investment Policy two years ago -- two or three years ago. The first reassessment was of tobacco, which was in 20 -- fall of 2016. And since then, we have been -- there was debate whether we would stagger each of the five-year reviews, which would mean that the Board would have one basically every year or consolidate them and do it sort of all -- all in one big bang. And when -- the request was to consolidate them and do it once. That takes a lot of time and preparation on staff's part.

So if we were to do the five-year reviews on all of them -- all of the active divestments, we -- we had estimated we would need at least until 2021.

To discuss the Divestment Policy takes less time. I mean, we could obviously prepare to do that in fairly short order. Probably not by March, because I think those agenda items are due almost now. But otherwise, we're happy to oblige what would ever would help the Board.

CHAIRPERSON SLATON: Well, I think given -- listening to the conversation from fellow Board members, I think the direction from the Chair would be let's do a review. Not a full blown -- not the five-year. We're not going to accelerate that. But given the fact that the number of new Board members that we have here who were not present during these discussions to allow us to get a briefing on the policy and where we are, which ones we have, but not in anticipation of a decision process coming up.

Now, if we can -- if we can do it in March, okay. If you can't, you know, again, staff has to help with the workload in terms of when we can do it, so --

INTERIM CHIEF OPERATING INVESTMENT OFFICER BIENVENUE: So I think our preference would be April. As Kit says, I think, agenda items for March are due imminently.

CHAIRPERSON SLATON: Okay

INTERIM CHIEF OPERATING INVESTMENT OFFICER BIENVENUE: But we can -- and just to make sure we understand, this will be a high-level understanding of what are the divestments we have in place --

CHAIRPERSON SLATON: Correct.

INTERIM CHIEF OPERATING INVESTMENT OFFICER BIENVENUE: -- which one are -- which ones are legislative, which ones are Board action --

CHAIRPERSON SLATON: Correct.

INTERIM CHIEF OPERATING INVESTMENT OFFICER

BIENVENUE: -- and then just, you know, kind of magnitude.

CHAIRPERSON SLATON: Yeah, just to bring us all on the same page as to where we are.

INTERIM CHIEF OPERATING INVESTMENT OFFICER BIENVENUE: Right. Okay. Okay. But not a deeper dive into --

CHAIRPERSON SLATON: Not a deeper dive into all the nuances of everyone of them.

INTERIM CHIEF OPERATING INVESTMENT OFFICER BIENVENUE: That makes sense. If we get a deeper dive, that's the one that, to Kit's point, would require a bit more time.

CHAIRPERSON SLATON: Okay. All right. That will be the direction of the Chair then

INTERIM CHIEF OPERATING INVESTMENT OFFICER BIENVENUE: Certainly. We'll plan on that for April then, if that works.

CHAIRPERSON SLATON: All right.

We'll now move on to the other item. This is Lynn Paquin on behalf of Controller Yee on the draft agenda for the March meeting.

And let me get you on line. There you are.

ACTING COMMITTEE MEMBER PAQUIN: Okay. Thank you, Mr. Chair.

So thank you for this opportunity. A letter has just been distributed to the Board from Controller Yee. And she wrote to respectfully request that CalPERS staff draft language clarifying support for carbon pricing and present it during our annual review of the Governance and Sustainability Principles at the March 2019 Investment Committee meeting.

And in addition to the climate benefits, the language respectfully would also include CalPERS' position on just transition to ensure that our most vulnerable communities do not bear undue financial hardship on this essential language.

And in essence, CalPERS has long been a supporter since the Paris Agreement working with other institutional investors on calling for action to meet the Paris climate goals. And one of those would be supporting carbon pricing policies, which has also gotten a lot of traction with bipartisan legislation in Congress, as well as support from large corporations.

So we appreciate your consideration of this request for March.

CHAIRPERSON SLATON: Okay. We just talked about the March agenda, but on other item. Can we do this in time for the March agenda in a meaningful way?

CHIEF INVESTMENT OFFICER MENG: Beth, do you want to answer the question?

MANAGING INVESTMENT DIRECTOR RICHTMAN: Yes. We can -- we have some draft language we've actually been working through, our Governance and Sustainability Subcommittee related to carbon pricing, given CalPERS past support on this issue. So we can be ready for that in March.

CHAIRPERSON SLATON: Great. All right. Very good. So directed from the Chair, we'll do that.

ACTING COMMITTEE MEMBER PAQUIN: Great. Thank you.

CHAIRPERSON SLATON: Thank you very much and thank the Controller for us.

We'll now move to Item 7, the Trust Fund Review, 7a, which are the consultant reports.

(Thereupon an overhead presentation was presented as follows.)

MR. JUNKIN: Good morning. Andrew Junkin from Wilshire Consulting. I'm here with Ali Kazemi. And we're tasked with providing an economic overview and reviewing the fourth quarter performance. Since the fourth quarter was a challenge, Ali will be discussing that, and I'll sit back, and let him take the heat.

But just starting at a very high level, we update our asset class assumptions, which many of our clients use to design their asset allocations going forward once a quarter. And what you have before you on page two of 53, which matches our page numbering, is our 10-year forward-looking asset class assumption. We'll use this again later when we look at your asset allocation and the forecasted returns that it produces.

But I wanted to highlight a few things here. First -- and I'm going to kind of bounce around -- all the way on the right is our forecast for inflation for the next 10 years, about 1.7. So that seems kind of in line with the Fed's target.

It is a little bit low compared to what I think we're historically used to of kind of three percent, but that's what the market is telling us right now based on the TIPS forecast.

Why would I bring this up?

Well, if you kind of go back to the middle of the page, you can see the forecasted return for cash is actually above the forecasted return for inflation, which is sort of a tipping point that we've just recently hit. So we now actually have a positive real return on very short-term investments. So we're kind of out of what has commonly been referred to as financial repression, where savers weren't even keeping up with inflation. They are now. It's not a great return, but it's a pretty significant technical issue, because it filters through a lot of the other returns that you'll see.

Looking second then at the long-term core bond assumption. This is a pretty good proxy for your fixed income portfolio. And over the next 10 years we're expecting four and a quarter. Private real estate is off to the far right again under real estate, private real estate, 6.65. That's a blend of core and value-add, but dominated by core, much like your portfolio, so that's a pretty good proxy.

And then the last two I wanted to touch on are towards the left side, global stock, which would be pretty representative of your global equity port, 7.45, so call it 7.5, and private equity right at about 10 percent. So I know there's a lot of private equity both in open session and in closed session later today. Just kind of wanted to lay this out again. And we've talked about it a number of times, but I recognize there are some new Board members.

You know, private equity really is the one asset class that has a significantly higher return that can drive the CalPERS expected returns and hopefully realized returns higher.

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MR. JUNKIN: From there, I want to cover a little bit of the economic review here.

Looking at consumer sentiment, kind of in the -- in the top third of the page, you can see that current reading is 98. What you're looking for here is really kind of changes. And you can see consumers, over the last year, have begun to feel a little bit more positive. It's still much higher than that 10-year average. But that 10-year average was dragged way down by the global financial crisis. And consumer sentiment stayed pretty low there.

Why does consumer sentiment matter?

If you look at the graph in the lower left, you can sort of tease out from that straight line, it's called consumer spending. Consumer spending drives about two-thirds of the U.S. GDP. So as the consumer goes, so goes the rest of the economy.

Manufacturing is also strong, but sort of tightened up a little bit in December, but still in what would be considered an expansionary phase there with a reading above 50. And then the unemployment rate and job growth loss, unemployment rate right at about four percent, which is very tight. Starting to see some labor pressures in terms of labor costs. And you can see this chart, which goes back five years, has zero monthly job losses for the economy, which is just an amazing streak.

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MR. JUNKIN: Page four, I wanted to draw your attention to a couple of things here. In the upper right, this -- we've put a lot of information on this page, and so it's really kind of hard to see. But there's a little hockey stick right there in the credit indexes where spreads widened during December. That was a pretty attractive point. It's tightened back up again, but December really got to be pretty disjointed, and it was affecting both equity and fixed income markets. So he additional yield for investment grade and high yield spiked a little bit.

The scale on this chart is completely distorted by 2008. We almost need to remove from the chart, so you can even see the wiggles in the line. Otherwise, it's almost indistinguishable.

And then another graph here. IN the lower right, this is the VIX, volatility Index for equities. I'm going to talk a little bit about equity volatility over the next few pages, but this is kind of the jumping off point. You can see sort of tail end of 2017, it was very, very low. It moved up, went back down, and then came back up.

Why does this matter?

When volatility is high, is rare. And I actually don't think it's happened where we see rapidly rising volatility and rising equity prices. Rising volatility tends to scare the market, and it either leads to sort stagnant or declining equity markets. And so that was one of the challenges that we saw last year.

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MR. JUNKIN: Another way to look at that is here on page five. And I think this is a little bit more intuitive. Each of the blue bars represents the return of the U.S. equity market during that calendar year. And the green dot represents the largest drawdown peak-to-trough. And 2017, which is the second bar in from the right really was a remarkable year. You know, the largest drawdown we ever had was three percent. We didn't come close to anything approximating a technical correction or a Bear Market.

2018 was quite different obviously. And the largest sell down being 20 percent, which was in December we just touched that briefly for basically a day and then moved off of it with the return being minus five percent. So I would say that 2018, while it was traumatic to most investors, it was a pretty -- you see a number of years that are quite like that, where there's a pretty big sell off in the middle of the year and returns are not great. It doesn't necessarily portend that further damage is coming.

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MR. JUNKIN: Page six here. Just to put 2017 into a little bit more context, if you look at the 2017 column -- sorry, row in the table at the top, you can see the annualized volatility. This is actually out of the last 39 years, where we've got good data. The annualized volatility was below seven percent, that's the lowest of any of the 39 years.

The number of down days -- so we've broken them down by one percent, two percent, three percent, four percent drawdowns and how often they occur. And generally, you get one percent drawdowns pretty regularly. We have four of them in 20117. We had 32 of them in 2018, which is really not that far off of the average, which is 28. So, 2018, in terms of the volatility, was much more normal. 2017 was kind of the outlier.

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MR. JUNKIN: From here, I'm going to jump into the expected return and risk. So this uses your current target allocation, and our forecasted returns. When you do your asset allocation study, we are a contributor to that. Our expected returns are part of the expected returns that CalPERS uses, but you don't use ours explicitly you take looks from other people as well, incorporate that, and come up with your own.

So this is just ours. So I want to draw that distinction. And this is -- we've got a 10-year expected return and then a 30-year expected return, which approaches sort of long-run equilibrium returns for these markets. So the expected return for the target allocation 6.8 percent over 30 years, closer to seven and a half percent. And the price you pay is volatility, which is about 12 percent. Comparing that to the actual allocation, you're very close to your target with your actual allocation, so not much difference there.

And, in fact, we can see that again on the next page, page nine.

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COMMITTEE MEMBER BROWN: Excuse me, Mr. Chair?

Did we skip over page seven?

MR. JUNKIN: We did.

COMMITTEE MEMBER BROWN: Oh, we did. We skipped it?

MR. JUNKIN: Yeah, I just -- I'm happy to cover it. It's just I was picking the pages to target.

CHAIRPERSON SLATON: Okay. Keep going.

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MR. JUNKIN: Okay. So page nine, you can see the target asset allocation and the actual asset allocation. There's actually -- don't do the math, because I'm going to show it to you on the next page, the differences between the two.

I'm going to -- but the bottom two pie charts here again are Important. And we -- we hit this point regularly. And that is that even though your allocation to growth assets, which is public equity and private equity, the target capital deployed is 58 percent of your portfolio. It represents 83 percent of your risk, right? Equities are a riskier asset class and so they drive the risk of your portfolio.

So if there is a significant sell off -- it doesn't even have to be like 2008 -- it's -- you know, you're portfolio is not going to be insulated from that, because it's still 83 percent of the risk of the portfolio.

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MR. JUNKIN: And then page 10, here's where I do the math for you. The asset allocation variance. You can see you're underweight growth assets by about two and a quarter percent, overweight income, and then overweight this -- this TLPM other, which really doesn't have a target allocation, but it holds a number of trust level strategies that try to mitigate risk, things like that. So that one is always going to be overweight unless you completely eliminate those programs.

So that's the -- the current state of the asset allocation. I want to -- recognizing that we've got a number of private equity discussions later today and we've been having them for a while, I really --

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MR. JUNKIN: -- this is a page that shows up in our report regularly. I'm -- I'm going to bounce ahead to page 18, and then I'll bring it back to page 11, and Ali will take over with the performance reporting.

This is a report from Preqin, which tries to -- to capture the amount of dry powder in the private asset classes. So really, the dark blue bar here is private equity. There's private debt, real estate, infrastructure and natural resources. But private equity and private debt are really the bulk of this.

In total, there's two and a half trillion dollars of dry powder. What is dry powder? It's money that has been committed to these asset classes, committed to managers in these asset classes that they have not yet invested into private equity, private debt projects, investments, opportunities.

So if you compare this really even going back to 2009, where it was less than a trillion and a half dollars, and if we rolled this chart back to something like 2006, it's, you know, $700 billion, this market has changed dramatically over the last 10 years, particularly post 2008. And the reason is we've seen a lot of investors that have return targets that they're trying to hit, recognizing the issues that I discussed on page two where the assumed rate of return for private equity is significantly higher than other asset classes, decide they're going to allocate more and more money to that.

And so that has created this -- this flood of capital into these private asset classes. And so competition for deals is much higher. Ali will touch on something later, which is the pricing within the private equity market, the pricing is higher, which is -- has pushed expected returns down. If we looked at our expected return assumption 10 years ago for private equity, I don't -- I don't have it memorized, but I'm going to guess it was 12 or 13 percent, it's now 10 percent.

So that escalated pricing. The same thing happens in the public markets or in fixed income, right? Higher prices means lower expected returns. You're paying more for an asset.

But I think this, as we continue to have private equity discussions and -- about the potential business model, this is something to keep in mind, right, that CalPERS is looking to have a pretty significant portion of their assets invested in private equity. This is what the landscape looks like. And continuing to invest, as others might, right -- we work with a number of clients, and somebody with $5 billion that has a 10 percent allocation to private equity has a far easier time than you all do. This is one place where your scale has some pretty meaningful disadvantages, right?

You can't -- if somebody raises a $5 billion fund, you can't take it all. They won't let you. You might want to, but they won't let you. It's hard to get money deployed. And so if your target allocation, target deployment on a yearly basis is 8 or 10 billion dollars against a backer -- backdrop of two and a half trillion dollars of dry powder, it's a challenge. So --

CHAIRPERSON SLATON: Can I have you pause for a moment. We have several people who want to ask questions.

MR. JUNKIN: Okay.

CHAIRPERSON SLATON: Let's take a break for that for a moment.

Mr. Jones.

COMMITTEE MEMBER JONES: Thank you, Mr. Chair.

Yeah. Thank you, Andrew. I have a couple questions, since you're on the chart of private equity, the first question goes here.

Looking at the 70 percent of that two trillion is private equity, so what this says is that the traditional models that we have in terms of commingled funds, fund-of-funds approach, that people may not even accept or money, because they're already got money that they can't exercise implementation at this point in time.

So then that means that -- does that drive the cost of them going to these categories even higher?

MR. JUNKIN: Certainly, the managers have pricing power in this environment, right? Let's say you were going to commit a billion dollars to a fund, and the sticking point was just the fee. In a market where there's two and a half trillion dollars of dry powder, they'll just rollover to the next potential investor, who may not be so price sensitive.

So I do think it -- it is harder for investors of all kinds, not just CalPERS. But certainly, your scale should permit some leverage when it comes to negotiating pricing. I'm just saying in this environment, it's probably more challenging, because there is way too much demand for private equity at this moment than the -- than the managers can even sort of get capital into the ground.

COMMITTEE MEMBER JONES: Okay. And my other question goes back to an earlier page. I don't remember what page it was, but it was the -- your 10-year forecast for the CPI of 1.7 percent, I think it was.

MR. JUNKIN: Right. Yeah.

COMMITTEE MEMBER JONES: So if the Fed's goal is two percent, what do you see the monetary policy coming or being maintained from the Fed with their continued goal of hit that two percent policy?

MR. JUNKIN: So this -- this forecast really is kind of a 10-year number. And if you were to break it down into segments, I think we'd probably say the first few years might be a little bit light on that. And then it might -- the later years might be a little bit higher getting to that 1.7.

We don't have -- we may have the page, but it may be. In the section you were going to cover, Ali, is there the Fed balance sheet page?

Let's go to page 32. Regardless of how much time you spend thinking about how this presentation is going to flow, you can't get the pages in the right order.

(Laughter.)

MR. JUNKIN: So page 32 here, I think the bottom part of this chart hits really the question that you're talking about, Mr. Jones, which is the federal reserve balance sheet, which was less than a trillion dollars going into 2008, went up to almost four and a half trillion. And they've announced they're going to shrink the balance sheet. It's not going to go back to 700 or 800 billion.

So far, what they said they would do and what they have done are really right in line. And that's what the market wants to see. Surprises from the Fed tend to ripple the markets, either positively or negatively. And we've seen that just in how much attention people pay to the way they phrase things in their statements, and how carefully they choose their words as a result.

So on something this significant, the declining balance sheet here, which is largely due to maturities and paydowns. It's not them selling assets into the market, this is very predictable, but I think will probably, you know, tamp down economic activity at the margin, which probably will help keep a lid on inflation.

COMMITTEE MEMBER JONES: Okay. Thank you.

CHAIRPERSON SLATON: Ms. Taylor.

COMMITTEE MEMBER TAYLOR: Yes. Thank you.

So my first question is on page nine you were talking about how vulnerable we were. And I -- and I know that we are -- have been talking about a possible downturn coming, but right now it's looking pretty good. So, I mean, what do you suggest?

MR. JUNKIN: I don't suggest any changes, because really I would take you back to page eight. You know, over 10 years, we think you're going to earn very close to your expected rate of return. And recognize, we know our forecasts are wrong, right? That's the one thing I know about them. We've got a basis. We've got a framework that helps build them. We think they're rational. We think the differences between asset classes where you take more risk, you should earn more return. That all is intuitive.

We would not be advocates of market timing. We're not good at it. I'm not sure I've ever really encountered anybody that is.

And I guess the other thing that I would point out here on the contribution to risk is the math is just overwhelming. If you have a 50 percent stock portfolio, 50 percent bond - just making it easy, those two assets classes - 80 percent of your risk comes from stocks.

COMMITTEE MEMBER TAYLOR: Stocks.

MR. JUNKIN: If you said, oh, well, that's too much risk. We only want half of our risk from stocks, you have to back it off to like 22 percent of your capital deployed to stocks.

So the math is a huge challenge. And then you'd have a 50/50 risk weight. But think of what that would do to your expected return, you know.

COMMITTEE MEMBER TAYLOR: Right. Right. So we're in the same boat as everybody else.

MR. JUNKIN: You are absolutely in the same boat.

And I think you've done some things like I mentioned with the trust level strategies that are designed to help mitigate some of the drawdown risk, and some other changes within the asset allocation to try to address equity volatility and additional diversification. Really, I think you're on the right path. And this is -- this is I guess my -- I feel like it's sort of my duty to help people understand behaviorally that if there is a drawdown, you know, be prepared. You can't avoid it.

COMMITTEE MEMBER TAYLOR: Right.

MR. JUNKIN: What you do in the moment to react to it matters, right? And 2008 was a case so severe where -- not at CalPERS, but we saw lots of investors completely reevaluate their risk tolerance, i.e. they sold stocks, at the exact wrong time.

COMMITTEE MEMBER TAYLOR: Right.

MR. JUNKIN: And that's -- that's how you permanently damage the wealth of the fund. And the wealth of the fund is what pays the benefits.

COMMITTEE MEMBER TAYLOR: So that leads me to the we're a long-term investor.

MR. JUNKIN: Right.

COMMITTEE MEMBER TAYLOR: So therefore, one of the things that sort of bothers me is that we do these -- these reviews on a monthly basis sometimes -- not all these reviews, but we do a lot of these reviews on a monthly basis, and I'm thinking maybe that's not a good idea.

MR. JUNKIN: So we actually used to do this one quarterly.

COMMITTEE MEMBER TAYLOR: That would be better.

MR. JUNKIN: And we're down to semiannual.

COMMITTEE MEMBER TAYLOR: That's good.

MR. JUNKIN: Yeah. And you get monthly performance as part of your Board packet, but I don't think we've ever spent a lot of time on a monthly basis, unless there's been a significant --

COMMITTEE MEMBER TAYLOR: No, but it gets reported out and hits the news, and that makes a differences.

MR. JUNKIN: Yeah, for sure.

COMMITTEE MEMBER TAYLOR: So I did have one other question real quick.

MR. JUNKIN: Okay.

COMMITTEE MEMBER TAYLOR: With the -- on page 18, all of that dry powder. And I think this really might be a question for Ben. We know the change in the market. And it's not unusual we've got less, you know, companies, but we have more competition for the deal. So what is this -- how does this set us up for our new private equity models? And I know we're going to discuss this later, but...

CHIEF INVESTMENT OFFICER MENG: Yeah. Thank you, Ms. Taylor.

First of all, to your question about our drawdown, how are we -- what are we doing to prepare ourself for the drawdown? So later in my session for the report, I will speak to that.

And to your question on the dry powder, so this reflects a number of things. For one, as you heard at the January off-site, that there are -- more and more companies are staying private for longer, so the market opportunity set is shifting. So then you see that more money being risked to chase the more opportunity, so that makes sense.

And also your observation is absolutely right, that -- you know, that means also more competition for us. And as Andrew just mentioned, that also means that the price we've had to pay for a company is higher now --

COMMITTEE MEMBER TAYLOR: Right.

CHIEF INVESTMENT OFFICER MENG: -- WHICH may imply a lower return.

But again, later in my session on the private equity business model, I will go into details to address these challenges and how or what we are doing, and to take advantage of our competitive advantages, namely our scale and brand, so that we can better position ourself. And so that would lead to our discussion Pillar 3 and 4.

COMMITTEE MEMBER TAYLOR: Terrific. Thank you, Ben.

CHIEF INVESTMENT OFFICER MENG: Thank you.

CHAIRPERSON SLATON: Ms. Brown.

COMMITTEE MEMBER BROWN: Thank you.

Can I get we -- us to go back to slide 7? We didn't actually talk about it yet.

MR. JUNKIN: Sure. Oops.

There we go.

COMMITTEE MEMBER BROWN: So even though I've been here a year, I still need a little help with a definition of terms. And I'm certain -- certainly for new Board members, they probably do as well. So this is just an overall picture of the asset class by performance, year to year and then a five-year.

So help me with the definition of "emerging markets". And I'm trying to see how that compares to CalPERS emerging markets. I'm looking at definitions.

MR. JUNKIN: So emerging markets on this chart would be emerging markets equities. So it would be countries like Brazil, Russia, India, China. And do you know the technical definition off the top of your head, Ali or Ben? It's -- it's --

CHIEF INVESTMENT OFFICER MENG: Actually, there's no clear definition of emerging market and developed market. For example, the most common definition I've seen that puts Singapore as an emerging country. So as we know that per capita, Singapore has the highest GNP in the whole world.

So to your point, there's no clear definition. But as Andrew said, actually, it's safe to assume Brazil, Russia, India, and China as the emerging market today.

COMMITTEE MEMBER BROWN: So it might be helpful to sort of have what goes into that definition. It would just be helpful to have that information, as well as what are MLPs? I don't know. I'm sorry.

MR. JUNKIN: Yeah. The MLP part stands for master limited partnership. It is --

COMMITTEE MEMBER BROWN: Okay.

MR. JUNKIN: -- it is basically pipelines.

COMMITTEE MEMBER BROWN: Okay. Great.

COMMITTEE MEMBER MA: It's what?

MR. JUNKIN: Pipelines.

CHIEF INVESTMENT OFFICER MENG: Oil and gas.

COMMITTEE MEMBER BROWN: Oil and gas. Okay.

MR. JUNKIN: So the -- the better analog, even though these are publicly traded, those might be things like -- they would roll into a larger basket of publicly traded infrastructure, which is probably how we will present it going forward. There are some publicly strade -- traded infrastructure companies that run ports, shipping facilities, things like that, in addition to pipelines.

COMMITTEE MEMBER BROWN: Great. This is just helpful, because it's an overview.

And then can we go to -- we didn't touch on page 11, which is the total fund performance. I think that one is kind of important, so --

MR. JUNKIN: That's coming.

COMMITTEE MEMBER BROWN: Oh. So we're going to go back to 11?

MR. JUNKIN: Yeah, we are, after 18. Like I said, I can't get the pages in the right order no matter what.

COMMITTEE MEMBER BROWN: Okay. Great. And then -- and then I assume we're going to talk about 15 and 16 as well, the rolling excess returns, and the tracking error. I think it would be helpful to have a definition of tracking error. I'm sure I've talked to you about this before, but it would be nice to have a definition as well. Thank you.

MR. JUNKIN: Yeah.

CHAIRPERSON SLATON: Treasurer Ma.

COMMITTEE MEMBER MA: Yes. So I heard what you said that competition is increasing, the prices are increasing, lower expected returns. And I saw from your page two chart, the expected return for private equity was 10 percent, and the expected risk was 28 percent, right?

MR. JUNKIN: Right.

COMMITTEE MEMBER MA: So higher returns, higher risk?

MR. JUNKIN: Correct.

COMMITTEE MEMBER MA: So as I understand private equity stands for private, right?

MR. JUNKIN: Right.

COMMITTEE MEMBER MA: I mean, otherwise it would be public equity, and it would be traded, and everybody would be know, right, with quarterly reporting. So how would that impact us as a public entity investing public money that want's to know what's going on with our investments. I mean, how do you -- are we just going to invest in companies that are okay with reporting, and understanding, you know, who sits on the board, you know, what their strategy is, you know, how long we have to invest? Is it going to be, you know, one company? Is it going to be many companies?

I just -- I'm having a hard time with the private part of private equity. That's why they call it private equity.

MR. JUNKIN: Right.

COMMITTEE MEMBER MA: They don't want to be a public company. And you just said they're staying private longer. So how do we, you know, kind of rectify us sitting here as public members wanting more transparency and information with the private equity folks that don't want as much transparency and accountability.

MR. JUNKIN: Right. Great question. And I'm going to defer part of it, because I'm not a private equity operator, but there are reporting requirements to CalPERS from the private equity managers about the companies, about the performance of the companies. How much transparency you get is probably driven by your particular contract with that manager.

But I would suggest that's probably a better question for either Meketa, as your private equity consultant, or your private equity staff, who will know on a day-to-day basis exactly what the reporting requirements into CalPERS are. You get some level of transparency. The biggest difference is -- between public and private equity is you don't have a day-to-day price, right?

COMMITTEE MEMBER MA: Right.

MR. JUNKIN: You don't know where things are executed.

CHAIRPERSON SLATON: Go ahead.

CHIEF INVESTMENT OFFICER MENG: Ms. Ma, to your question, we're going to address the transparency -- your transparency concerns in Item 7c. So after this item, we'll do our trust level review and then we go into the review of private equity business model. We'll have one slide prepared to address your concern around transparency.

COMMITTEE MEMBER MA: Okay. And then what is the average time that these companies, you know, they show their returns and they're higher than most of the others. But I don't know, how long do people normally invest? Is there an average?

MR. JUNKIN: So I can answer from an industry perspective. Most private equity funds - pick a provider, Blackstone - have a life of 10 years with a series of possible extensions because the companies are illiquid. So if they can't exit them within that 10-year window, then they -- they would seek an extension to be able to exit it on an orderly basis.

The fact of the matter is the holding period for most private companies in the buyout space, which is the bulk of your portfolio, is probably closer to four or five years.

COMMITTEE MEMBER MA: And then what's the success rate for these type of investments?

MR. JUNKIN: I don't know the industry success rates in buyouts. You -- you know, the -- I'm going to defer to Meketa on that one, rather than guess and be wrong.

COMMITTEE MEMBER MA: Okay.

CHIEF INVESTMENT OFFICER MENG: Okay. So before Meketa comes up, I can try to address your question. So as Andrew said to the private equity fund, normally the fund life is 10 years. And they have multiple one-year extension, normally two to three. So they can drag along to 12 to 13 years. But it is not uncommon to see fund life, you know, around 15 years.

The investment period, again as Andrew said, that's once you buy the company -- the private equity manager, once they buy the company, they tend to hold it for three to five years, but during the 10-year period, so rotate, not just one batch of investments.

In terms of your other question, the success rate really depends on the strategy. Certain part of the strategy -- certain part of private equity strategy, for example, angel investing and venture investing, they tend to be high risk and high return. So it means that actually the success ratio is lower, but each success the payout amount higher. So it can be 10 times or 100 times more of your money, but your success rate may be only 20 percent or 30 percent of it.

And for the more mature part of the strategy, for example, large buyouts, so the expected return is lower. Normally, the money you get back in four to five years is two times to three times. Three times is a pretty good deal already.

So the return is much lower, but the loss ratio is much lower as well. I haven't seen good private equity general partners in the growth and buyout area with a loss ratio less than five percent. And sometimes, you see they run a fund with zero loss ratio, but offset it capitalize well.

COMMITTEE MEMBER MA: So that means people don't lose money that much in certain funds depending on the risk?

CHIEF INVESTMENT OFFICER MENG: Right. Yeah, yeah. So in certain -- but you have to balance not just losing money, also the gain as well. So if you put all the fund -- all the investment in one fund together in the portfolio on average, what kind of return? So on average, buyout growth that we see on average the return is comparable to the risk.

But you just see in -- in a higher riskier part of it, you see a lot of dispersion among the deals, some -- many of them do to -- lost everything, right? All you need is just a few deals like Facebook make you a thousand times of the money, and then that's carry the entire portfolio. So a different strategy.

COMMITTEE MEMBER MA: Okay.

MR. JUNKIN: Just to further Ben's point, if I may. On page 26, we talked a bit about pricing. The top part of this chart is buyout market pricing, and this is multiples of EBITDA, so it's the price you have to pay to get a dollar of earnings basically. So you want to pay less to get the same dollar versus more.

The market has moved to, you know, almost 11 times pricing. Coming out of 2008, it dipped town to seven and a half, but really things began to accelerate in the early part of the 2000s going from kind of six to seven times to eight to nine times.

So when you look at - back to page two - our expected returns, and I mentioned our expected returns on private equity have come down, this is why. Prices in general are up and prices in general are up, because of demand for private equity, all the dry powder there.

Ben mentioned venture capital, which is at the bottom. This is priced very differently in the scale. Almost -- it almost doesn't make sense at the CalPERS level. And that's why it's almost not a part of your portfolio at all.

The venture capital failure rate, the anecdotes that I've heard, essentially 10 or 20 percent of your portfolio makes all of the money of the portfolio. There's probably 60 percent that you don't lose money on, and then there's probably 30 percent that goes to zero.

Depending on where you're investing, how close to the inception of company. But in the angel or Series A rounds here, you're investing in companies that may have ideas, but no sales, right? They've got to figure out how to go to market. And lots of things can go wrong from the idea phase to actually being in business. But it may be something that is a big enough idea or requires significant capital to build, you know, plant, property and equipment that you've got to take on an outside investor.

The advantage of the buyout part of the market relative to the venture part in that case is, A, it's bigger, but B, those companies are already operating. They have sales. They have cash flow. They may be in need of some governance improvements. That's one of the big strategies for how to make money in private equity is to take a company that's doing okay and help them do much better. And then sell it to somebody else, because you've driven the price up, right? The earnings have gone up and the price per dollar of earnings should have gone up as a result. So that's essentially private equity buyout strategies in a nutshell.

CHAIRPERSON SLATON: And just to add a point to that, we're not in the angel --

MR. JUNKIN: No.

CHAIRPERSON SLATON: -- Series A investing.

MR. JUNKIN: No.

CHAIRPERSON SLATON: That is not our world.

MR. JUNKIN: Yeah, the initial investments there - that's why the scale of this one doesn't really make sense - less than $10 million per investment.

CHAIRPERSON SLATON: Right, exactly.

MR. JUNKIN: Yeah, it just wouldn't --

CHAIRPERSON SLATON: Okay. Ms. Hollinger.

COMMITTEE MEMBER HOLLINGER: Thank you.

I just need to really remind everyone that I don't really believe we can focus anymore or get this false sense of security that we're a long-term investor. We're at 68 percent funded. We have asymmetrical risk. What that means is we have more of our population going -- maturing than coming into the system.

I believe maybe when the inception of the pension, it might have been four to one for active employees for every retiree. I think the ratio now is closer to one to one. So we really have to get through these next five to 10 years. It's really all about focusing on our downside risk, because there is a point where you cannot recapture. So I believe we have to stay on top on reporting, and look at it in that context.

And I just -- and also God forbid we enter an inflationary period with the COLA rider along with a market downturn. So it's -- it's a different inning that we're in than when we started.

CHAIRPERSON SLATON: Ms. Yee. Controller Yee.

COMMITTEE MEMBER YEE: Thank you, Mr. Chairman. Congratulations.

CHAIRPERSON SLATON: Thank you.

COMMITTEE MEMBER YEE: Thank you, Dana, for the reminder. And I think, you know, the focus that we've had over the last several years on volatility is exactly speaking to that point. And I was wondering if part of the analysis, as we get these reports, could be how successful the measures we've taken to reduce volatility have been?

So in other words, how much lower would the returns have been had we not, you know, taken some of the measures that we have employed?

Is that a fair question? Is that doable?

MR. JUNKIN: It is doable. I was thinking through the mechanics. There's -- there are a number of different ways to take a look at that. We just need to strategize and figure out the most appropriate way to do it.

COMMITTEE MEMBER YEE: I mean, I think it tells the story differently, but it's also, I think, to Ms. Hollinger's point, kind of based in the reality that we're dealing with today.

MR. JUNKIN: Right. Well, I think -- I mean, a fair point would be that in 2016 leading up to the election, CalPERS became a little bit more defensive in their posture, a little less reliant on equities. And then the market just roared ahead in 2017, as I mentioned, right?

And so the flip side of protecting in downside markets is you don't participate --

COMMITTEE MEMBER YEE: Right.

MR. JUNKIN: -- quite as strongly in the upside.

Now, so you'd look at 2017 and say, well, that wasn't maybe the best decision. It was just a marginal decision, right? It wasn't -- you didn't take all the equity Money off the table.

But then the flip side is 2018. So just thinking through how best to present that --

COMMITTEE MEMBER YEE: Right.

MR. JUNKIN: -- it can be done. And we'll take a look --

COMMITTEE MEMBER YEE: Okay

MR. JUNKIN: -- and make sure that's part of it.

COMMITTEE MEMBER YEE: That's great. Thank you.

CHAIRPERSON SLATON: Okay. You can continue.

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MR. KAZEMI: Good morning. Ali Kazemi, Wilshire Associates. I'm going to be running through the rest of the presentation focusing really on the performance of the fund in 2018. I think a common theme we've talked about here is really the return of volatility in the markets. And certainly that manifested itself in 2018, but really even in 2019, where we've seen quite a dramatic snapback even in January and February. And so that volatility seems to be something that will continue going forward.

Just in terms of the 2018 performance, the quarterly return was negative 6.2 percent relative to the Total Fund Policy benchmark of negative 5.7 percent. The one-year return was negative three and a half percent.

Just to give you some context there in terms of the snapback that we have in -- have had in January, preliminary returns for the CalPERS portfolio in January itself we're at 4.3 percent just for that month. So a big amount of the losses in 2018 have already been recouped in January. It doesn't change the story of 2018. I think it just gives you more of an indication about the volatility, and the volatility environment that we're in.

The 10-year number there, too, I just wanted to quickly point out is at 7.9 percent. So this is the first 10-year number that now does not include the credit crisis -- the credit cash in 2008, and that fourth quarter of 2008.

And so just to give you some perspective, at this time last year, that 10-year number was at 4.9 percent, so a 300-basis point increase year over year by rolling off of 2008. And so it really kind of reminds you of the enormity of that sell-off in 2008. It's important to remind ourselves of that and why we have diversification within the portfolio.

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MR. KAZEMI: The next three slides are attribution related. Again, attribution is a really important way to tell the story about why the portfolio either outperformed or underperformed. We've done -- we've got three versions, a quarterly, a fiscal, and a calendar year. I'm just going to focus on the calendar year-to-date attribution for the sake of time.

The portions you really want to focus are on the table to the right, the actual allocation column and the active management column. It's really the two dimensions that tell most of the story here. Actual allocation gives you an idea of relative to your policy if you were overweight or underweight, did that manifest itself in terms of either outperformance or underperformance.

You can see for the year of 2018, that total actual allocation return was negative 12 basis points. So collectively you lost 12 basis point due to those underweights or overweights relative to policy. Within the individual asset classes there, you can see that that was primarily driven by real assets and private equity.

The reason that real assets had a negative 12 basis point contribution was the fact that you were underweight relative to that asset class. That asset class was a strong performer in 2018. So being underweight in that asset class means you lose some value there.

Private equity lost five basis points. You can see in some of the public spaces, such as public equity, there was a positive nine basis point there. Again, that was due to the fact that you were underweight public equities. Public equities, of course, did not do as well in 2018, so that actually benefited the plan.

The other component to focus on is the active management component. That tells us how your individual asset classes did relative to their policy benchmark, and how that rolls up to the Total Fund Policy return. That was the bigger driver of the underperformance in 2018. You can see active management was a 56 basis point detraction -- detractor from the portfolio return, and primarily within the real assets again.

Here, the real estate portfolio underperformed relative to the policy benchmark. And that was a big driver for why you have the overall active management component of real assets underperforming. And we can drive into a little bit of the underlying details of that on subsequent pages in the report.

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MR. KAZEMI: I wanted to briefly touch on slides 15 and 16, because, Ms. Brown, you brought those up. So, slide 15 is just a story about how the excess returns of the portfolio have done on a rolling three-year basis. So it's really a realized return number on a rolling basis. And it gives you an idea of, you know, Pretty much since 2012, the range of excess returns have been primarily between negative 60 and positive 60 basis points. And so that gives you an idea of really realistically how much you have at risk from an excess risk standpoint.

Now, that's -- that's talking about the realized returns.

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MR. KAZEMI: On slide 16, you get an idea of how that manifests itself in terms of the volatility to the overall excess returns in the portfolio. And we can see that in this low-volatility environment that we've been in, up until the last year, tracking error has come down quite considerably. And it's something we've seen for most of the institutional investors that we work with that the tracking error has come down.

You can see that that most recent reading there is about 100 basis points. So just to give you some idea of what the means, the idea there is that with about 68 percent confidence, we can predict that your excess returns are going to be between the range of minus 100 basis points and plus 100 basis points. We've seen that in the previous slide that it's actually been between 60 and negative 60.

But the idea there is to give you some measure of what you could expect realistically in terms of your excess underperformance or outperformance. So hopefully, that addresses that.

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MR. KAZEMI: So in terms public equities, we certainly saw a halt to the momentum that we had earlier on in the year in the fourth quarter. In the U.S. equity markets, whether it be concerns about growth or some of the political issues on a -- with regards to shutdowns and things of that nature, equity returns struggled in the fourth quarter. Even in the international equity markets where there are more protracted issues with concerns about growth, the overall equity markets were subpar in the fourth quarter.

You can see the overall return for the public equity asset class was down negative 12 and a half percent. Again, that's come back pretty considerably in January, but it is what it is with regards to the fourth quarter there. And you can see the overall excess returns across pretty much all the time horizons are right in line with the policy benchmark.

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MR. KAZEMI: Andrew talked a little bit about the overall private equity market. So I'll just dive into the performance of the portfolio itself. The private equity portfolio returned 2.1 percent in the fourth quarter. So that was actually a positive contributor to the overall growth segment of the portfolio.

Typically, in down markets for public equities, private equities lag those. And so it's not surprising to have a positive private equity return in a down public equity environment. And so we certainly saw that.

And over the one, three, and five -- five year numbers are quite strong for private equity. Double digit returns across all time horizons. The value-add there are negative across most of those periods. Not really an indictment of the private equity portfolio. It really has to do with more of the benchmarking, especially when you have a public equity benchmark with a premium attached to it. And a strong equity market that we've had over the last 10 years, it's not surprising to have private equity portfolios lag. The absolute returns of the portfolio itself are still quite robust.

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MR. KAZEMI: In terms of the fixed income portfolio, in 2018, we did start to see rates rise for most of the year. In the fourth quarter, that took a u-turn, really. The 10-year, shrunk from a peak in November of about three and a quarter to around 2.6, 2.7 percent.

So with that compression in rates, you saw really some benefits of diversification income. You can see that sleeve of the portfolio had a positive return of 90 basis points in the quarter. So that was a little bit of a -- of a back -- a stop to what we saw in the equity markets.

So that added benefit from being invested in the income portion of the market was great. Other drivers that were positive in the fourth quarter were the mortgage-backed security market, which also had a positive return.

Things that did not do well from an income standpoint are spread-sensitive assets, so high yield credit type assets. Really, we did have a flight to quality in the fourth quarter. So the junk year bonds did really, really poorly in the fourth quarter as higher quality did outperform lower quality within the high-yield segment of the market.

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MR. KAZEMI: So we touched on the real asset portion of portfolio and the attribution being one of the major drivers of the underperformance in 2018. One of the big drivers of underperformance in the real assets space were energy. Oil prices dropped about 38 percent in the fourth quarter, and so that was a big reason for why overall real asset absolute returns were so poor in the fourth quarter.

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MR. KAZEMI: That manifested itself somewhat in your inflation portfolio. You've got not as much as -- exposure to commodities as you do inflation-sensitive assets. But if you look at the commodity returns there for the quarter down 24 percent relative to inflation-linked bonds, which were down just 40 basis points. That Dispersion there was enough to help drive the overall quarterly return for the inflation portfolio to be down 6.4 percent for the quarter and down 5.3 percent for the year.

Relative to your policy, things were positive there, but the overall impact of energy price decreases and moderating inflation in the fourth quarter led to the overall negative return we saw in the inflation segment of the portfolio.

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MR. KAZEMI: And then in your real asset portfolio, really that portfolio is going to be correlated to your real estate sleeve. You've got about 75, 85 percent of the assets in real estate in that segment of the portfolio. So how real estate does is really going to drive that portion of the portfolio.

You can see, the real estate had a negative return for the fourth quarter, which I think is the first negative return in quite some time, almost eight years for that -- that segment of the market.

Things that drove the underperformance for real estate, relative to your policy benchmark, had to do with things like the retail market, the emerging -- emerging markets as well struggled in 2018, which was another driver for the underperformance within your real estate portfolio.

The industrial market, multi-family, data center and Emerging Manager Program did offset some of those losses within real estate. And then lastly, within forestland, you had a negative 1.1 percent return there. A lot of that is due to the sale of the timber assets that materialized in the fourth quarter.

That was somewhat offset by the infrastructure asset class, which had a return of 3.2 percent in the fourth quarter. It mitigated some of those losses.

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MR. KAZEMI: And lastly, I don't think we have a slide here on the liquidity portion, but the liquidity sleeve of the portfolio is correlated to your short-term rates. Those were generally positive in the fourth quarter.

That quilt chart that Ms. Brown referred to, one of the striking things about that was in 2018 the best performing asset class was T-bills. So it gives you some context as to really what type of environment we were in 2018. So shorter term rate assets actually were another positive driver of returns in 2018.

And with that, I will stop and see if there are any questions.

CHAIRPERSON SLATON: Thank you.

Mr. Jones.

COMMITTEE MEMBER JONES: Yeah. Thank -- thank you, Mr. Chair. Yeah. I'd like to go back to chart -- your chart, page 11 and iPad page 134. And I was looking at the real assets, the 10-year, you mentioned that the -- the financial crisis of 2008 had rolled off. And so why then is real estate so low, that 1.4 percent, because you mentioned that private equity lags in reporting, is that the same thing happening here?

MR. JUNKIN: That's -- that's exactly right. So the worst of the global financial crisis really was the fourth quarter 2008, and the first quarter of 2009 until about March 11th. And it's sad, here we are 10 years later and I remember the day within a day or so of the bottom of the market.

What that did though, when it came to your real estate portfolio, those write-downs that occurred continued -- the write-downs continued through the end of 2009, just because of the appraisal, the delay in the valuation. Just like I can tell you with a -- with a pretty high degree of certainty, that your private equity portfolio for the first quarter is going to have negative returns, because it's really going to reflect what happened in the 4th quarter.

I'm not a genius. I just can figure out that -- I can just look back a quarter. So the -- you think about some of the real estate issues, the land deal in particular, that took some time to sort through and fully see the write-down of that, and that's exactly why that number is as it is.

COMMITTEE MEMBER JONES: Okay. Thank you.

CHAIRPERSON SLATON: Treasurer Ma.

COMMITTEE MEMBER MA: Yeah. So how often do we evaluate or go through our real estate portfolio?

MR. JUNKIN: As a Board, I assume that's the question

COMMITTEE MEMBER MA: Yeah.

MR. JUNKIN: Yeah. So there's -- there's -- real estate has an annual plan that's presented once a year, hence the name, that goes into detail on the strategy that they're pursuing. PCA does a review of the Real Estate Program that coincides with that, so -- and then there's these reports twice a year. So you've got multiple touchpoints.

In addition, all three of the consultants interact with the real assets group on a weekly basis on the Real Assets Investment Committee. We all dial in, and there's discussion of portfolio strategies and opportunities then. So there are lots and lots of touchpoints.

But on a formal sort of Board-level review basis, it's probably those, the two annual items that I mentioned, the real assets plan and the review by PCA, and then the two performance reviews, this being one of them. The next being in August.

COMMITTEE MEMBER MA: Okay. So I wasn't here last year, but I would like to see what the last report was.

CHAIRPERSON SLATON: Okay. All right. We have no further questions at this time.

All right. Thank you very much.

We'll now move to the staff on 7b.

CHIEF INVESTMENT OFFICER MENG: Good morning, everyone. Good morning --

CHAIRPERSON SLATON: By the way, while he's getting organized, we do, Treasurer Ma, on the real estate side in closed session, if we have specific projects, those would be discussed during closed session. So we have those in addition to the touchpoints that they mentioned.

Right, exactly. So we need to get you up to speed on that. We will.

CHIEF INVESTMENT OFFICER MENG: Okay. Mr.

Chairman, I would just remind you that now is the time for PCA and Meketa to come up to talk to you before we conduct our trust level review.

CHAIRPERSON SLATON: Oh, correct. My apologies. You're exactly right.

CHIEF INVESTMENT OFFICER MENG: That's okay. It's my first time as well. I've a couple -- I've made my share of mistakes already.

(Laughter.)

CHAIRPERSON SLATON: Well, we'll -- we'll -- we'll struggle through this together.

(Laughter.)

MR. HARTT: Thank you very much.

Wait for our slides to come up.

So Steve Hartt from Meketa Investment Group. Pleased to be with you this morning. Joining me is Hannah Schriner who works with me.

(Thereupon an overhead presentation was Presented as follows.)

MR. HARTT: First, I'd like to thank Andrew for a wonderful discussion about private equity. He's welcome to join our group --

(Laughter.)

MR. HARTT: -- and participate on the private equity any time.

And there were a number of questions. And I thought also this morning I would start out with a couple of comments about private equity, as we think about this, as well as the new Board members coming on board. So we've touched on a couple of these topics, but I wanted to go through and reinforce them.

So one of the questions is why investing in private equity? And sort of was discussed here with Wilshire, and Ben as well, is that private equity has been a very strong asset class for returns, and is projected to continue to perform strongly.

Number two, as a long-term investor, CalSTRS -- CalPERS can earn the return premium that comes from the illiquidity that is in that asset class. But we recognize there is a number of issues that we've talked about in several venues. But one of them is the high fees, the lack of transparency issues around that. Also talking about there's limited ability to control your exposures in private equity, the total NAV, and kind of what industry exposures, things of that nature.

And there's also headline risk. So the opportunity that a manager or a portfolio company might do some things that could be -- could be challenging come back to CalPERS.

So what are some of the opportunities available to CalPERS?

They have a -- you have a large and sophisticated staff. You can invest at scale. And there is a potential here with this program to invest in kind of opportunistic transactions like co-investments and secondaries. Some of the challenges that we've talked about investing at scale is hard. What we're talking about in terms of a pacing to be able to deploy eight to ten billion dollars a year every year is a challenge to do in this marketplace.

Looking at the portfolio, we'll talk about some. But buyouts, especially the large and the mega buyouts is a very large part of the portfolio. And it will continue to tilt that way, because that's where investing at scale can be done.

The portfolio is complex. There are execution issues around that, particularly if we talk about some of the additional pillars that are being contemplated.

And lastly, it's hard to benchmark. It's really difficult to see and understand in a short time frame in particular if -- is the portfolio doing what it's supposed to do, is staff doing a good job? These issues, in terms of benchmarking, are endemic to private equity.

So in terms of some of the initiatives that are undergoing now within CalPERS, the commitment pace in terms of the commitments to new private equity managers and funds has increased over time. Look for that to continue to increase. There is a redeployment, reenergization in the Emerging Manager Program looking to find new managers to help refresh the pool of managers to choose from, and looking to potentially reengage in some of these opportunistic transactions, co-investments and secondaries that have been not done in the last several years.

And then obviously talking about the Pillars 3 and 4 and the opportunities there as CalPERS, as an investor at scale, to be able to deploy capital in some relatively interesting ways compared to other investors in the marketplace.

So I just wanted to start out with that in terms of an overview before diving into the portfolio itself.

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MR. HARTT: So what I'm going to talk about here is the performance of the portfolio as of December 31st, 2018, but to recognize that the values that are here, in terms of the underlying portfolio, is as of September, and that the cash flows are adjusted to -- through the end of the year, but the values are as of September.

Basically, the performance of the plan is on plan -- the portfolio is on plan. It is just under $28 billion in size right now in terms of NAV, and about a little over eight percent right about the target that's expected for the program.

As I mentioned, that buyouts is two-thirds of the exposure. And that's up from about 62 about a year ago. So that continues to be a strong part of the program. The United States represents 60 percent of the portfolio. Again, that is -- that is in line with the marketplace and unchanged from the prior year. Fund investments are the largest part of the program, up slightly from about a year ago at 72 percent.

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MR. HARTT: So the program, in terms of performance overall in the last six months had a $1.7 billion value increase. In other words, the value of the assets, leaving aside the cash flows, the contributions, distributions, the total value of the program went up by 1.7. And for the full year, it went up over $3 billion.

While the program has underperformed its policy benchmark and talking about the public equities aspects of it, and some of the changes that had taken place in the benchmark over time, if you look at how the performance has been against the newly adopted benchmark for private equity, the FTSE All-World plus 150 basis points, it is pretty much on top of that, and some places exceeding that, especially over the longer term.

In terms of the activity, the program still is receiving more cash back from its general partners and its manager than it's contributing in. And that is likely to change somewhat over time as the new commitments are being deployed and being called upon.

For the second half, staff committed to eight new investments, a little over $3 billion, and for the full year did 18 commitments for $6 billion. And just highlighting that CalPERS has received net cash of over $32 billion in the -- since 2011.

I'm going to turn it over to Hannah to talk a little bit more about some of the marketplace.

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MS. SCHRINER: Thank you, Steve.

So I'm going to focus on just a few of the slides here in the market review building on what Wilshire had already commented on, but focusing on U.S. buyouts, which is the largest portion of your private equity portfolio.

So on page seven, what this shows you is the activity -- you know, the deal activity that occurred during 2018, and then the previous 12 years as well. So what you see on the far right of this chart here is that the buyout activity was very strong in 2018. It was the highest deal count on record at 5,050, and then the second highest deal value on record at 804 billion.

Fourth quarter was also the highest deal value on record for a quarter at 282.7 billion, which was driven by several mega deals, which are greater than one billion in value. There was the $21 billion buyout of Dr. Pepper Snapple, and then also 17 billion buyout deal of 55 percent of Thomson Reuters.

And we do expect this trend to continue the strength. And as you'll see in a couple other slides, you know, exit activity and fundraising continue to be strong as well.

So we'll turn to page nine.

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MS. SCHRINER: So looking at the exit activity, what this shows is it has remained pretty consistent over the past several years in terms of the dollar values. So at 365 billion there and 1,049 number of exits. So PE firms they took advantage of the high purchase price atmosphere in 2018.

And the median exit size was 330 million, which is the largest on record. And as already mentioned by Wilshire, you know, longer holding periods are leading to, you know, not as strong exit activity as you're seeing that dry powder in the market.

Turning to page 14.

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MS. SCHRINER: Looking at fundraising. So we did see record deal making in 2018. That was the first slide that I had went over. That was driven largely by the past fundraising -- fundraising strength, as you see in 2016 and 2017. There were few mega funds closing this year in 2018. As you see, the total capital raised was at 166 billion, and the number of funds closed was down at 186.

We did see again the larger funds -- mega funds were closing. There were only five during the year at 52.8 billion, which is compared to 10 in 2017, so about half -- half the number and half the size. Carlyle closed the seventh flagship fund at 18.5 billion. And then Hellman and Friedman also closed their ninth flagship fund at 16 billion. So there's still very large funds out there in the market. And we do expect 2019 to be another strong year as well.

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MS. SCHRINER: And I'll turn it over to Steve to cover the portfolio overview.

MR. HARTT: So we'll go quickly over here. The -- these numbers don't change radically from report to report, but we can see that the -- the exposure to buyouts continues to increase generally over time, and the exposure to credit continues to decrease as staff has been emphasizing the buyout size. But in all cases, the totals as a percent of NAV are on target with their subasset class targets.

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MR. HARTT: As we talked a little about before, that on page 20 that the exposure by region with the United States at very high, some managers are -- might be overseas, but they also have some investments in the United States or the other way around.

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MR. HARTT: Looking at the next page here, this is where it says at the asset level that the U.S. managers more often will have exposure overseas than the other way around than overseas managers having it in the United States. So where -- on the asset level exposure, it's about 60 percent.

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MR. HARTT: Looking on the page 23 at the vintage year composition, this is showing where the exposure is, and can see that the exposure for uncalled commitments is predominantly related into the most recent few years, which makes sense.

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MR. HARTT: In terms of the largest manager relationships, this list doesn't change very much, particularly Blackstone has perennial been the largest exposure for CalPERS. The next three, Carlyle, CVC, and Apollo might change a little bit up or down, but those are consistently in the top four. And TPG, at this point, a large manager, has the fifth largest exposure at this point.

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MR. HARTT: Mentioned earlier in the comments, talking about the cash flows on page 27, that what this graph represents is on an annual basis is the CalPERS program on a net basis contributing more into their managers or are they receiving more cash back?

So one can see there that since 2011 that that line there showing that, on a net basis, that CalPERS has been receiving cash back. That peaked in 2013, and has been slowly coming down as the prior year investments are being liquidated and the cash being returned, as well as the new commitments that are being -- and those are tailing off, and then the new commitments that are coming on board as the staff makes additional commitments. And those are being drawn down.

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MR. HARTT: So I'll pass it to Hannah to talk about the program performance.

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MS. SCHRINER: So looking at the program value changes, Steve had mentioned in his opening comments, the total value change was positive at 1.7 billion there. We also see that for the second half of 2018, contributions totaled 2.3 billion, distributions from the program were 3.4 billion, and the ending net asset value was 27.8. These are cash-flow adjusted NAVs as well just to remind you. And for the full year, that total value change was at 3.3 billion.

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MS. SCHRINER: And on the next page, 30, looking at the program performance, so expanding on Wilshire's previous comments and review, we see the total program. The one-year performance is 12.5. But if you look across the three-, five-, and 10-year, pretty solid and strong consistent performance from the Private Equity Program, underperforming the policy benchmark over all periods.

And then the Cambridge Associates all PE Global, which is a peer -- more of a peer group, underperforming that as well. But if you look over the 10-year, pretty much in line, and then outperforming over the one-, five-, and 10-year versus the FTSE All World Plus 150 basis points, so the public market benchmark plus a premium.

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MS. SCHRINER: And if we break down the performance by strategy, again buyouts accounting for the largest portion of the program, again, you see that -- the pretty strong consistent performance there up 15.3 percent for the one-year period, and 11.7 percent for the 10-year period.

You do see, as we look down pretty, you know, volatile performance for the venture. And then also the credit portfolio on the shorter term. Those do account for a smaller portion of the total program. So again, you know, comments on the previous page were the strong consistent performance is largely attributed to the buyouts.

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MS. SCHRINER: On the next page looking at the performance by structure, so funds which do account for the largest portion of the total program, they have very strong consistent performance across the board. The co-investments, direct investments, those are very concentrated. So you will see quite volatile performance there as one or two investments can really swing the results.

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MS. SCHRINER: Looking at performance by geography, the United States again accounting for the largest portion there followed by Europe, strong performance across the board developed Asia. You know, the one year number does stand out there, negative 25.5 percent, but that accounts for a very small portion of the program.

And at are our last -- or at the 2017 year-end review, that program one-year return was up 42 percent. So that just gives you an idea of how that -- the large swing there. And that performance on the one-year was driven by mark downs of assets within a Japanese-focused buyout fund.

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MS. SCHRINER: And with that, I'll turn it over to Steve to cover program activity.

MR. HARTT: So in the second half of 2018, the staff committed to eight managers in the funds there. They're listed and the amounts. All of these managers are known to the CalPERS team, and ones that they have known for quite awhile. As I mentioned previously, for the whole year, staff committed to 18 different vehicles at $6 billion dollars.

That's all the comments that we have. Happy to take any questions.

CHAIRPERSON SLATON: All right. Ms. Brown.

COMMITTEE MEMBER BROWN: Thank you.

Let's just stay with page 35. Steve, can we -- when we talk about these completed investments and the commitments, we really haven't given them the cash yet, right? These are just agreements. This could be essentially a lot of it dry powder, is that correct?

MR. HARTT: It gets -- one could think of it as additional bride -- dry powder that was talked about previously. So, yes, it's a commitment and an opportunity for the manager to usually, over about a five-year time period, be able to draw that capital for new investments.

COMMITTEE MEMBER BROWN: Great.

Then can we go backwards to page 31.

One more page.

Thank you.

When we look at credit as having the lowest one-year return, or the lowest returns maybe except for venture, can you just give me a definition of what's in that credit portfolio or credit strategy?

MR. HARTT: Sure. And --

COMMITTEE MEMBER BROWN: I'll just take general if you --

MR. HARTT: Yeah. So on page 19 has a breakdown of what that is. And while we flip to that page, there are two major areas where the exposure is in the distressed area. The performing loan part of a credit strategy is moved off to the fixed income area. So the private equity folks are focused on the distressed assets.

So these might be companies that are not performing well, but they could see that their underlying intrinsic value might be high, so an opportunity to invest in those. So more opportunistic.

So if you call Howard Marks would be a practitioner in this area that came to speak to you. So distressed is by far the largest -- the largest part of that.

COMMITTEE MEMBER BROWN: Great.

Can we go back to page 30 then?

By the way, I take my exams the same way. I go backwards -- start from the back and go forward.

So when I look at this program performance, it looks like we've underperformed our policy benchmark, and then the PE global. And then this new benchmark, this FTSE All-World plus this little bonus, or 150 points, is that currently now our new benchmark that we changed?

MR. HARTT: So the -- at the recent adoption in the policy, the FTSE All-World 150 basis points was the one that was adopted for private equity on a go-forward basis. So I believe since June I think that that was moving forward with that, yes. So this represents just a small time period for that benchmark to be incorporated into the policy benchmark.

COMMITTEE MEMBER BROWN: Great.

And I would assume you would concur with what Mr. -- maybe I won't assume. Mr. Junkin said that we should expect again underperformance in private equity for the first quarter of 2019, is that what we heard him say, and do you agree with that?

MR. HARTT: Since the private equity assets are appraisal-based valuations, then it's going -- most of the time, it's based upon public market comparables. That's a very common way values are being done. So since December 31st would be a difficult -- you know, the values of the public stocks will be relatively low. So one would expects, in general, that the values would be down from September based upon that appraisal. Managers have not provided those numbers as of yet, but I think forward-looking that's probably right, so that one quarter.

But, you know, thinking about if we stay on the same path that we are today and markets, you know, get back to that, it will go back up, you know, once the March numbers come in.

COMMITTEE MEMBER BROWN: Great. And just -- this doesn't refer to a slide. But based on your opening remarks about how that CalPERS is looking at reengaging into -- with co-investments and secondaries, I am fully supportive of that. It's been distressing that we haven't done it over the last several years.

But whatever the staff needs or whatever you can do to help us pick that low-hanging fruit, let us know. And I'm sure a lot of the other Board members here are supportive of that as well.

Thank you.

MR. HARTT: Absolutely. Thank you.

CHAIRPERSON SLATON: Mr. Miller.

COMMITTEE MEMBER MILLER: Yeah. Thank you very much. Just a couple of thoughts to kind of run by you. And I'll preface this by saying that I, for a long time, have believed that for us, for our overall equity portfolio, as these markets evolve, I would see CalPERS doing more private equity proportionately over the time. It seems like the markets are evolving to have more of the opportunities in private equity. But as those markets evolve, it also seems that, you know, we've talked a little bit about the change in the whole valuation situation. And trying to benchmark that against public equity, where you could see the day-to-day prices, is challenging.

But over time, we're seeing, you know, prices go up. More people chasing deals. And so we've seen that impact on the way it's evolving.

And the whole business of the illiquidity and what kind of premium we need to expect to get back when we're contemplating kind of longer term strategies to leverage our advantages with scale, and being able to do -- structure different kind of deals than we've done before.

But it looks to me a little bit like, you know, as the kind of risk-adjusted returns, taking those -- all those things into account between public and private equity seem to be somewhat converging. But it gives us the opportunity to kind of outperform, because of our advantages. And maybe in the long run, kind of the benchmarks we should be looking at might not just be, you know, these aggregate, like FTSE or S&P 500.

But, you know, I think we might be expecting to still outperform public equities at large, but maybe look more at, you know, top quartile or something managers and performers, because I don't think, you know, the kind of, you know, public equity plus 100 basis points, or those kind of models, will holdup in the long run.

I think we really need to look at, you know, that as part of our overall diversification strategy, but, you know, as time goes on hone in on what really is the benchmark for the performance of this, because it's -- the more simple review of it just doesn't seem to be working anymore. And I find it almost overwhelming to kind of keep track of what's going on in the big picture with public equity these days.

MR. HARTT: You know, as I mentioned, and would, you know, repeat and emphasize, that benchmarking private equity is very hard. Typically, there's a number of questions you're looking to try to answer when you're doing the benchmarking. And it's challenging to find, you know, ones -- one way of benchmarking to answer all the different questions.

One question is sort of an existential one, should we be investing in private equity at all, given an alternative might be is public equity, right? So there's a reason for over a long period of time to think about that.

There is also to take a look at the -- at the peer universe. Is the portfolio that CalPERS been putting together, is it capturing the private equity premium, how do -- are other investors investing in the asset class, and what are their returns looking like, and, you know, what is that performance looking like? So there's that aspect. And, you know, why we put in the Cambridge Associates one is that's a peer index.

And then lastly a question is staff doing a good job, given its -- its constraints and opportunities? How do you try to do -- you know, what's the benchmark for looking at that? So there's lots of different things that one needs to use benchmarks for, and there's some tools that are better than others.

And I think it's just going to take a matrix of these different benchmarks to look at. And it's going to be complex to try to get to the answer. And there might not be, you know, one answer one way or another, but rather, you know, a number of things over time. So, yeah.

COMMITTEE MEMBER MILLER: Thank you.

MR. HARTT: Sure.

CHAIRPERSON SLATON: Ms. Taylor.

COMMITTEE MEMBER TAYLOR: Thank you, Mr. Chair.

I just kind of want to follow up on what you just said actually. Benchmarking, I know that we changed it, because it's so hard -- it's difficult to benchmark private equity. I understand. One of the things that you said, because I was going to say something about our staff, but you said it's a way to make sure staff is doing well or a good job. What is your opinion on that?

MR. HARTT: I think our --

COMMITTEE MEMBER TAYLOR: On our Private Equity staff, I'm sorry.

MR. HARTT: So I think that the -- that staff is -- has -- in terms of managing the portfolio and deploying assets, that the performance is, you know, meeting the new benchmark level, and is near, over a long-term basis, what the peers in the private equity universe is doing.

The other thing is that it's -- so using these quantitative measures is very long term, and how those get realized, so looking at a 10-year performance number, the staff that's here today is not necessarily the staff that was here at the time that it was making some of these decisions. There's some things about that.

So I think then looking at today, what are the things that the staff needs to do? It needs to effectively identify and commit to high quality managers. And that's some of the things that we're doing. We're looking and we review -- you know, as participating on the Investment Review Committee, we get an active look on that and be able to see that. So that is -- I can say is a very thorough and deep analysis on managers. And nobody gets a free pass. And it's, you know, well -- well thought through.

Another one is to think about from a program basis, in order to maintain the exposure that -- being sought for from an asset allocation perspective, there needs to be additional deployments just thinking about the model. And you never know kind of where it is. But if you think about a model -- it's been talked about several times that around $10 billion of commitments per year needs to be done.

So the staff has been lower than that, and, for a variety of reasons, hasn't been taking advantage of all of the opportunities that it can do in terms of say co-investments and secondaries that are being thought of. But that -- that's been some issues.

So I think that -- is staff doing a good job? I think it's a multi -- I'm saying there's multi-faceted parts -- answer to that question. I think that they're doing a good job in terms of identifying and investing with high quality managers today. And I think that there is additional paths being made, and activities being made, initiatives today to be able to deploy at the scale in a quality fashion, so that CalPERS can have the right exposure to the private equity asset class.

COMMITTEE MEMBER TAYLOR: So, and you're saying that their deployment hasn't met what we had hoped to deploy. But isn't that kind of part of the problem with private equity right now is that the deals are difficult to get into, and there's a whole bunch of dry powder sitting out there? Because I think you said we had a $1.7 billion increase in the last quarter in terms of commitments. And then a $3 billion increase over the whole year from our staff, is that correct?

MR. HARTT: So there was a $1.7 billion value increase in the portfolio --

COMMITTEE MEMBER TAYLOR: Value increase.

MR. HARTT: -- and a $3 billion value increase over the full year. So --

COMMITTEE MEMBER TAYLOR: So we have committed more, so we're doing a little better.

MR. HARTT: So it's -- what that is is just looking at the value of the portfolio itself. So staff had made commitments in the -- in the second half of the year of 3.1 billion, and then for the whole year of six billion. So it takes awhile for that capital to be called, and deployed, and put into investments, and then for the value to increase. So it takes quite awhile for that to get reflected in.

I just also want to emphasize too that it's a full staff decision to think about -- and the process they go through to think about how much they ought to be committing every year. So there's an interaction between the private equity team and the broader CalPERS staff to think about what's going to be the budget that they're going to be able to have to deploy.

So they haven't been -- the private equity staff has not been budgeted to the $8 to $10 billion a year. They've been budgeted a lower number. Right now, that just been increased to 7.3 billion, as I understand.

COMMITTEE MEMBER TAYLOR: Um-hmm.

MR. HARTT: So -- but I think that that -- as they go through and think about deploying capital, the number of commitments has increased, the amount of capital that they've committed has increased, the quality level remains high. I do think it would be a challenge to do $10 billion just in fund investments. So I think that is an impetus to why other -- these other opportunities, the opportunistic ones of co-investments and secondaries, and, you know, why there's discussion about the Pillars 3 and 4 is over the longer period of time when, let's say, the fundraising environment is not quite so robust, to still have ways/tools to be able to deploy capital is going to be important to not -- not necessarily be reliant upon the general partner's fundraising cycle. If they go up or down, you still want to have CalPERS be able to deploy regularly and consistently in the asset class.

COMMITTEE MEMBER TAYLOR: Okay. Thank you.

MR. HARTT: Sure.

CHAIRPERSON SLATON: Ms. Brown.

COMMITTEE MEMBER BROWN: Thank you, Mr. Chair.

Earlier when we were talking about co-investments and secondaries, I said I supported it. But I forgot to ask my question for you, which was has Meketa prepared reports on how past co-investments have done?

MR. HARTT: We have not prepared one. There is -- the performance line here, you can look on page 32. So the co-investments, direct investments, the performance by structure. So over the long term, the 10-year period, is the strongest performing segment.

So, I -- I would say -- so we've not done a review and done that analysis. But I would say that the appropriate strategy is to be consistent and to do -- to build a portfolio. Not do too many. Just one large one, and take your foot on and off the gas.

COMMITTEE MEMBER BROWN: Um-hmm.

MR. HARTT: Again, it's important to develop that portfolio and have diversity of different kinds of deals and different vintage years to be able to try to get that performance.

COMMITTEE MEMBER BROWN: Great. And have you done reports like these for other clients on co-investments? I would just like to see what one would look as opposed to this. This is all rolled up, right? A more detailed report and analysis, I would like to see that at some point in the future. Because I'm saying I like co-investments, but I really don't know how they -- how CalPERS' past co-investments have performed. And it would be nice to see what those are as we push forward.

Mr. Meng, do you want to answer that for me?

CHIEF INVESTMENT OFFICER MENG: Yes. If I may, Ms. Brown. So our staff currently is conducting a very thorough research on the topic of co-investments. And we should be ready to discuss -- have an internal discussion and then at the appropriate time to discuss with the Board what we see -- we view as a co-investment opportunity in the marketplace now, and how CalPERS should play that game. So currently, we have a very comprehensive study undergoing, and should be done pretty soon.

COMMITTEE MEMBER BROWN: Great.

Mr. Chairman, I hope we could agendize that, as soon as it's ready, that report. Thank you.

CHAIRPERSON SLATON: Um-hmm. Good.

So I just had one quick. If you go back to the program performance chart, you know, I just wanted to get your opinion on the --

MR. HARTT: On page 30, is that right?

CHAIRPERSON SLATON: That's page 30, correct.

And the Cambridge Associates index.

MR. HARTT: Yeah.

CHAIRPERSON SLATON: So help me better understand. My intuition is that the shorter the time period you're looking at that, the more difficult it is to measure against that, because the deals tend to be chunky.

So, you know, we could have had some exits in a one-year period that others would not have had and vice versa.

Are there other issues that we should be looking at, where we should be at all skeptical of using peer index, besides the point I just made?

MR. HARTT: So you bring up a good point here with regards to Cambridge Associates. There's a couple of topics I just wanted to address quickly. But just in terms of the construction of the Cambridge Associates index, this is a -- this is a challenging index to -- to outperform, because it doesn't necessarily represent the entire marketplace.

So what this represents is what the investments that Cambridge Associates, as an organization, has recommended to their clients. So they're a fine organization. I'm sure they do a great job of just cutting off the bottom quarter -- quartile of managers and opportunities. They do so that.

So this is what I would think a pretty tough index, because it's already been pre-selected. It doesn't represent the entire marketplace. Now, of course, the staff should do a good job of winnowing out the bottom quartile as well. But from looking at the total opportunity set, it does have that -- that issues -- those issues there.

You're right also that over shorter time periods, different compositions, different assets, different exposure levels in different assets can cause some fluctuation there. So it would be less meaningful to look at that.

The other is a relatively minor one, but one just to point out is that the Cambridge Associates, the figures here are IRRs, meaning they're the dollar-weighted returns versus the everything else, the PE program, the policy benchmark, the FTSE are what we call time-weighted returns.

So without -- without getting into a lot of the details, the differences in calculation tend to balance out after you're looking at long time periods. So it's -- you know, I think all leaning towards looking at the five and 10 years, as opposed to the one and three years.

CHAIRPERSON SLATON: Okay. Thank you very much.

MR. HARTT: Sure.

CHAIRPERSON SLATON: Okay. Anything else on this item?

Oh, I'm sorry. I did see it. Mr. Jones.

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

Yeah, in talking about peer comparisons, what is the status of the Institutional Limited Partners

Association template? Because one of the goals there were to bring together common reporting from all of the private equity investors over the country. So what's the status of that data and where is that now?

MR. HARTT: Sure. So ILPA, or Institutional Limited Partners Association, CalPERS is a member of that organization. And it seeks to generally advocate for limited partner investors and in their relationship with general partners. And one of the topics that has been a strong area of focus for that organization over the last several years is reporting, and transparency in reporting, and consistency in reporting.

So they had advocated an adoption of what they call a template for reporting, so that, you know, the -- there's no industry-wide standard and requirement like you have with the SEC and EDGAR for public equity and company reporting.

So in order to get the reporting on a consistent basis so that staff and other investors can look at manager performance on a consistent way and have good transparency, they've advocated for that template.

So that is being more and more adopted by the general partners. I don't have a statistic on kind of what percentage, but it's definitely being adopted. And from some of our other work, we're seeing that managers are, if not adapting that exact template, that something like that is getting more and more put in place.

One of the issues that the general partners would talk about is that, especially for some of their older funds, they didn't record the information in a way that allowed them to report it in that template, so -- or they don't have the tools to be able to do that.

So in some cases, some of the managers are doing it on a go-forward basis. So the bottom line is that that template, and that reporting, and increase in transparency is an initiative that continues to roll through the marketplace. And ILPA is a strong advocate of that.

COMMITTEE MEMBER JONES: Okay. Thank you.

CHAIRPERSON SLATON: Okay. I see no further questions. Do we have PCA on this as well. But I think what we'll do is for the reporter, we're going to take a 10 minute break. So we'll reconvene at 11:10.

(Off record: 11:00 a.m.)

(Thereupon a recess was taken.)

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

CHAIRPERSON SLATON: Well, I hate to break up the party --

(Laughter.)

CHAIRPERSON SLATON: -- but it is 11 after, so...

As everybody is getting organized and seated, I want to just take a moment to -- a personal privilege to thank President Jones for his six years of guidance of the Investment Committee at CalPERS. And it was a steady hand on the tiller. And I look up to him, and hopefully I can do maybe a portion of what -- the good work that he did.

All right. We'll now move to PCA review. So proceed.

MS. FIELDS: Good morning. Christy Fields. And I'm accompanied by my colleague David Glickman. We are your real estate consultants and we're here to talk about the roughly 10 percent of the portfolio that is invested in private real estate.

Happy to take some additional time, as necessary perhaps, not here, but whenever is convenient for new Board members to talk about the history of the program, which would resemble bell a tone like -- unlike -- not unlike *War and Peace*, and perhaps also not an inappropriate name for that. Luckily, we're in the peace part at this point.

But I wanted to review -- we presented our kind of update in a letter format. And on page three of that is kind of a high level portfolio performance relative to the policy benchmark. This portfolio has undergone a tremendous amount of change in the last 10 years. It's gone from one that experienced quite a bit of pain post-crisis due to the complexity, and the leverage, and a whole host of factors to one that is really now serving its role the portfolio.

And for the benefit of the newer Board members, that role is all around diversifying your -- the risk presented in your global equities portfolio, and really being a source of income with which you can pay your Beneficiaries.

And so while the table presents -- on page three presents that total portfolio level return - and there is some underperformance relative to the benchmark more notably in recent periods - we would urge you focus on longer term performance in this private asset class. And I'd also like to highlight too that the portfolio is doing what it's supposed to be doing at this point. It's generating close to a four percent income return year-in, year-out.

And it is also -- if you were to separate out the core part of your portfolio, which is indeed the focus of this program now comprising almost 90 percent of the portfolio -- 86 percent of the portfolio, that subportfolio is outperforming the benchmark materially over most time periods.

So this is a nuanced -- a little bit of a nuanced story, but -- and the work continues. It's not complete yet. Staff continues to manage this portfolio around the edges and continues to trim some of the legacy positions that we've spoken about kind of year-in, year-out mostly around emerging markets, some land holdings, but that the portfolio is continuing to do what it's supposed to do at this point.

And maybe there I'll pause. We can take any questions now, or David was going to provide some kind of contextual information about the market in which you're investing and participating.

CHAIRPERSON SLATON: We have no questions at this time.

MS. FIELDS: Super.

MR. GLICKMAN: Thank you, Mr. Chairman. David Glickman, PCA.

I'm going to talk for a couple of minutes. Some of the things I'll say will be echoing things that you've heard this morning from other private market arenas.

In general, institutional investors are allocating more money towards private assets and less money towards public assets. And real estate is one of the places to which that new increased allocation goes.

In addition the performance of real estate has been reasonably good. And so it has attracted capital in and of itself.

The amount of dry powder that's available is at historic highs. And it has to be understood for both private equity and for real estate that purchases are made, not only with the capital that's allocated by the investors, but also with third-party debt or leverage.

So in the real estate arena, on average, for every dollar of new equity capital that you see as dry powder, there's probably another dollar of debt that's available. And so the scope of what is the demand for real estate is enormous.

And while you have certain advantages at CalPERS in the market, particularly scale and structure, there are a lot of people who are also bidding for the same properties that you have. One of the things that that has resulted in is the annual amount of budgeted commitments that you've sought to make to get you to your allocation has not yet been met in any of the last several years.

That's disappointing insofar as achieving the asset allocation targets, but it's very encouraging insofar as showing discipline and not chasing returns that are unlikely to be able to be realized, given that there is so much pressure to find properties that the yields are likely to be less than what they have been in years past when there wasn't as much demand for those properties.

The amount of appreciation has begun to diminish compared to the years following the rebound from the Great Financial Crisis. That is not to say that properties aren't appreciating - they are - but just not at the same amount of appreciation within the total return that we experienced in 2013, '14, '15 and '16. It's still a very attractive total return when measured against what it is you're trying to accomplish from this roughly 10 percent of your portfolio.

Some of the trends that are occurring in the broader commercial real estate markets of which we want you to be aware are, in addition to having lots of capital available, there is a relatively disciplined amount of new product being created.

The two things that generally signal a real estate downturn are speculative new development of which there is not very much right now in historical terms, and a trend towards overleveraging where borrowers seek 70, 75, 80, 85 percent loan-to-value, which in terms of volatility can increase the volatility materially.

While there is new construction, it's basically tenant demand driven. Meaning there's not much spec construction, but rather things are being built because the tenants are identified and looking to take up the space.

And similarly, while the debt markets for real estate are evolving with fewer regulations, constraining the existing bank and regulated lenders, and more and more debt funds and non-regulated real estate lenders entering and bidding for new debt facilities, neither one of those conditions is so extreme as to make us change and put the yellow light of caution to something closer to red.

There's equilibrium right now in most space markets between the amount of space the landlords are offering and the amount of space that the tenants want to take up.

At the margins of those space markets are also things at which we're paying close attention. We call those the disruptors. And you have heard about the disruption in retail because of the Internet. You have heard about the disruption in office space because of co-working. You've heard about the disruption in industrial warehouse distribution, in part because of the Internet, and the focus on having distribution centers and having last mile delivery.

All of those things around the margin are changing how tenants use their real estate and the amount of demand that each tenant might have. A law firm, for example, uses much less space per employee today than they did 10 years ago, because of technology advancing. That changes the complexion of what it is to be an office building owner.

But, in general, we are relatively comfortable that the space markets are in close to equilibrium and that the capital markets have so much available demand for finished real estate, that values are likely to be able to be maintained.

At that point, I will pause and ask if there are any questions about the overall markets.

CHAIRPERSON SLATON: Ms. Taylor.

COMMITTEE MEMBER TAYLOR: Thank you, Mr. Chair.

David, thank you very much. I just -- I had a couple of questions. One was we are -- we underperformed the last quarter. And since we own mostly commercial properties, what was that due to, just as an explanation as the underperformance?

MR. GLICKMAN: So in trying to be precise and brief --

COMMITTEE MEMBER TAYLOR: That's fine.

MR. GLICKMAN: -- a good portion of the underperformance relates to what Christy described as the legacy investments.

COMMITTEE MEMBER TAYLOR: Okay.

MR. GLICKMAN: Those are things that we would call out of benchmark. And they include things like land and investments in emerging markets, which are not part of the benchmark to which you hold yourself accountable.

COMMITTEE MEMBER TAYLOR: The core strategies.

MR. GLICKMAN: Correct.

COMMITTEE MEMBER TAYLOR: Okay. So it's when we invested way back in the day that we haven't gotten rid of after the 2008 crash, is that correct?

MR. GLICKMAN: Yes.

COMMITTEE MEMBER TAYLOR: Okay.

MR. GLICKMAN: You have weaned most of that legacy portfolio away. And as Christy mentioned, now almost 90 percent of your real estate assets are entirely consistent with the strategy and the role that real estate is playing. However, some of the legacy assets didn't have such a good year and that accounted for part of it.

COMMITTEE MEMBER TAYLOR: Okay.

MR. GLICKMAN: A second part of the underperformance has to do with the fact that your portfolio is more heavily leveraged than the benchmark is. And in a period of rising interest rates, that's going to marginally affect your appraised values. It did not -- your cash performance has been terrific and has beaten the benchmark. But in terms of the total performance, the existence of that extra leverage pushes it down in the years when rates are going up, and it also buoys it in rates -- in years when rates are falling.

COMMITTEE MEMBER TAYLOR: That leads me to that second question, which was I didn't think that 32 percent loan-to-val -- loan-to-value was that high. So could you explain that why that's considered high?

MR. GLICKMAN: Yeah. PCA would completely agree with you. A 32 percent loan-to-value ratio in practical terms means that you have somewhere around three and a half to four times as much net income to pay your mortgage monthly as you need. And an industry standard is somewhere around 1.25 to 1.5 as an indication of healthiness.

The core real estate assets benchmark, the ODCE funds, has an average of about 21 percent leverage. And so while, on the one hand, my goodness, you have 50 percent more than the benchmark, you don't have such a level of leverage as to cause anyone concern about losing a property to foreclosure.

COMMITTEE MEMBER TAYLOR: What was our strategy? I mean, if -- I don't know if that was the norm when we were purchasing these properties, but what was our strategy doing this leverage level? Does any --

MR. GLICKMAN: Part of it was related to the non-core properties --

COMMITTEE MEMBER TAYLOR: Okay.

MR. GLICKMAN: -- because your 33 percent or 35 percent overall leverage also includes the non-core properties leverage. And the legacy properties were leveraged significantly more than what the performing core properties were. So it bleeds over to that and brings it up.

Currently, the strategy is to have levels of leverage on the core portfolio that are close to what the levels of leverage are in the benchmark.

COMMITTEE MEMBER TAYLOR: Okay. Great. Thank you.

CHAIRPERSON SLATON: Okay. No further questions at this time.

MR. GLICKMAN: Thank you.

CHAIRPERSON SLATON: Okay. All right. Let me get my -- now, it's time for 7b. Yeah, Trust Level Review by staff. Mr. Meng.

Do we have -- oh, wait a minute. Do we have infrastructure?

CHIEF INVESTMENT OFFICER MENG: Sorry. So Meketa on infrastructure.

CHAIRPERSON SLATON: Okay. Well, you and I are eventually going to get to the staff report.

Thank you. Welcome.

MR. McCOURT: Thank you. Steve McCourt and Lisa Bacon from Meketa. And I'm sure, at this point, you're asking yourselves exactly how many asset class reports are we going to have? This is the final one, and we'll be relatively brief.

I did want to make a couple of small introductory comments about infrastructure as a -- an asset category for the benefit of newer trustees. Infrastructure, in the context of institutional investing in the U.S. is a relatively newer asset class or asset category. CalPERS was a fairly early adopter of this asset category.

Your returns go back a bit over 10 years at this point. Infrastructure began as an institutional asset class outside of the U.S. in Europe, Canada, and Australia largely by defined benefit pension plans that were looking for assets that more closely matched the duration of their liabilities, but provided higher returns than traditional fixed income assets.

As the market has evolved, those types of assets that fall under the infrastructure category include essential services, such as transportation assets, roads, railways, ports, et cetera, and what I would sort of categorize as regulated utilities and associated activities of generating and distributing power in an economy.

What ties these types of assets together for the most part are either really, really sticky long-term demand for the service - energy obviously has a very consistent demand profile - or more often actual long-term contracts from counterparties that -- high credit quality counterparties that make the revenue of these businesses highly, highly predictable over long periods of time. And these tend to be very sort of long term buy and hold assets. In many cases, 10 years or longer.

So with that brief introduction on the asset class, I'll hand it over to Lisa for a review.

MR. BACON: Thank you. Lisa Bacon, Meketa Investment Group.

So we also delivered our report in the form of a letter. And I'm going to start at the end, and summarize our conclusion for you, and then make a couple comments about the market.

I am always pleased to come up and report to you that your infrastructure portfolio is outperforming its benchmark for the reporting period and for all trailing periods one, three, five, and 10 years.

With respect to the net asset value, you are now at $4.35 billion, which is slightly up from the last reporting period, which was 4.28. I'll also mention that this is approximately 1.3 percent of the total portfolio. And we note that you don't -- you no longer have infrastructure-specific allocation. It is part of the real asset allocation of 13 percent plus or minus. One of the things we do in this -- in this report is look at all the policy parameters for compliance.

With respect to those -- with respect to risk, the diversification of core, value-add, and opportunistic, you're roughly within the middle of those classifications. Geography, you are compliant, noting that you recently raised the international allocation maximum from 50 percent to 60 percent to give you all a little bit more room, reflecting where the market opportunities are.

With respect to segments, that is calculate -- that is evaluated at the real asset portfolio level, but we do comment on that, and they look appropriately diversified.

With respect to managers maximums, you are very comfortable there as well. Leverage is compliant, and there are no public securities of any meaning to report.

Working backwards on page three of our memo, turning your attention to the chart around historical deal flow, we noted that this is the third year of essentially three-year high that is much higher than the prior years, both with respect to the total deal value. And as well, the average size of the deal has been increasing over the last couple of years.

What that means interestingly is that the number of deals is decreasing relatively speaking. And so we're getting fewer bigger deals, which certainly matches what we're seeing in -- in our own deal flow.

On page four of our memo, we've also got some -- some evaluations of the kinds of deals we've seen during the reporting period, according to the Preqin data. The pie chart on the upper part of the page on the left side, lots of secondary deals, which essentially is the same thing as core, the kinds of assets that you all are most interested in, and so that's good for -- for what you all are looking for. Also, a fair amount of greenfield, which reflects activity both in the developed and developing world.

With respect to deal flow by region, about 80 percent of that is -- is in the developed world, but increasingly -- an increasing amount of deal activity in other geographies as private capital finds its way to markets that have previously been a little bit underserved perhaps.

With respect to deal value by sector, these don't change a whole lot quarter -- semiannual over semiannual. I would note that renewables is now the largest sector at 21 percent. I would expect that to continue to be very healthy and be at the top of the list.

Two categories I would just draw your attention to may be for next time, the social currently is fairly small, but we're seeing a lot more PPP's in particular in the United States. So I would expect that to grow over time and represent new opportunities. And also, the transport sector, which right now is at about 15 percent, I also would expect that one to increase over time.

On page five, on the bottom part of the page, back to the conversation about dry powder, I am going to sing you the same song in a different tune, there is an awful lot of it. It's still the highest its ever been, and increasing over the last couple of years. The pie chart shows you where that -- where that capital is looking to invest. Again, the same geographies that you all are looking at, predominantly in the developing world.

And then on page six with respect to fundraising, which is what fuels all that dry powder, if you look at the dark bars, those show the fundraising aggregate capital per year. Again, another record-setting year. And as well, the other line shows the average fund size. And so we're getting more capital raised and the average fund size is increasing. I think you're all following some of the managers out there that were quite successful a couple years ago, and are back in the market, and appear at least that they'll be successful again in raising large amounts of capital.

With respect to the market outlook, so far, we don't see any signs of the -- of these trends changing direction any time soon. One of the things we are noticing are increasing opportunities in co-investments, and separate accounts, and joint ventures. You know, some of the kinds of vehicles that your Real Asset Program staff and the folks that are focusing on infrastructure are accessing to your benefit.

And we continue to see you all developing and keeping strong relationships with managers and exercising your brand in the marketplace.

I'd be happy to take any questions.

CHAIRPERSON SLATON: Okay. Ms. Taylor.

COMMITTEE MEMBER TAYLOR: Thank you, Mr. Chair.

Thank you very much for the presentation. I had a couple of questions. First, you said social, and I saw that here and I had it circled earlier. What is that?

MS. BACON: So schools, hospitals --

COMMITTEE MEMBER TAYLOR: Okay.

MS. BACON: -- civic buildings, police buildings.

COMMITTEE MEMBER TAYLOR: So -- and those are usually done through governmental entities. So we're -- and you're seeing this expand is what you said earlier.

MS. BACON: Yes. I mean not at a -- not at lightning speed, but there are more of -- more of those investment opportunities in that category today than there were a couple years ago. And then we're also seeing municipalities, and counties, and states putting together those kind of programs now, that will come out for bid and be opportunities in the forward years.

COMMITTEE MEMBER TAYLOR: Are those like private-public partnerships --

MS. BACON: Yes, exactly.

COMMITTEE MEMBER TAYLOR: -- type of thing?

Okay. Good. That's good to hear.

And then renewables, I am glad to see, are expanding and are high -- are the highest. Which then I wanted to give our folks kudos for outlining here and for you guys outlining here our investments in California. So thank you very much.

But I also wanted to talk about our renewables projects. It looks like we've got multiple solar projects. I'm not sure how our folks feel about the -- how difficult it is to invest in those renewables, that 21 percent. And are we accessing those deals to the best of our ability? And maybe that's a Ben question. I don't know.

MS. BACON: I can give a short answer --

COMMITTEE MEMBER TAYLOR: Sure.

MS. BACON: -- from our perspective.

It appears that you all have a tremendous amount of visibility on deal flow in this space in terms of seeing what the opportunities are. For core renewable opportunities, those are extremely competitive. You all have been successful in some of those and you've been unsuccessful in some of those. And some of the reasons there is that there are a large number of investors willing to pay more than you are. And so your -- your real est --

COMMITTEE MEMBER TAYLOR: We're cheap.

MS. BACON: -- real assets team --

COMMITTEE MEMBER TAYLOR: Oh, I'm sorry.

MS. BACON: -- has been very disciplined in that regard, and as well the managers. One of the ways that they can access deals is bilateral negotiations and using their particular brand. Another thing is to enter into sort of joint ventures and looking at forward opportunities. One of the things I believe that we mentioned in our report last time as something for the future is to essentially look more at development opportunities and construction opportunities where you would take a little bit more risk on the front end, but then you wouldn't have to buy the core asset, you would already own it.

COMMITTEE MEMBER TAYLOR: All right. And Paul is up here, so maybe...

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: Hi. Sorry. Paul Mouchakkaa with CalPERS staff.

We have a dedicated separate account that looks at renewables. So that is with a manager --

COMMITTEE MEMBER TAYLOR: That's awesome.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: -- that we've had now for about four years. And so we are -- we have -- we have something set up that really targets that. Our tax-exempt status --

COMMITTEE MEMBER TAYLOR: Oh, that's right.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA:

-- actually works against us in this space --

COMMITTEE MEMBER TAYLOR: I forgot about that.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: Given a lot of the tax credits that go -- have -- go into the development and in the operation of many renewable power assets, it actually boxes us out in some ways, because others can pursue them at a higher price because they benefit from the tax credits, whereas we don't.

So that's a big influencer in what -- in what is going on. However, we have -- I don't remember a month, to be honest, over the last three years where we haven't been at least in the pursuit of a renewable deal. And I want to be clear, we only would do them if they meet our return expectations.

COMMITTEE MEMBER TAYLOR: Sure.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: So it's only for those reasons and those reasons only that we would do them.

COMMITTEE MEMBER TAYLOR: So just a quick question. The tax exempt -- I mean, there's a ton of us institutional investors that are tax exempt. So we all have this difficult time. And I know on the real estate side to combat that, we created the separate entity.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: Um-hmm.

COMMITTEE MEMBER TAYLOR: Is that something we're thinking about for our infrastructure?

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: While we have a separate account for the renewables piece, it's many of the fund managers face -- they can benefit from the tax credits in their returns. But there's a fair amount of foreign investors that have come into the United States --

COMMITTEE MEMBER TAYLOR: Okay.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: -- and they do face potential tax issues when they come. And so again, they bear -- they get that benefit, whereas we -- we do not.

COMMITTEE MEMBER TAYLOR: Got it. All right.

Thank you very much.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: Thank you.

CHAIRPERSON SLATON: Controller Yee.

COMMITTEE MEMBER YEE: Thank you, Mr. Chairman, and thank you for the report. I wanted to ask -- and I probably should have asked this when we were talking about real estate. But with respect to the focus on major climate events that are before us, and, you know, kind of a focus on developing ESG tools for measuring climate risk, is that a concern at this point with the infrastructure class and what steps are being taken in that arena?

MS. BACON: I will let Paul talk about his ESG program, which is one of the most robust --

COMMITTEE MEMBER YEE: Robust, yeah.

MS. BACON: -- that I've seen out there. With respect to climate change in particular, a number of managers that you're already invested with, some of the assets that you own and some of the things that you will have an opportunity to go after are either climate change neutral, climate change positive, or focus on that in someway.

Already, over the last couple years, as there's been more attention paid to the space and more climate-specific projects underway, there are commingled funds. There are managers that are specifically branding what they're doing as climate-change related and just not climate-change friendly. And so those kind of things would be flood control projects. They'd be reinforcements. They'd be stormwater management.

COMMITTEE MEMBER YEE: Right.

MS. BACON: And so I think there's going to be a number of kinds of investments coming to the fore that would be available for private capital that really haven't been in the private space to date.

COMMITTEE MEMBER YEE: Yeah, that's great. And I know -- I mean, we -- I'm proud to tell the accomplishments with our real estate assets with respect to climate change, and the tools that have been developed there. But it seems to me, particularly with some of the larger infrastructure focus, particularly on ports and sea level rise, where you have obviously a global interest, certainly have an interest here in California, and with municipalities that will be affected, that there's going to be a lot of attention focused on it, and I think a lot of opportunity as well.

MS. BACON: I think your portfolio and your team are well positioned --

COMMITTEE MEMBER YEE: Yes.

MS. BACON: -- and are probably going to be spending a lot more time on that as the years move forward.

COMMITTEE MEMBER YEE: Great. Thank you.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: All I would add to that is we're a member of the GRESB, G-R-E-S-B, benchmarking tool. Actually, Beth was one of our founding members when she used to be in the real assets group. That area provides some very good benchmarking information, but it is still very early in its stages, when you compare it to the real estate markets, which has a lot more bigger, and more robust, and deeper data.

But it is an area where we are exploring. I'll let maybe Beth talk a little bit about the climate change or the G7 initiatives that may be going on.

MANAGING INVESTMENT DIRECTOR RICHTMAN: Hello. Beth Richtman, CalPERS staff.

So I guess what I'll mention is that we have been -- the Sustainable Investments Program has been working with the Real Assets Program over the past year on piloting some physical risk tools to look at our assets, to sort of survey the portfolio, and understand the type of physical risks that will affect us as a long-term owner in these particular assets.

That said, the available tools right now in the market are still developing. And so we've been piloting some of them and working on finding where are the most appropriate tools to help us as an investor. You may have also seen the news about us forging a -- sort of a -- we're going to be piloting some tools coming out of relationship between Woods Hole Research Center, which is one of the premier climate change research centers, and also Wellington Management, because again we're trying to find what are the best possible tools we could be using to understand these issues for the fund.

But it's complicated given, you know, there's -- there's definitely a lot of well-developed science, but there's also a lot of possibilities for what could happen with any particular asset, and with -- depending on what happens related to, you know, policy and mitigation that might happen, either policy driven, or investor driven, or adaptations that different cities or governments might impose on a particular area.

So there's a lot to think about with this one, but we're definitely working closely with real assets on it.

COMMITTEE MEMBER YEE: Thank you very much.

CHAIRPERSON SLATON: I'm sorry.

COMMITTEE MEMBER YEE: Before we conclude on this item, it just kind of struck me as we're talking about each of these different asset classes that if there's an opportunity to actually have the staff bring forward, maybe from a total fund, total portfolio perspective just what the role and purpose is of each asset class just so we kind of have it all in front of us, rather than asset class by asset class.

I remember kind of onboarding over four years ago. And that was -- kind of been my whole orientation is kind of looking at it from the total fund, total portfolio perspective. I think that would be helpful, so whether a particular asset class is -- purpose is to generate income or to mitigate risk, whatever the purpose is. That's just a request

CHAIRPERSON SLATON: Is that something we can get distributed to the Board.

CHIEF INVESTMENT OFFICER MENG: Yes.

CHAIRPERSON SLATON: Okay. Very good. So directed.

Mr. Jones.

COMMITTEE MEMBER JONES: Thank you, Mr. Chair.

Yeah. I had the same reaction as Mrs. Taylor when I looked at this social category, because my first reaction is I don't recall CalPERS investing in social impact investing. And so, you know, PPP I totally understand. And just wondering if that -- how -- perhaps that needs to change, because just like she perceived it to be social impact investing, I did, and I'm sure others may eventually. So that maybe needs to be clarified.

MS. BACON: Are you looking for an elaboration now or just more information moving forward?

COMMITTEE MEMBER JONES: Changes moving forward.

MS. BACON: Okay.

CHAIRPERSON SLATON: Is that it?

Okay. Did you want anything now or are you saying --

COMMITTEE MEMBER JONES: No. I mean, if you have a quick answer. I don't want to go into a long dialogue.

CHAIRPERSON SLATON: Yeah, maybe you have the Reader's Digest version for us.

CHIEF INVESTMENT OFFICER MENG: Yeah. If I may -- if I understood your questions correctly, the use of the term "social" caused confusion here. But that's the standard industry language in the infrastructure arena. When investor talk about the different type of infrastructure investment and projects, projects such as hospital, prison, school, these are all considered as a social investment. Very different from what we normally mean by the social impact or sustain -- sustainable investing.

But my point is that that is the -- they use social to call that type of infrastructure project is an industry standard.

CHAIRPERSON SLATON: Okay.

CHIEF INVESTMENT OFFICER MENG: But that being said, we'll be happy to change it if you still would like to change it.

COMMITTEE MEMBER JONES: Yeah. I mean, it's confusing. And so that's -- I was just seeking clarification, but --

CHAIRPERSON SLATON: Okay. I think we're all on the same page as to what it means now, so good.

So I had just a couple of very quick questions. One is on the -- this is on the different types of transactions, particularly the renewables side and the challenge that presents, particularly in the solar area the tax credit, the 30 percent is going to start getting reduced for commercial and residential at the end of this year.

It's dropping to 26 and then to 20 I believe -- or 22, and then finally to a ten percent floor, unless Congress changes it. Do you see that impacting in any particular way, or do you think other players will just ignore the issue with the declining tax credit.

MS. BACON: I think it's going to change the composition of the players and maybe the proportionate at which they invest. But at the same time, the costs are coming down, the demand is going up, and so I think we would -- we're going to continue to see opportunities and folks finding a way to make them economical.

CHAIRPERSON SLATON: Right. But it -- but it should -- it should give us a little more advantage in it, as the impact of the tax credit gets reduced, I would think.

MS. BACON: All else being equal, yes.

CHAIRPERSON SLATON: Yeah. Well, it's never -- all things are never equal.

(Laughter.)

CHAIRPERSON SLATON: But the other question was on water. And you -- it's a very tiny portion. And I know you talked about -- you mentioned stormwater. But water systems. Is the challenge there the size of the systems for a player like CalPERS or what -- or do you see that as a growth area or not?

MS. BACON: At least in the United States, the water is distinct from wastewater, is either in large -- larger public companies in terms of being held, it is owned and operated by large municipalities, New York City, Los Angeles, or it is very small and fragmented.

CHAIRPERSON SLATON: Like Sacramento?

(Laughter.)

MS. BACON: I would put Sacramento in a medium kind of thing, especially since Sacramento Regional was a client of mine at one point.

CHAIRPERSON SLATON: Okay.

MS. BACON: So there are a couple strategies in the space. One essentially is an aggregation roll-up strategy, which takes -- you know, you're writing five million, ten million dollar checks a pop. And there are -- there are managers who are out there doing that.

There are privatizations of the style that you've seen in Europe, and especially in Britain. I don't think you're going to see that in the United States at that level any time soon. And so I think in that space, the forward opportunities are going to look like public-private partnerships for expanded facilities, for rehabilitation, and especially in areas where -- where the infrastructure has been underbuilt, or where there have been problems and consent decrees are in place that essentially are mandating what needs to happen.

So I would expect that two percent to inch up a little bit, but it is a challenging space. It's also one where there are a lot of creative opportunities to play where others aren't, and maybe something that you all might want to look at. I know you're looking at it some, but I would expect there might be something unique for you all --

CHAIRPERSON SLATON: Okay.

MS. BACON: -- especially given the wider range of issues in California.

CHAIRPERSON SLATON: Okay. Mr. Jones.

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

One additional comment. I just want to applaud staff for -- and I know it was mentioned earlier that sometimes actions are taken several years ago, and it may be a different staff, but to embark upon this infrastructure investing, because it has done very well for us. And I think that it may be helpful to have one of our partners come in and share with the Board their strategy on how we go about it.

And one that come to mind is the Port of Melbourne. There were a number of trustee -- pension funds over the country that was interested in investing in the port. And because CalPERS was a leader in that investment, they wanted CalPERS to be there. So I had the opportunity to go with those trustees to Melbourne to look at that, and found out that there were considering buying more of that port. So it may be helpful to have some kind of presentation with some of those structures with the

Board

CHIEF INVESTMENT OFFICER MENG: Yes. So we definitely can ask one or two of our info partners to come here to present to this body. Would you want it sooner, or you would like -- you're thinking about the July off-site.

COMMITTEE MEMBER JONES: Yeah. Whenever is convenient. I'm not -- whenever is convenient.

CHAIRPERSON SLATON: Let's let staff --

COMMITTEE MEMBER JONES: You determine that.

CHAIRPERSON SLATON: Staff can schedule it.

CHIEF INVESTMENT OFFICER MENG: Okay.

COMMITTEE MEMBER JONES: And, by the way, some of those models are similar to this private equity model we're talking about, so that would be informed in that area also.

CHIEF INVESTMENT OFFICER MENG: Yes. Thank you.

CHAIRPERSON SLATON: Good. All right. I see no further questions. So thank you very much for the report.

And I think that concludes all the consultant reports.

CHIEF INVESTMENT OFFICER MENG: I hope so.

(Laughter.)

CHAIRPERSON SLATON: So, Mr. Meng, the floor is yours, sir.

(Thereupon an overhead presentation was Presented as follows.)

CHIEF INVESTMENT OFFICER MENG: Thank you. Mr. Chair. So your consultants just provide you a very extensive review of the program. So for the next 20 minutes, the staff would like to highlight a few additional points. So we're not going to belabor through all the slides. We'll just pick a few slides.

So the first 10 minutes, John Rothfield, CalPERS staff and economist would give you a few highlights of the global economy and the capital markets. And then I would take over from there to share with you my view of the portfolio -- the performance -- the most recent past performance, what -- where is our funded status now, and how the portfolio is positioned today. So with that, I would turn it over to John.

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INVESTMENT DIRECTOR ROTHFIELD: Thank you, Ben, and thank you, Board, for the opportunity to talk to you again. I am cognizant of the fact that Wilshire did a good summary of the economic environment that we're operating in right now, and also that a lot of these slides are informational, so I'm just going to hit a couple of the high level points on the economic outlook, and how it may pertain to the performance of asset classes in the future.

And it's coming right now probably in the -- the macro is coming from a cautious approach for three reasons. One is that 2018 was a solid year for the economy, but it ended up not really mapping into market performance, particularly by the end of the year.

Secondly, that we have had some conflict resolution, particularly in Washington on foreign trade and Fed flexibility. It has so far proceeded in a manner role -- manner favorable to market rebound. But we still need the economic data ultimately to respond to that in the future, and we need the headline risk to sustainably be positive for markets, rather than volatile as it has been in the last year or so.

Then finally, there are other factors around that may mean that markets give us less in the next two to three years. That, in particular, being the length of the business cycle. So the U.S. is roughly at 10 years of expansion, which is a record. And a country like Japan is also at a post-war record in their expansion as well.

And so, again, you know, I'm coming at it from a relatively cautious view right now.

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INVESTMENT DIRECTOR ROTHFIELD: When you look at page three, which is the performance of the economy in the past year, you can see that in 2018 the economy did expand at a greater rate than it had in the first eight and a half years of the expansion. A lot of that happened in consumer space. The consumer outlook for this year is much more volatile.

In particular, the big question the market is asking right now is did folks get their tax cut last year when -- when withholding was changed by employers, seemed to do a pretty good job, or is some going to come this year in terms of a larger tax refund.

So far, it's looking as though most folks got their tax cut in 2018. And 2019 has generally been a year so far for disappointment in terms of refunds.

Secondly is that we did have a higher than expected improvement in CapEx in 2018 relative to the expansion average. But that's very vulnerable to a downturn in the global cycle that we're experiencing right now.

Thirdly, in that, housing underperformed its typical expansion average for the year. I don't think that's a big deal for the longevity of the business cycle, but we are getting into a phase of the business cycle where some of the government activity is so-called crowding out private sector, including in the housing space.

And then we have had a big increase in government spending. One of the big features of that has not only been federal defense spending, but also State and local governments have been improving their revenue and have been spending accordingly.

Now, in terms of a couple of items that I wanted to talk about on page four, the improvement in the economy doesn't necessarily map to markets In fact, it looks like an inverse relationship. Part of that is that, you know, government activity can crowd out the private sector.

Secondly, if the economy is improving, the Central Bank can actually get more aggressive in its policy. And then probably thirdly, that markets are forward looking, rather than looking at the current economic environment.

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INVESTMENT DIRECTOR ROTHFIELD: Then on pages five and the next couple of pages after that, I think a key issue for the market is how long this expansion can continue to go at the rate that it's been going. And the big issue is, you know, whether we are going to continue to get labor force participation in the economy increasing. We've talked about this a lot in the past. We are getting to a point where if you adjust for the aging of the population, employment to population is getting pretty high, relative to past cycle peaks.

And then you have this continuing problem where the female participation rate is improved rapidly during particularly the last couple of years of the recovery, but male participation, particularly in the 25 to 34 year old space, has not improved. So that goes to continue the issues like imprisonment, opioid addiction, things like that.

Productivity is another area where it looks as thought there might be some improvement in productivity having occurred in the first three quarters of last year. Productivity essentially says if you do have limits on labor force growth, can you get economic growth through CapEx and productivity.

The jury I think is still out on that. Some folks say that we've had five years of improvement in CapEx. Could that lead to higher productivity in the future? But I think the last couple of quarters of this -- fourth quarter, and then first quarter, we're actually going to see a drop back in productivity. So the jury is still out on both labor force participation and productivity.

And third is Fed flexibility. We continue to think of the last economic cycle, where there was a lot of leverage growth going on. Folks taking out home equity loans, a strong jump in mortgage borrowing, but -- and so the Fed just had to keep tightening until the economy went into recession.

There have been past economic cycles, such as the 1990s, where Fed Chairman Greenspan was able to cut rates a couple of times during the economic cycle, and therefore prolong the cycle, if you like.

So one of the key issues is whether we have a lot of inflation right now. It turns out that we don't have much inflation. Inflation is probably falling this year because of lower gas prices, which means the Fed does have flexibility to back off, and it has started to buy into that idea of more flexibility

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INVESTMENT DIRECTOR ROTHFIELD: Then finally, I wanted to go into just a couple of bullet points on some of the things that could impede future returns in the market over the next two to three years. One is that if you look on page 11, there's a lot of data there. But both -- some of the managers we polled, plus our internal assessment, is saying that economic cycles here and globally are becoming longer in the tooth. We're either -- a lot of indicators are either late mid-cycle or early late cycle, which goes to the issue of future returns.

I've mentioned before the labor market constraints. We have very little labor left in the tank to be able to draw on.

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INVESTMENT DIRECTOR ROTHFIELD: Trade wars on page 13. Even though the U.S. has a smaller exposure to global trade than some other countries directly through its exports, U.S. corporates due 30 to 40 percent of their business abroad. And therefore, as you can see, that global trade has turned over partly because of tariff -- tariff and trade wars. That has started to impact some indicators in the U.S. economy.

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INVESTMENT DIRECTOR ROTHFIELD: And then finally, you know -- well, one additional element is China slow down. China is incrementally adding to its toolkit in order to be able to lift up that economy. The official numbers say China is still growing six plus percent. The -- some of the unofficial data is saying, yes, things in the steel sector are still growing strongly, but some other elements of the economy are probably still growing at three percent.

And then the question is what tools does China have available to deploy quickly on both the budget side and the credit side to get the economy going again?

A little -- one worrisome effect is that in 2014-2015, it took two years for China to be able to turn the economy back into a significant growth mode.

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INVESTMENT DIRECTOR ROTHFIELD: Another problem on page 15 is that although the Congressional Budget Office recently downgraded the growth of the U.S. budget deficit over the next few years, we still have significant growth coming up in that deficit, and that can crowd out private sector activity. We do on March 1 also have an expiry of the debt ceiling suspension in the U.S, which could lead to more issues in Washington.

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INVESTMENT DIRECTOR ROTHFIELD: And then finally, on page 16, you can see that central banks have moved from adding liquidity to the system to withdrawing liquidity from the system. Japan is doing much less quantitative easing than it did before. The European Central Bank has stopped buying bonds and adding liquidity that way. And the Fed, as Andrew mentioned, is running down its balance sheet.

So, in conclusion, I would say that -- you know, I would say that the stock market is probably saying this slow point in the economy in the winter is going to give way to improved growth in the spring and summer. And that's going to be good for markets and earnings.

The bond market right now is saying probably not. We need to see the results and we need to see better economic data. But it is true that the economy has slowed down, and it is true that we still have these challenges out there, including headline risk.

So again, my overall message is the macro is showing a fairly cautious view right now.

CHAIRPERSON SLATON: Okay. We don't -- no one has questions.

Oh, wait a minute. Treasurer Ma.

COMMITTEE MEMBER MA: Can we go back to slide 16, what is that blue and yellow graph? Why is that yellow a different color?

INVESTMENT DIRECTOR ROTHFIELD: You know what, it looks like the -- it looks like the -- the labels have fallen off that chart when it was produced. But what that's showing is the size of the balance sheet in each country held by the Central Bank. And I apologize for the fact that we don't have the labels probably on that.

Yellow is the size of the Fed's balance sheet, as a proportion of the economy. Other countries, such as Switzerland and Japan, which are the two bars on the right, are the size of their holdings of bonds as a proportion of their gross product.

So I will send around a revised version of that chart that has the proper labeling.

COMMITTEE MEMBER MA: Okay. And then your last response, what was the risk you said? The economy has slowed down and --

INVESTMENT DIRECTOR ROTHFIELD: Well, yeah, part of the problem is that even though the economy -- the global and the U.S. Economy had a fairly slow expansion recovery since the Great Recession in 2008, 2009, the Central Banks kept the expansion going by adding liquidity to the system. The Fed was buying bonds, the European Central Bank and the Bank of Japan are all buying bonds, and other Central Banks like Switzerland and the UK as well, Bank of England.

We're now at a point where the Central Banks have judged that the economies can do better without support from the Central Banks, so they're actually withdrawing liquidity from the system. And one reason we got to a better place in global growth was that the quantitative easing was supporting asset prices, whether house prices or financial asset prices. And now the markets have to do that on their own based on the economic outlook, rather than relying on Central Banks to support them through liquidity addition.

CHAIRPERSON SLATON: Okay. Treasurer Ma, is that --

COMMITTEE MEMBER MA: No, that's it.

CHAIRPERSON SLATON: Okay.

CHIEF INVESTMENT OFFICER MENG: Thank you, John.

So in the past couple months -- in the past couple months, I watched a lot of videos of the Investment Committee meeting. And I think I'm going to conduct the CIO report slightly different from what was done in the past.

So I would like to always highlight three topics in my CIO report. One is our performance, particularly in relation to seven percent required rate of return. Then the second topic we'll briefly talk about the funded status. And then the third topic is the current positioning of our portfolio, risk position of our portfolio, and our plan to generate the seven percent required rate of return.

So with that, I would like to -- again, we are not going to go over every slide. We'll select a few slides.

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CHIEF INVESTMENT OFFICER MENG: So -- Okay. Give me a second. Sorry. It's a wrong deck or the same deck. Just toward the end of it. It's a different deck, so if it's a different deck, can you please bring up the -- it is 7b, it's just 7b, attachment 2.

Great. Thank you.

So slide 3. So first question, our return, particularly in relation to the seven percent required rate of return. So as you can see, the very top line of this table we did not achieve the seven percent return in that -- in the past one, three, and five years. But we did achieve it in the past 10 years, which is 7.9 percent.

And if you recall from my presentation last month at the off-site, I mentioned that we did not achieve the seven percent return in the past 10 years. And the reason was the -- the reason for the difference in the numbers, when I reported last month, that was as of June 30th, 2018, and this is as of December 31st, 2018.

And if you think about it's a 10-year rolling period. So we experienced very bad drawdown in the second half of the 2008, so that was 23 percent of a drawdown in our portfolio.

So once that 23 percent of drawdown in our portfolio, drawn out of the measuring period. You see that our return -- 10-year return increased from 5. -- I want to say 5.6 percent to 7.9 percent. So the highlights of this page, except for one, the importance of the measurement period. Depending on which period you're looking at, it can be above or below. And more importantly, its importance of drawdown protection that some of you, such as Ms. Taylor, this morning asked a question already, which I will speak to later in this presentation. What we are doing in terms of protecting ourself from another big drawdown.

So now, if I may, turn your attention to slide 5.

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CHIEF INVESTMENT OFFICER MENG: So this shows absolute return of our fund for two time periods, the one-year period, which is the solid bar, and then the 10-year period either the green or the shaded bar.

As you can see that on the -- on solid bar, most of the asset delivered negative return -- public asset delivered negative return in 2008. And this really tell -- is consistent from -- consistent with what you just heard from your consultants and our staff, that in 2018 the risk environment changed.

So investors start repricing risk. And as a result, the most sensitive asset class, which is public equity, experienced a loss close to nine percent. And so it's other public assets, such as income and inflation.

However, if you look at the 10-year period, all asset classes have a -- have a positive return. So that's highlighting importance of us focusing on the long term. But a key message on this slide is that the market environment has shifted. Last year, 2018, was the first in the past 10 years we experienced a negative -- negative equity market return.

And the other message you can see from these -- on this slide is that the private asset classes, they -- namely private equity and real assets, they both held up well, even in the one-year period. And at least again, there are -- I think there are two takeaways from this observation. One is that private asset classes do provide some risk verification benefits, particularly -- particularly the downside protection. And also to note at least also partially caused by the lagging of valuation for private asset classes. As some of you ask your question already and the consultant mentioned this morning, that, you know, the valuation for private asset classes lagged, sometime by a quarter, sometime by two quarters. So we have not seen the real up to time valuation for the private asset class.

So now, let's turn to slide nine.

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CHIEF INVESTMENT OFFICER MENG: So this slide really talk about excess return or the performance attribution for the excess return. So what we mean by excess return here is the difference between the return from our actual portfolio and the policy benchmark. So the policy benchmark is the one that you adopted last November -- last November as the asset liability exercise workshop -- asset liability management workshop.

The policy benchmark is a theoretical benchmark, or is a theoretical portfolio, not the actual portfolio. So the excess return is the perform -- is the difference between performance of our actual portfolio and then the policy portfolio.

And, of course, the staff aspires to deliver positive excess return. That's really the staff's job to outperform the policy benchmark. But you see in this number here, that's -- I won't say chronically we underperform the policy benchmark. And this is -- as I mentioned at last month's, this is the primary focus of my first 180 days to really assess our investment capability and to conduct a gap analysis, what we are good at, what we are not good at, and what we should be good at, and how to get there.

So we plan to report back to you in July off-site. But until then, I would like to highlight one data point to you. If you look at the very last line, the private asset proxying. And if you look at the five-year excess return is a negative 13 bps. So that's more than half of the underperformance of the total fund was causing by private asset proxying.

And what is that? The proxying is really estimate, or approximate, the impact of our inability to achieve the full exposure to private asset classes, such as private equity, and when we cannot achieve the full exposure -- fully desired exposure, when that asset class is the best performing asset class. So naturally you underperform simply because you cannot get to what you need.

So this again highlights that in the private equity -- private asset class is part of the private -- private equity, and is the best performing asset class. And the other important point of this observation is that private equity -- just a moment ago, your consultant and the staff, both of them, discussed about the challenges of funding right benchmark for private asset classes.

There's no perfect benchmark for private equity. And we have an asset class a benchmark is not investable. For example, our private equity benchmark is public equity plus 150. But you cannot go out there to buy public equity plus 150. No one can guarantee that, right?

So it has a benchmark not investable. But does it make sense to have a fixed allocation target? Currently, our allocation target to private equity is eight percent. And we -- for public markets, for example, for public equity, the target is 50 percent. And if I want to get to 50 percent, it's easier to get it done in the market. Just take some time given our size. It can take maybe a couple of weeks or maybe up to a couple months.

But in private equity, since it's not investable, you cannot buy the exposure. So that way are really creating a dilemma for ourself. You cannot buy the exposure, but you have a fixed target, eight percent. And when you cannot get to eight percent, you're at seven percent, you're chronically underweight the best performing asset class by one percent. And, of course, that can hurt our performance.

So these are just the topic -- one of the topics I make a list of it, and then come back to you to discuss with you at the July off-site. All the -- you know, the things that I see that suboptimal.

So that -- we talk about the first topic in my CIO report is the past performance relative to the seven percent required rate of return.

And the second topic I would like to discuss just very briefly is our funded status.

So the funded status you saw the 71 -- 71 percent funded status was really based on again June 30th, 2018. And as Ms. Hollinger mentioned this morning that if we use December 31st number, our funded status would be about 65 to 66 percent. And if you use it -- again, use the January number, if your factor in the January -- the month of January return, our funded status will be about 68 percent.

I know we run our portfolio with a long-term focus, but periodically remind ourself that we're still in the underfunded status, and below 70 percent. I think that help all of us to focus our energy and effort on the most important task, most important mission that we all have, which is to increase the funded status, and to secure the health and retirement benefit of all the members. So that's the second topic.

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CHIEF INVESTMENT OFFICER MENG: Then the third topic is really the risks. Currently, how -- how is our portfolio positioned in terms of risk taking and what is our plan to generate the seven percent return?

So as the consultant mentioned already that the dominant risk in our portfolio is growth risk. So our -- the performance of our portfolio is very closely tied with equity markets. And with that, then it comes with the vulnerability. We are very vulnerable to drawdown -- very large drawdown.

And given -- again, given our underfunded status, and also given the outlook of the global economy, we have to take equity risk to generate the seven percent return in the long run. However, that being said, there are things we can do, and we are doing already to mitigate the drawdown -- the impact of a large equity market drawdown.

For example, we -- I see that we have started positioning our portfolio to be a little bit more defensive, and also our portfolio is largely diversified across issuers, sectors, and the geographies. The leverage level of the total fund is modest, and we have adequate liquidity coverage.

And more importantly, compared to 2008 and 2009, global financial crisis, we're in a much better liquidity position. Again, thank you all to actions that you took in the recent pass to improve the liquidity profile of the fund. And also, we're managing our liquidity profile in a much more proactive way than -- than which we did in 2008 and 2009 period.

So again, as I said, that my first 180-day plan. So review our liquidity profile and to develop a comprehensive proactive liquidity management tool is at the front and center of my focus area.

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CHIEF INVESTMENT OFFICER MENG: So the last slide on risk is slide 14, draw your attention to. So this is to put the drawdown into perspective. The drawdown we experienced last quarter 2018 relative to other drawdowns experienced in the recent history was small.

And again, as I said, that, you know, given our underfunded status, we have to take risk to generate the seven percent -- seven percent of the return. And taking that risk also comes with a willingness of sticking to our course, even during the times of inevitable market volatilities. And so that what I meant last month at off-site what I meant by keep calm, carry on. If we are on the right course, the markets will be volatile at times. We need to stick to our course.

And the other thing, in addition to having more defensive positioning, also to have a proactive managed liquidity framework can also help us to prepare ourself to take advantage of market drawdowns when these opportunities comes about.

So in my view, then people will say why don't we just keep in a lot of liquidity in the portfolio and waiting for the market drawdown, and then they can take advantage of this market dislocations. And so my view is really too much liquidity, because liquidity earns a very low return, two percent. We need seven percent.

So too much liquidity is costly. However, too little liquidity is deadly. We need money to pay member's benefit. So what is right balance between costly and deadly? And that's the project -- one of the top projects that the Investment Office and I are working on. What's the optimal way to determine a single -- at any point of time, what's the optimal amount of liquidity that we should have, and what other solutions and alternatives we should have in the toolbox?

So with that, I think that conclude my prepared remark on the total fund review, and we are ready for any questions.

CHAIRPERSON SLATON: Mr. Perez.

COMMITTEE MEMBER PEREZ: Thank you. So the 71 percent rate is of June --

CHIEF INVESTMENT OFFICER MENG: June 30th, 2018, last year.

COMMITTEE MEMBER PEREZ: And what is it today?

CHIEF INVESTMENT OFFICER MENG: So today, as of January 31st, if we factor in the positive return for -- more than four percent return in the portfolio, today's -- of January 31st, the funded status should be around 68 percent.

COMMITTEE MEMBER PEREZ: If we factor -- we don't know the answer.

CHIEF INVESTMENT OFFICER MENG: Because -- because the second half of last year, particularly Q4 last year, we experienced a large negative return. So from

June 30th, which is 71 percent, to January 31st, which is 68 percent. So again, this is not an official number, just rough, back-of-envelope estimation.

CHIEF EXECUTIVE OFFICER FROST: Yeah, I was going -- I was going to say these are not official numbers. But the assets under management -- I had as a part of my CEO report, the assets under management are 351 billion, versus at the end of December, it was right around 338, I believe.

CHIEF INVESTMENT OFFICER MENG: That sounds about right.

COMMITTEE MEMBER PEREZ: So what's the -- what's the official number? Do we have one?

CHIEF EXECUTIVE OFFICER FROST: We'll have to get that back to you.

COMMITTEE MEMBER PEREZ: Thank you.

CHIEF INVESTMENT OFFICER MENG: So, again, as I said, that you know we manage the portfolio with a long-term focus, but I think, you know, periodically remind ourself that we are still underfunded, and lower than 70 percent. So that should remind all of us to focus or energy and attention effort on the most important task we all have, which is to improve the funded status.

But again, as I said in opening, I'm doing the CIO report slightly differently. If that's not something you want to hear from me in the future, I'm more than happy to cut that out.

(Laughter.)

CHAIRPERSON SLATON: Okay. Mr. Perez?

COMMITTEE MEMBER PEREZ: Thank you.

CHAIRPERSON SLATON: Okay. Treasurer Ma.

COMMITTEE MEMBER MA: Thank you. I have two questions. I hear the goal is 70 percent target, yet we got three letters from the public saying that we have a 75 percent target. So have we set that target here at the Board?

CHIEF INVESTMENT OFFICER MENG: Not that I'm aware of. The goal should be 100 percent.

COMMITTEE MEMBER MA: Okay.

CHIEF INVESTMENT OFFICER MENG: But we're currently hovering around 70 percent.

COMMITTEE MEMBER MA: Okay. And then the second question, we talk about portfolios, returns, and funding goals. I haven't heard anything about risk. So have we set a risk target or what is our risk level?

CHIEF INVESTMENT OFFICER MENG: So the risk level -- on the active risk, our Risk Policy, the limit, is 150 bps, or 1.5 percent. Currently, we're at a 0.4 percent. So it's well within the risk limit on the active risk. And on the total risk, is as expected within the range as well.

But also as I mentioned that our real true risk is really our equity risk exposure. So that make us vulnerable -- vulnerable to a large drawdown in the equity markets.

COMMITTEE MEMBER MA: Okay. Can you just explain --

CHAIRPERSON SLATON: Oop. Let me put you -- let me put you back on.

Go ahead.

COMMITTEE MEMBER MA: Can you just explain it like in layman's terms?

CHIEF INVESTMENT OFFICER MENG: Yes. Yes. Yes. Yes.

COMMITTEE MEMBER MA: I'm a CPA, so I don't understand.

CHIEF INVESTMENT OFFICER MENG: Yeah. Yeah. So the layman term, no pain, no gain, right? So in order to achieve higher return, we have to take some more risk. But we can be smart and intelligent about what risk to take, when to take, and how much to take it.

So again, along the lines of no pain, no gain, currently, the risk-free rate, let's call it 2.5 percent. Our target is seven percent. So, you know, have a risk-free portfolio is not an option to generate seven percent -- seven percent return, so we need to take risk.

COMMITTEE MEMBER MA: Okay.

CHIEF INVESTMENT OFFICER MENG: And equity risk in the long run has proven both private equity and public equity. The equity risk premium on average, again depending on which time period you look at, is about four percent of equity risk premium. So if you call the risk-free rate 2.5 percent plus, four percent equity risk premium, that get you to about 6.5 percent. And then private equity should be able to deliver more than the public equity. So that's why public equity -- private equity is the only asset class we expect to deliver more than seven percent, with public equity slightly shy of seven percent.

So we need to take equity risk to get to the seven percent. But taking that risk, again no pain, no gain. So there's a gain, but the pain is that occasionally we see large equity market drawdown, as you can see on this slide.

But the drawdown we experienced in Q4 last year, relative speaking is small. And as I said, we have been positioned our portfolio in a more defensive way. And more importantly, in my view, the best -- the best hedge against equity drawdown is to have a better liquidity management framework. And that's where I mentioned that, you know, too much liquidity is costly, but too little liquidity is deadly.

But at some point in the near future we'll come back to you once we finish the project -- the optimal liquidity management tool.

COMMITTEE MEMBER MA: Okay. I got it now. Thank you.

CHIEF INVESTMENT OFFICER MENG: Thank you.

CHAIRPERSON SLATON: Mr. Miller.

COMMITTEE MEMBER MILLER: Yeah. Thank you very much. It's exciting to hear, Ben, as you are already, you know, getting going on your 180-day kind of review and progress that you're able to come to us and kind of outline some of the things.

So I'm going to be really looking forward to July, because the subject of your review of our results and staffing and everything, and what we do well, what we don't do well, performance, solutions with risk to return, and especially this -- the issue you've highlighted quite a bit about what's that right balance of liquidity, given our needs for return and our appetites for risk.

And I'm wondering if between now and July, you will be kind of updating us on your progress? Because we've got some really big decisions to make. And I don't know that they're like incredibly urgent versus having that kind of information. And so I'm thinking that may kind of help us frame time frames for big decisions based on what you learn and are able to come back and recommend from you and your team.

CHIEF INVESTMENT OFFICER MENG: Yes. So that's -- that's our intention. We'll report back to this body as we learn. So currently, there is a number of projects -- projects going on concurrently. And once we have enough findings, and if you deem appropriate, we'll be happy to bring back to you before July off-site.

CHAIRPERSON SLATON: Ms. Hollinger.

COMMITTEE MEMBER HOLLINGER: Thank you.

Ben, thank you. I really appreciate the enormity of the challenge you have in front of you.

Coming from the insurance industry where you manage to a liability that's actuarially based, how fast are our liabilities growing?

CHIEF INVESTMENT OFFICER MENG: Well, we assume it grows at seven percent. But then as in the details, we'll ask Scott, our Chief Actuary.

COMMITTEE MEMBER HOLLINGER: Thank you, Scott.

CHIEF ACTUARY TERANDO: Good morning. Right now, our discount rate is at seven percent. So if you look at the liabilities, we anticipate them to grow at seven percent. The actual growth rate might be a little bit higher depending upon actual experience and stuff like that. But right now, we're assuming growth rate around seven percent of the liabilities.

COMMITTEE MEMBER HOLLINGER: So you're always assuming that there is kind of an alignment?

CHIEF ACTUARY TERANDO: Yes, that's correct. And -- but we -- we do look at it every four years. We conduct an experience study, and we look at -- not only do we look at the discount rate, by we look at inflation. We look at the mortality assumptions, as well as all the demographic assumptions. And we look at how -- how the liabilities are growing and how the experience lines up with our assumptions.

COMMITTEE MEMBER HOLLINGER: Got it.

And then my other question, Ben, back to you, recognizing that you're looking at the private equity asset class to give us the outside returns to kind of counterbalance the lower return expectations going forward of these are other asset classes, what is -- what weighting then would you give it, like in terms of is it -- obviously significantly more than eight percent, because, when you're talking about a portfolio of this size to have an impact to be that offset.

CHIEF INVESTMENT OFFICER MENG: Yeah. So that would be the next item. But just a short answer is we would like to have as much -- as much as we can. And also as much as our liquidity profile can afford us.

So in the next agenda item --

COMMITTEE MEMBER HOLLINGER: So it's kind of like Yale?

CHIEF INVESTMENT OFFICER MENG: Yes. Yes.

COMMITTEE MEMBER HOLLINGER: Got it.

CHIEF INVESTMENT OFFICER MENG: Yeah. So you will see in the next agenda item, I will run another scenario at 16 percent, zero percent, eight percent, and then 16 percent in private equity.

COMMITTEE MEMBER HOLLINGER: Got it. Okay. Thank you very much.

CHAIRPERSON SLATON: Ms. Taylor.

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

Thank you, Ben. I appreciate your report. And I do appreciate the clarification and clarity that you're providing under the three points. That helps me kind of get my brain around -- wrapped around what we're trying to do here.

I just wanted to -- it looks like to Treasurer Ma's statement here about the public letter, it looks like it's a typo. It's supposed to be severn percent target rate. Yeah, investment -- our investment returns. So I just wanted to bring that up as well.

Thank you.

CHAIRPERSON SLATON: Okay.

CHIEF INVESTMENT OFFICER MENG: Okay. Now, that makes sense. Thank you.

(Laughter.)

CHAIRPERSON SLATON: Okay. I see no further requests to speak. I want to thank you very much for this review and your team. I -- you know, this is taking a clear-eyed approach to what our challenges are. I would note that you know have 150 days, not 180 days.

(Laughter.)

CHIEF INVESTMENT OFFICER MENG: Thank you.

CHAIRPERSON SLATON: No pain, no gain.

CHIEF INVESTMENT OFFICER MENG: No pain, no gain. Exactly.

CHAIRPERSON SLATON: Okay. Thank you very much.

And now we will move to Item 7c, which there's a great deal of interest. I have 10 speakers on my list.

CHIEF INVESTMENT OFFICER MENG: Ten speakers.

CHAIRPERSON SLATON: Ten speakers. But we will start with the staff presentation.

CHIEF INVESTMENT OFFICER MENG: Great. So I will carry this presentation with my colleague -- my dear colleague John Cole.

(Thereupon an overhead presentation was Presented as follows.)

CHIEF INVESTMENT OFFICER MENG: So as you recall, that last December the staff made a presentation to you in -- about two private equity vehicles, you know, for us to gain more investment capabilities in private equity as an asset class with the objective to achieve the scale, and then to improve transparency, improve control, and reduce cost.

So today I'm here -- I would like to share with you my opinion -- or my view about private equity as an asset class, and particularly what I think of the innovative approach that has been under discussion for quite some time at CalPERS, the Pillar 3 and Pillar 4 what I think of Pillar 3 and Pillar 4. And then I would like to share with you what we -- most of the staff has learned so far during the past -- in a year -- year-long process, and our steps forward.

So basically the agenda item will try to address four questions. For one, why do we need private equity? The second question, why do we need Pillar 3 and 4? And what we have learned -- what are the risks and what are the ways we can mitigate the risk, and what we have learned so far. So we organized the agenda item with the four questions.

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CHIEF INVESTMENT OFFICER MENG: So the very first question is why private -- why -- why do we need private equity?

And the answer is very simple. So if I could give you a one line exact summary of this entire presentation would be we need private equity, we need more of it, and we need it now. So let's talk about the first question, why do we need private equity?

And the answer is very simple, to increase our chance of achieving the seven percent rate of return, and to stabilize employer contribution, and to help us to secure the health and retirement benefit of our members.

Private equity has outperformed over multiple economic cycles, has outperformed all the other major asset classes. And with our own experience in the past 20 years, our own private equity portfolio delivered 10.5 percent annualized return way above the seven percent target.

And then last year alone, our private equity portfolio delivered 16 percent return. And this is -- again, this slide shows you -- this is another way to show you the performance of private equity. So this is since inception of our Private Equity Program at CalPERS. For each dollar for -- since 1992 to today, each dollar in private equity returned to more than $15 to us, with a note -- noticeable gap better than the second best performing asset class, which is global equity, which delivered over $11 of the return.

So this is -- so that's -- I list empirical evidence. Our historical experience is that private equity is the best performing asset class. And as we all know that when we go out to buy a financial product in every time there's the fine print, you know, on the bottom saying that, you know, the past performance is no indication for future performance.

So with that, how do we gain more conviction level that, you know, the past -- the repeatability of the good performances in the past? So to me, we can gain a high conviction label if we understand the drivers of the past performance, and then we can assess whether these drivers for past performance will continue to exist in the future.

So, in my view, the private equity, particularly the growth and buyout strategy -- so the private equity managers, that have four levers to play to generate excess return. There were four drivers for the past good performance. So one, they can buy -- they buy cheap. So they buy the cheaper. And then they improve the profitability of the company. They add -- then they add smart leverage, and then they sell it higher.

So buy low, sell high, right? The first step is buy low. The last step, sell high. And these factors are really about the inefficiency of the private markets. And then after you bought the company cheaper by low, you know, you have to fix up the company, improve the profitability of the company, and then add smart leverage to amplify, you know, the improvements, right?

So this I call the skills.

So going forward, I believe that, you know, the market -- the private markets will continue to remain inefficient, so that the skillful managers can continue to exploit the market inefficiency in private equity.

And that's one of the reasons in the forward-looking market -- capital market assumptions as what we did in the 2017 asset liability management workshop. There's only one asset class where expect to deliver more than seven percent return. That's private -- private equity in our portfolio. We expect private equity in the long run to deliver 8.3 percent compound return, and again, compared to the second best -- the asset class with the second highest expected return, which is 6.8 percent from public equity.

So we need private equity. And this is simple path, right? If you're trying to achieve -- if you are trying to achieve seven percent return, and there's only one asset class that is forecasted to deliver more than seven percent of the return, you need that asset class in the portfolio and you need more of it.

And now the question is how can we do that in the most risk-prudent way, in the most-risk intelligent way? So that would be the late -- later part of my presentation.

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CHIEF INVESTMENT OFFICER MENG: So this is -- going forward, this is a simulation to show the impact of private equity in our portfolio to deliver return in the future. So the first column you see the existing ALM policy portfolio, where we have private equity with the target allocation eight percent. And with that, our discount rate is seven percent, and the employer contribution reaches 31 percent.

Now, let's say if we were to remove private -- private equity completely from our portfolio. So our expected return would drop from seven percent to 6.7 percent. And more importantly, you see that 10 percent jump in the employer contribution rate from 31 percent to 34 percent.

So now, let's say that if we were able to double our allocation from eight percent to 16 percent, that would increase our expected return from 6.7 percent to 7.3 percent. And that would reduce the employer contribution rates by 10 percent from 31 percent to 29 percent. So this shows that the impact of private equity on a forward-looking basis -- the impact of private equity on our ability of achieving the seven percent return, and our ability to provide the stability of the employer's contribution rates. So that means that we need private equity, and then we need more of it.

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CHIEF INVESTMENT OFFICER MENG: And there's another reason that we need more of private equity. As we discussed this morning and also last month that, you know, there are more and more companies are staying private for longer. And for CalPERS to have access to that segment of the wealth creation, we need to be in that space. So we need more private equity just to stay at par with the market opportunity shift, because the market has -- opportunity has been shifting more and more into the private space.

So for us to capture that of the market evolution, we need more private equity. But we need more private equity, but we can do -- again, we can do so in a smart way.

What do I mean by in a smart way? You know, a smart way is to leverage our comparative advantages. And as I said last month in my presentation that we have a number of comparative advantages, namely our scale, our brand, and then again our improved liquidity profile. And with this, I believe that Pillar 3 and Pillar 4, the innovative approach that we are exploring now, Pillar 3 and Pillar 4 may be the best way for us to take advantage of our comparative advantages.

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CHIEF INVESTMENT OFFICER MENG: So we just discussed why do we need private -- private equity.

Now, to the second question, why do we need Pillar 3 and Pillar 4? And also what's the relationship between the conventional approach that what we are -- what we are doing right now with the Pillar 2, the commingled fund. So what's the relationship between the conventional approach, which is Pillar 2, and the innovative approach, with the Pillar 3 and Pillar 4? So we'll address this questions right now.

So there's -- under the conventional approach, the commingled fund approach that we are doing right now, which is Pillar 2, there's no question that we can do more. There -- we should continue to explore other ways, so that we can do more in Pillar 2, and such as, you know, co-investment as our -- your consultants, and Ms. Brown, and also a number of you mentioned already. We need to continue to explore how we can do more in co-investments, separate accounts, and in secondaries.

So there's no question about that, we can do better do there. But given the size of our fund relative to the market capacity there, this low-hanging fruit may not be enough for us now to get to where we need to be.

In the commingled fund space, as you know that, you know, the performance dispersion among the general partners or private equity manager is huge, and for you to be successful. And that's part of our success secrets in the past with CalPERS, because we had access to the top managers, again because of our brand, our scale.

And -- but there are only that number of top quartile managers. And not all the managers are good at everything. So usually the general partners, they're only good at one or two things. So for us to deliver the good return, because the dispersion is so big, you always want to have the top managers.

So the top manager, there are only that many of them. And their facts should found that there's only that many of them. And they only come to market to raise the fund in say every three years or four years. And also, as mentioned that, you know, they would like to have a diverse -- diversified or diverse LP base. They do not want to take money just from CalPERS only. They want to have a diverse base of their customer base.

So with these all together is that we may not be able to get to where we need to be with just Pillar 2. So we need Pillar 3 -- Pillar 3 and 4.

And then in addition to the capacity constraints, there are other reasons that we need to continue to explore Pillar 3 and Pillar 4. We liked the return from the conventional private equity approach, which is Pillar 2. But there are certain things that we do not like about the conventional approach.

For example, the lack of control, lack of transparency, and then the high fee. And that's exactly the reason where we can leverage our comparative advantages, again our brand and our scale. We can negotiate better by doing -- by doing Pillar 3 and Pillar 4.

So that is the second question, why do we -- we need more -- we need private equity. We need Pillar 3 and 4. And the relationship between Pillar 2 and Pillar 3 and 4 is not "either/or", it's "and". We need to explore all the options available to us to generate the required rate of return.

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CHIEF INVESTMENT OFFICER MENG: So one of the concerns that you had shared with us in the past about Pillar 3 and Pillar 4, the innovative approach, is really around the transparency. And as this table show to you that actually, as I said, that the transparency to us will be improved more transparency under Pillar 3 and Pillar 4. But it is important to note that the improved transparency is improved transparency to CalPERS.

The general public will get exactly the same level of transparency as they do now. So the improved transparent -- it's more transparency not less transparency. But at least more transparency is through CalPERS, so that when we have more information about our partners and the type of business they do, we can make better investment decisions. We could generate higher returns. We can also reduce the fee.

But in order to pass on that benefit to our retirees, and members, and employers, we need to protect that proprietary information away from the public. So on the note of transparency to Treasurer Ma, we will have more transparency, not less transparency. But more transparency is more Transparency to CalPERS for us to make better investment decisions, and to pass on more benefit of private equity investing to our members.

Oh, the other concern that you shared in the past is that why don't we bring the expertise in-house, like some of our global peers, such as GIC and CPPIB have done.

So the challenge is really timing and the sequencing. So on timing is that currently we do not have this expertise in-house. And our current governance structure -- conversation structure, and also the fact that we're not located in a Global financial center, seriously hinder our ability to attract the expertise in-house.

So for that reason, I do not view bringing the expertise in-house right now. I not view that as a viable option. But Pillar 3 and Pillar 4 are viable now, and we need return from private equity now. So that's the timing part.

The sequence -- the sequencing part is that also Pillar 3 and Pillar 4 is halfway between where we are now and where the -- our -- some of our global peers, such as the Canadian fund is doing, so halfway between. So the sequencing part is that I think we should toss out the idea and improve the concept for a while. And if it works, then we can explore, you know, bringing it in-house.

So basically we need to learn how to walk before we can run, and that's the sequencing part of it. However, that being said, that, you know, as I just mentioned early on, we need private equity. We need more of it, and we need it now.

So when -- when -- if and when it becomes a viable option - we remain very open-minded - we'll explore that option. Again, if and when it becomes a viable option. So that's the other concern you have is about why don't we just bring -- bring the expertise in-house now.

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CHIEF INVESTMENT OFFICER MENG: So, you know, we talk about, you know, we need private equity, we need Pillar 3 and 4. And what are the risks I see?

So Pillar 3 and 4 are not resolved risks. And one of the risks I see is the market risk or valuation risk. As you heard from your consultants this morning, that all major asset classes are rich. And private equity is not an exception to it.

So then naturally the question is that -- now is the right timing to do -- to ask you to these strategies and -- so that is the timing risk.

But as we know that market timing is very difficult, there are some evidence to show that instead of market timing, a steady allocation to private equity is probably a better approach than market timing. And more importantly, in the relative sense, private equity is not any richer than other asset classes.

And given this part of the economic cycle, as what you heard from consultant and also from John Rothfield a moment ago, we're in the late part of economic -- economic cycle. And in that part of the cycle actually I prefer private equity over public -- over public equity. So, yes, all asset classes are rich, highly valued. But relatively speaking, private equity probably is a better place to be, provided that we have the liquidity profile.

So that's the risk. But what I truly see the risk here, in addition to the valuation, is really in implementation risks. So this is how I break down this question, Pillar 3 and Pillar 4. I break it down into four questions to be answered or addressed in sequence. First, is this a conceptual -- is a good fit for our portfolio or not? So the why part, why do we do it?

And my answer to that is a resounding yes, right. The reason that we just went through in the past 10 minutes or so. We need private equity, so it's good conceptual fit.

Now, the question is can we find highly capable partners? That's the who part. And then one thing is to find the highly capable partners. It is another thing to design the governance and the economic terms to make sure that the highly capable partners they're aligned with our objectives. So I call the who and the how part is the implementation details.

And currently, we are exploring these two questions, the who and the how questions. We have -- we do not have a definitive answer yet. And we'll share with you this afternoon about what we have learned so far.

And then the last question is really the how much -- how many partners and how much we should do it? So that's the what part. And that's -- that can be addressed in the later part of the project.

So -- so in short I see -- I do see the risk in the implementation, funding the right partners, and then have the right governance and economic terms in place to make sure that a highly capable partner will be working for us, not for themselves.

And with that risk, I'm very glad to see that our staff has adopted a trial and learn approach, with no specific outcome and no specific timeline in mind.

As we learned in the January off-site at what -- how we might access that, you know, to achieve higher returns, we have to take on more risk. But again, we can be smarter and intelligent about what risk to take and when to take it.

The challenge here would be finding the right partners. And timing-wise, it's true with any innovation, it may or may not work, and it may or may not work now.

However, given our current funded -- underfunded status, and our outlook for the global economy, doing nothing is not an option. We owe it to our employers, our members to explore Pillar 3 and Pillar 4 and plus other solutions to generate the seven percent required rate of return before we may be forced to go back to lower the discount rate again.

So, in conclusion, we need private equity, and we need more of it, and we need it now. But we will do it in the most risk-prudent way and in the most risk-intelligent way. And what I mean by the most risk-intelligent way, to leverage our comparative advantages.

So with that, we're ready for any questions.

CHAIRPERSON SLATON: All right. Thank you.

Given the hour, and without objection by the Committee members, I'd like to move the public comment now, and let us then, depending on the hour, we may break for lunch. But people have been waiting since early this morning, so we'll do that first.

So the first three people are J.J. Jelincic, Larry Woodson, and Ruben Ingram, if you'd come on down. There was a request to extend the time to four minutes. But in the interests of time and because of the number of speaker, we're going to still leave it at three minutes per person.

We did receive letters in support of staff recommendation from California Professional Firefighters, California School Employees Association, and SEIU California.

So as you start, your name and affiliation, please, and setting the clock for three minutes.

MR. JELINCIC: Who was -- who was first?

CHAIRPERSON SLATON: Mr. Jelincic.

VICE CHAIRPERSON FECKNER: You're on.

MR. JELINCIC: Hi. I'm J.J. Jelincic. And I want to go back and look a little bit at how we got here. We started with the assumption that private equity was necessary. And we sort of ignored that it's really leveraged small cap equity. And in order to reach the conclusion that it's necessary, we have to reject all the academic work on it.

Then we assumed that we couldn't hire the skill set internally. Clearly, we have the legal authority. You're already paying for it through the back door. I acknowledge you're afraid of the Sacramento Bee. And it's somewhat ironic that we can -- we think we can pick the people who can do the job and identify people with the skill set, but somehow we can't hire them.

I ask if anyone remembers the original three companies, each with their own board, staff, and advisory committee. PERS direct would be used to allocate the capital between innovation and horizons. I haven't heard that it's been killed yet, but we haven't talked about it lately.

We started out we were going to set up separate captive companies that we would own, and they could hire staff. That way, we could capture the economics and scale. We were concerned about things remaining private. If the State owned it, then we had possible Form 700, bagley-Keene, and 1090 problems.

And it kind of defeated the whole purpose, as Matt Jacobs identified that the whole purpose is to keep secret - we wouldn't want the beneficiaries to know what we're doing with their money.

We moved to setting up and giving away a company, so we wouldn't own it. That allowed for greater secrecy. The company would set up a GP/LP structure. We would be the only limited partner. The -- we recognize that the management may want to have other LPs for their own interest, and so eventually there might be additional LPs.

The corporate structure raised some tax issues, so we moved to an LLC. CalPERS would be the only member of the LLC, so the income and tax issues would flow through to the system. It's not clear why we're going to have an LLC. If it's going to do the investment, that's one thing. If it's simply going to be a limited partner, then the question is why create an LLC to be a limited partner, because you have all the same advantages.

I'm not sure how you set up a LLC where the sole member doesn't own it. That's the very nature of structure. Remember, the staff has publicly said that plans lead to higher costs and lower returns.

I think you need to bring it in-house, but the current plan --

CHAIRPERSON SLATON: Please complete your remarks.

MR. JELINCIC: -- is clearly not ready for prime time. Thank you.

CHAIRPERSON SLATON: Thank you. Mr. Woodson.

MR. WOODSON: Good morning. Larry Woodson, California State Retirees. Mr. Chair, members of the Board, thank you for the opportunity to comment.

My comments will express continuing concerns with the proposed PE model and with the expected timing for its presentation to the Board for approval. I attended the January off-site, along with President -- CSR President Tim Behrens and many of our Board members. And we were impressed with Mr. Meng's presentation, his methodical approach to transitioning into his role, as we've already heard today.

And at stakeholders last Thursday, Mr. Behrens wanted confirmation that this approach suggested that there would be no major decisions, particularly regarding the controversial PE model, for the first 180 days. And we were surprised to hear Mr. Pacheco state that, in fact, the PE model would likely be brought for Board approval at the March Investment Committee meeting. That schedule, a mere two months, seems in conflict with Mr. Meng's stated approach -- six-month approach

We've continued to evaluate what we've heard from CalPERS staff regarding the proposal, and have read addition critical assessments in a number of online publications. Our concerns include, one, the governance model of establishing and funding these two independent corporations fully with our pension funds, yet lacking transparency to stakeholders.

Specifically, no salaries or operating costs would be revealed to us for the two general partners. We can't evaluate a cost comparison to the 2 plus 20 costs.

Thirdly, staff requests for Board delegation to staff for most all key governance decisions.

Four, uncertainties over the tools the Board has to evaluate effectively -- or the effectiveness of the GPs or take necessarily medial action.

And we're also -- we've also seen two studies showing one -- one of which showed 49 percent of PE managers overvaluing assets, some over 100 percent, and another showing that the PE market advantage in returns over public equity returns has narrowed substantially in the last 10 years.

Just a snapshot of that, and I know it's just a snapshot, but that was demonstrated in your annual investment report in December, which showed CalPERS global equity net returns outpaced the PE net returns by six percent. That's different than the chart that I saw on page two.

But, in conclusion, with the addition of several new Board members learning all aspects of Board governance, we feel it's prudent to give them more than 60 days before making a decision. And we encourage continued dialogue with stakeholders.

Thank you.

CHAIRPERSON SLATON: Okay. Thank you. And just a minute, before Mr. Ingram speaks, Mr. Hajela - if I'm pronouncing your name correct - Ms. Penry and Mr. Brennand, if you would start to make your way down to these three chairs, so we can take you comment as well.

So, Mr. Ingram.

MR. INGRAM: Thank you.

I'm Ruben Ingram with School Employers

Association of California. And I'm also representing the -- some of the clients from Capitol Advisors.

We're here really to support the proposed private equity investment plan as developed by your staff. The reason we support it, of course, is that we want the fund performing at the highest possible level in terms of what happens -- the results happen with us employers.

This is extremely important to school districts, particularly our employees who have been facing increasing contribution rates, which I know you're concerned about.

With the higher returns, these increases can be mitigated, as your staff has been reporting to you. Without those higher returns, we obviously are going to be forced to divert funds away from needed salary increases. You've seen that in Los Angeles and other districts where those demands are increasing. And also, we'd have to shift funds from students and their programs, which we really want -- don't want to do. And if that doesn't happen, we have to backfill from our funds.

We understand that higher returns bring higher risk, and that was fully explained. But we've had discussions with your staff, and we're satisfied that they understand how to mitigate those risks.

And so we just believe that the fund has to be solid, it has to be increased, and otherwise we have to shoulder the burden at the local level. And I'm sure you don't want us to have to do that, so thank you very much.

CHAIRPERSON SLATON: Okay. Thank you, Mr. Ingram.

Mr. Hajela is here or not, or did you speak on his behalf?

I don't -- I don't think he's here.

So Ms. Penry, and Mr. Brennand, and Mr. Darby can make is was down as well.

I don't see Mr. Darby here.

Oh, he's coming. Okay. Good.

All right. Ms. Penry.

MS. PENRY: Thank you. Good -- thank you, Mr. Chair and members of the Board. My name is Martha Penry. And I am the Chair of the California School Employees Association Legislative Committee, which covers both active and retired CSEA members.

Excuse me.

The California School Employees Association supports the staff recommendation on private equity. Private equity is a critical element of the CalPERS portfolio. However, private equity is also notoriously non-transparent and entails high fees. Despite this, private equity has been the only category of investment that has consistently outperformed the discount rate, even after fees are considered. And CalPERS must include private equity in a diversified portfolio in order to maximize its ability to meet the current seven percent target.

The private equity plan proposed by CalPERS staff is well researched, and thought out. CSEA believes that it strikes an appropriate balance, because it proposes to take advantage of CalPERS' ability to invest long term, and identify opportunities that many hedge funds might overlook due to their more short-term horizons and interests in immediate returns.

The proposal is also consistent with the values of our members, who want their money invested in companies that create good jobs, and are built to last rather than in hedge funds that squeeze the value out of companies by looting their assets and abusing employees.

Classified employees and other members of CalPERS rely on you to be stewards of our funds, to invest them wisely, and to administer benefits effectively.

The private equity plan before the Board breaks new ground and has been developed over 18 months with input from a variety of experts. While nobody can predict or guarantee success, we believe it is worth pursuing, and we urge the CalPERS Board to approve the plan and move forward.

Thank you.

CHAIRPERSON SLATON: Thank you for your comments.

Mr. Brennand

MR. BRENNAND: Mr. Chairman, members, Terry Brennand on behalf of SEIU California. I guess I want to start with saying the existential question it was discussed earlier about whether we should be in private equity or not is a completely different debate than what we have before us now. You're in it now. You're playing by the rules now. Pillars 3 and 4 are about changing those rules, about changing the game.

Some of them -- some of the proposals are about repairing some of the inequities and the problems in private equity, transparency, the pillaging of agencies -- I'm sorry, of companies, and the fee structure being very structured not to the best advantage of CalPERS.

I think the most important thing in the very good presentation by your CIO was you've got to learn to walk before you run. I don't disagree with Mr. Jelincic that eventually this would be great if it were all in-house, if we had the staff, and the expertise to do this with public CalPERS staff.

We do not. And I think this is the walk, the step toward getting there some day. But you've got to learn to walk before you run. And we're happy to walk along with you. So we support the staff.

CHAIRPERSON SLATON: Thank you.

Mr. Darby and then followed by Mr. Hutchings and then Mr. Neill.

MR. DARBY: Mr. Chair, Board members, good afternoon. Al Darby, President, Retired Public Employees Association.

The Retired Public Employees Association continues to oppose CalPERS direct as the costs is unnecessary, and beyond the cost of existing staff. The venture capital and long-term care -- or long-term hold portions of the thing can easily be handled by the existing staff, just as the Ontario Teachers System now.

A growing body of evidence indicates that the notion that -- is that public equity is greater in value. It's losing its appeal, because of diminishing returns, questions about private equity, risk, and versus global equity risk. There seems to be a much closer relationship than one thought about the risk factor of public equity.

The -- RPEA opposes the current construct of CalPERS direct, because the costs and the general partners would be less responsive to the concerns of the CalPERS Board and transparency in general.

We believe that an augmented in-house staff with a new leader, which you haven't had for almost two years, plus private equity experts, pay them the equivalent of carry, and, you know, with bonuses and so forth, you'll be able to find people that can do this job. The way to go is bringing it in-house, finding the right people to run the organization, and you could still do the long-term hold and venture capital portions of the thing from and in-house staff.

Thank you.

CHAIRPERSON SLATON: Okay. Thank you for your comments.

Mr. Hutchings.

MR. HUTCHINGS: Good afternoon. Dane Hutchings with the League of California Cities. It's nice to see some new Board members here. It's one of these more contentious topics.

You know, we've heard today from folks who are opposing staff's recommendation based on two things, fees and transparency. So from the local government perspective, from the city perspective, let's -- let's, you know, talk about some facts that we know to be true.

So when we look at the Pension Dollar, $0.59 is based on investment returns, $0.28 is employers and, $0.13 is employees. But we know that's also predicated on if you guys can hit the seven percent. And it's critical that we hit that seven percent. In the case of local agencies, it's borne on us if there is a shortfall.

According to our study, 10 percent of cities will be -- by fiscal '24-'25 will be spending about 21 percent or more of their entire general fund budget -- their entire general fund simply on the minimum contributions for CalPERS. And that's assuming you hit seven percent. What happens if we come up short?

The proposed PE model will allow your investment team to maximize the full potential of the only asset class exceeding expectations after fees. So we've talked about fees. We've looked at the history, 10.5 over 20, 16.1 for the last fiscal year. And that's after fees have been paid.

There's also something we haven't talk about here is that under the current paradigm there's been significant investment barriers. This -- this fund has missed the boat on things in our backyard, Facebook, Instagram, you know, these emerging technologies - Uber - before they went public. And quite frankly, these companies don't want CalPERS' money when they're private. They say no thank you. We'll take -- you know, the money is just as green in Nevada. It's just as green up north.

And what we're seeing with this new model is it's going to allow us to play in an area that we've never been able to maximize before. It's going -- it's going to allow your staff an additional tool to try and maximize investment.

And so I maintain the same message that I have given to folks when we talk about divestment and why we shouldn't going down that road, is that whether it's the State Legislature, the CalPERS Board, or the media, they can't do -- they can't kick the Investment team for not hitting their target while at the same time not allowing them to have every tool at their exposal -- exposure to be able to maximize their investment returns.

If you give them all the tools and they still can't meet their number, then that's one thing. But you can't continue to take things off the table, not pursue thing that have been, by the way, proven to work in other countries and other pension systems, and then at the same time kick them because they can't meet their investment targets.

I strongly encourage that this Board continue the conversation, approve this model. You know, it's not very often that Mr. Brennand and I are agreeing on the same thing.

(Laughter.)

MR. HUTCHINGS: So I'm telling you right now, I think -- we think it's good for the employee. It's good for the employer. I think we take the right -- the step in the right direction.

Thank you very much.

CHAIRPERSON SLATON: Thank you.

Mr. Neill.

MR. NEILL: Yes. Geoff Neill with the California State Association of Counties. I want to second the comments of Mr. Hutchings that the seven percent return is critical for counties as well as our workers, our retirees for their retirement security, and also to protect the public services that all of us rely on. Private equity, as you heard from Mr. Meng and the other presenters is an important tool, because it gives you returns that you aren't getting from any of your other assets classes. And so we'd like to join our support with -- with those of the employees to support this -- this proposal.

CHAIRPERSON SLATON: All right. Thank you very much.

Oh, Mr. Hutchings.

MR. HUTCHINGS: Just one. I was remiss in saying that Mr. Gibbons from the California Special Districts association was unable to be here. He had to go to a meeting.

CHAIRPERSON SLATON: Had to leave.

MR. HUTCHINGS: But he did ask that I also provide their support as well.

CHAIRPERSON SLATON: Okay. All right. Thank you very much.

Now, in the interests of time, what we're going to do is break for lunch. We'll come back to open session at 2:00 o'clock, and then we'll enter into discussion by Board members at that time. And you're all welcome to come back at 2:00 o'clock.

That will be then followed by the closed session.

(Off record: 1:12 p.m.)

(Thereupon a lunch break was taken.)

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

(On record: 2:00 p.m.)

CHAIRPERSON SLATON: All right. If everyone will be seated, we'll continue the meeting.

All right. We're continuing the conversation on 7c. And we'll now have commentary from Board members starting with Ms. Brown.

COMMITTEE MEMBER BROWN: Thank you, Mr. Chair.

I just want to make sure Mr. Meng is ready.

Okay. So thank you for the presentation. I did have a couple of quick questions kind of going back to December, and then we'll move on to today. But just real quickly, when we talk about -- this is on page five of seven. When we talk about -- now, we're calling them 2, 3, and 4. So are we not going to call them innovation and horizon anymore, or we just going to call them 2, 3, and 4. The way we made that decision.

CHIEF INVESTMENT OFFICER MENG: I don't think -- I think --

CHAIRPERSON SLATON: You need to put your mic on.

CHIEF INVESTMENT OFFICER MENG: Sorry. I don't think a decision has been made. It's just my personal preference I use Pillar 3 and 4. Yeah, but you're right, Pillar 3 is about innovation, Pillar 4 is the long term.

COMMITTEE MEMBER BROWN: Great. I just -- I just want to say -- well, because I'll start memorizing that, because I was -- we were just calling them by their name before, and now we'll call them by their numbers. Okay.

So, you know, Pillar 3 we were -- we heard -- I think -- I'm not sure if it was Wilshire or Meketa earlier today talking about what type of losses or how you get your gains in venture capital. And I think we heard, you know, 20 percent are losers, 60 to 70 percent break even, and 10 to 20 percent are winners. But he's also talking about Series A funding or is that the same whether we're buying in early stage - he called it angel - or late stage D? I mean, do those numbers change very greatly depending upon what fund you get?

CHIEF INVESTMENT OFFICER MENG: Yes. So what Meketa was referring to, the first -- really, the -- when you have an idea -- entrepreneur has an idea, want to raise money to fun business, normally they call it seed money. So the -- from the seed money, so where you get seed money, people are called 3Fs. So it's kind of joke around the 3F is where do you get seed money? Your family, your friends, and fools.

So why the third F is fools is because it's very risky, right? And if you had family and friends that, you know, your son or your daughter-in-law ask you for money, because she get a great idea. So very risky portfolio.

But also -- but also early part if it works well, it turn out to be a great deal. You can make a thousand times of money. So there's the seeding, angel investing.

And then in venture -- then you move on to the venture investing. Venture investing has Series A, Series B, sometimes C as well. After you run C, most likely you grow up into a growth bucket. And after growth is the buyout bucket.

So between Series A and B and C, is really about, first, you have idea. And then from idea to the product. Can you produce the product? You have, you know, paid in to produce a product. And then from the -- once you have the product, can you sell the product? Can you have the first customer? So that's very important to have a first customer.

And then after the first customer, do you have a repeatable customer? That's another very important test. So as long as the company grow, your cash flow situation from negative to positive. So -- and then your risk profile is becoming more and more stable the return. So you don't get the -- shutting the lights off kind of return anymore, as you move on to growth and buyouts.

COMMITTEE MEMBER BROWN: Great. So basically, when we talk -- so when Meketa talked about the 20 percent losers, 60 to 70 percent you break even, 10 to 20 percent are winners, that was for the Series D, or late stage, venture capital?

CHIEF INVESTMENT OFFICER MENG: No, that was on every series, Series A, B, and C put it together.

COMMITTEE MEMBER BROWN: About there. Okay. Great. I was just trying to figure out where our -- where our winners are. I mean, is it going to be higher than 10 or less than 10? All right.

And then on that same slide, Pillar 4, we talk about decreasing friction costs and avoid redeeming from ourselves. And so I believe we're talking about churn, is that what we're talking about there?

CHIEF INVESTMENT OFFICER MENG: Right.

COMMITTEE MEMBER BROWN: Do we track that? Do we know what that is costing us?

CHIEF INVESTMENT OFFICER MENG: In terms of churning from fund to fund?

COMMITTEE MEMBER BROWN: One fund sells our investment and then we buy it through another fund. Is that call -- isn't that what's called churn?

CHIEF INVESTMENT OFFICER MENG: Right. Right, it is. It is.

COMMITTEE MEMBER BROWN: Okay. All Right. I just want to be clear.

CHIEF INVESTMENT OFFICER MENG: I don't think we have done -- we have done that study. We have -- we have the data to conduct that study, and I'm not even aware of other people who has done that study, because again private equity as a private market, normally we do not have a lot of data, not like in public markets that you can do all sort of analysis due to a large amount of high frequency data available.

COMMITTEE MEMBER BROWN: Right. And so we talk about decreasing friction costs, but we haven't identified how much that cost is.

CHIEF INVESTMENT OFFICER MENG: Right.

COMMITTEE MEMBER BROWN: I mean, we assume it's X, but we don't know. And so it would be nice to know, maybe even looking like say in the last year at the deals, that if we had what ones were done.

CHIEF INVESTMENT OFFICER MENG: Yeah. So -- yeah, sorry. Let me take back. So every time you buy or sell in a company, I want to say three to five percent at least. That's the friction cost, being lawyer fee, the broken-dealer fee, and other transaction fee put together.

What I said that we don't know is that I just don't know, hypothetically speaking, how many of them would be churning, how many actually churned. That data we can get. But how many would be churning, you know, or stop churning once we get into Pillar 4. So that's a hypothetical question that I do not know.

But on the deal, like with basis, I would say at least three to five percent every time you churn in the portfolio.

COMMITTEE MEMBER BROWN: Great. And so can you get us the information on how many? Or, Mr. Chairman, could we maybe get how many deals have churned over the last year? I mean, I'm just trying to see if we can get that.

CHIEF INVESTMENT OFFICER MENG: So before we answer question, can we have Sarah -- Sarah Corr.

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Sarah Corr, Investment Office.

If we're looking over a short period of time, we can do that. For longer periods of time, we wouldn't be table to, but over a short period of time we could.

COMMITTEE MEMBER BROWN: Just looking for a number. Four deals, 400 deals, right. Something to help us out.

Thank you.

And then last week, I had met with -- oh, Sarah, don't go anywhere. Last week, I had met with Dan and had asked about what we really pay in fees in carries. Because when we talk about filler 4 -- Pillar 4, we're always talking about, oh, we're going to beat 2 and 20.

The fees might be higher at the beginning, but we're going to beat the 2 and we're going to beat the 20.

But in looking at in our closed session materials, we get an update on private equity completed under delegated authority. And when I look at those deals going back -- I went back four years, just sort of randomly checking - just random -- and they were never 2 and 20.

And so I'd like to make sure that when we talk about the number we're going to beat from our standard commingled private equity, we should know what that real number is. So Dan wasn't sure he could get that for me without either a request to the Chair or maybe from Sarah.

CHAIRPERSON SLATON: Just a second.

Do you have a -- is this a point of order you're making.

COMMITTEE MEMBER JONES: Point of order.

CHAIRPERSON SLATON: Okay. All right. Mr. Jones.

COMMITTEE MEMBER JONES: We should not refer to information that's provided in closed session. That's all.

COMMITTEE MEMBER BROWN: Okay.

CHAIRPERSON SLATON: So I think that if you have a request, why don't we defer this request --

COMMITTEE MEMBER BROWN: Sure.

CHAIRPERSON SLATON: -- this discussion part of it to the closed session. Okay.

COMMITTEE MEMBER BROWN: Sure. Okay. So my open session questions then are in -- and so, Mr. Meng, this goes back to you. In talking about the transparency plans for Pillars 3 and 4, you know, we talk about transparency features, but are these aspirations or are these deal points that we've worked out with the prospective managers?

CHIEF INVESTMENT OFFICER MENG: So on the -- on the additional transparency, I would say aspiration, but it is fact based aspiration. So we're not that far. We shouldn't be that far off. But again, I would turn to John and Sarah who has been deeply involved with the deal structuring, so they can add more color. But does the additional transparency --

CHAIRPERSON SLATON: Again, let me just interrupt.

COMMITTEE MEMBER BROWN: Is that closed session too?

CHAIRPERSON SLATON: I think again it's closed session too.

COMMITTEE MEMBER BROWN: My goodness. Okay.

CHAIRPERSON SLATON: Okay. So we're going to have a very robust closed session I assure you.

COMMITTEE MEMBER BROWN: Okay. So I won't ask about terms sheets. That's closed session. And then full details on costs, that would be closed session as well?

CHAIRPERSON SLATON: Yes, correct.

COMMITTEE MEMBER BROWN: Okay. Hold on. I apologize.

CHAIRPERSON SLATON: While you're looking, the other issue you raised was the number of deals that churn. I'm not sure I quite understand what we would -- what staff would deliver in that respect that would be timely and doable.

INTERIM MANAGING INVESTMENT DIRECTOR CORR: We could look at how many times a company that was sold from one fund that we're an investor in was bought by another fund that we're an investor in.

CHAIRPERSON SLATON: Okay. And that's you said over a short time period.

INTERIM MANAGING INVESTMENT DIRECTOR CORR: So if you want -- if you wanted to see over a 10-year period, we wouldn't be able to do that, but over a -- if you did the past two or three years, we should be able to do that.

CHAIRPERSON SLATON: Okay. Well, let's -- let's deliver the past year or two and see if that information suffices.

All right.

COMMITTEE MEMBER BROWN: Thank you, Mr. Chair. Yeah, I would -- I had suggested the year. I just wanted to see, because we said we were going to decrease those costs. And I wanted to know is there 20 deals or is there 200 deals?

CHAIRPERSON SLATON: Yeah. Well, let's do a year and we'll see what that --

COMMITTEE MEMBER BROWN: Yeah. I hap -- perfectly happy with that.

CHAIRPERSON SLATON: Okay.

COMMITTEE MEMBER BROWN: And then -- and then with regard to the partnership agreement or the management agreements being a public record, I just think that, again that the best guara -- the best guarantee CalPERS can have that we're not going to get snookered, like we did in other previous investment ownerships, is that -- is that we have these records be public and everybody can look at it, so -- so we can see the crucial parts of the contract.

Now, I discussed this in December, and Matt Jacobs acknowledged in open session that there's no legal reason why we can't stipulate that the contract be a public record. And I'm not talking --

CHAIRPERSON SLATON: Ms. Brown.

COMMITTEE MEMBER BROWN: Yeah.

CHAIRPERSON SLATON: Can I just interrupt you for a second. Again, I think that this would be a more productive conversation in closed session, where we could talk about this issue of what can be public and what cannot be public, because then we can have just a more detailed conversation about it, because I want you to have a full hearing to what you're --

COMMITTEE MEMBER BROWN: Okay. Sure. Then I'll wait. I'll wait --

CHAIRPERSON SLATON: Okay.

COMMITTEE MEMBER BROWN: -- for most of my comments till closed session.

CHAIRPERSON SLATON: Sure.

COMMITTEE MEMBER BROWN: Thank you.

CHAIRPERSON SLATON: Okay. Is that -- did you have another one or is that --

COMMITTEE MEMBER BROWN: No, that -- no, I think they're all going to be closed according to you.

(Laughter.)

CHAIRPERSON SLATON: Okay. All right. Thank you.

Mr. Rubalcava.

COMMITTEE MEMBER RUBALCAVA: Thank you. I want to thank Mr. Ben Meng for his presentation. I particularly am appreciative on chart number -- I think

page three of seven when we were talking about the scenarios as to the percentage of private equity, how -- one of the results was how -- the impact on the employer contribution rate. And I think I -- my comment is that -- it was a sort of leap. I want to make sure if you understand, because the reason it impacts the employer contribution rate is because the -- it would be because of the return would impact the funded level, right?
That's correct.

And I notice in the next page, four of seven, you do mention the historically improved funded ratio and the increasing will tell -- I think you said in your comments that one of the goals will be a stable contribution rate from the employer. And we heard from some employers today, or representatives of employers.

And I think that was my comment that one thing I'm very cognizant of is that, you know, our priority, official duty, is to the beneficiaries -- to the members and the beneficiaries, but we also have a secondary responsibility to minimize employer costs. And I think this is -- trying to seek the maximum returns to increase the funded status is a -- is a -- it's worthwhile and we should do it.

And just want to relate in my other hat -- well, not -- we only have one hat. When I used to testify and monitor other '37 Act counties, one of those times and what I always make is we want a prudently funded retirement system, because our members will benefit from it. But on the other hand, we also want a fiscally healthy employer, because that contributes to the local economy, the public services can be able to be provided, and, of course, the -- we don't want to lay off public employees.

So I think I really appreciate, Mr. Meng, how you brought that into the discussion. That's something that had been not mentioned before, I think. So we always talk about investment return, discount rate, but we still don't talk about the funded ratio, or the impact on the contribution rate. So I really appreciate you including that.

Thank you very much. This was very, very helpful to me.

CHIEF INVESTMENT OFFICER MENG: Great. Thank you

COMMITTEE MEMBER RUBALCAVA: Thank you, Mr. President.

CHAIRPERSON SLATON: Thank you.

Controller Yee.

COMMITTEE MEMBER YEE: Thank you, Mr. Chairman. I wanted to refer to the last slide, which talks about Pillars 3 and 4 implementation, which is kind of our limited roadmap. And the box that still gives me a little bit of pause is the one that speaks to the line governance. And I guess my question around that is at what point are we assured that? And, I mean, to me, the whole -- and first of all, I think this has been a great public presentation, and I appreciated all the testimony.

But to me, there are still two issues that really speaks to our responsibility as a Board, and that is at what point is it clear what the governance structure looks like with respect to with whom we're going to be kind of relying upon?

And then secondly, are we -- is this Board essentially giving up control? And, you know, and what if it all just decides to go south, because of other extraneous factors? So how are we assured about this line governance and then kind of what does it look like for us going forward in terms of the --

CHIEF INVESTMENT OFFICER MENG: So this again we have learned something and we plan to share that with you in closed session.

COMMITTEE MEMBER YEE: Okay. So can I -- should I try one more shot at the question.

(Laughter.)

COMMITTEE MEMBER YEE: No, I mean, this is critical. I mean -- and I'm not trying to put us in a box. But, to me, this is a big decision for this Board. We have a fiduciary responsibility, but we're going to be really placing that responsibility on an outside entity for the most part under these models. So what I'm trying to get at is I guess what's our ongoing responsibility, the Board? I know the staff has its set of responsibilities, and how do we know that that governance is always going to be aligned with us?

So those are kind of the two questions. But I think kind of the issue for the public maybe is the question of when does that structure become known? Is that part of when you actually execute the contract or is it something that we know ahead of time?

I mean, I think -- I liken this to like making a big investment in buying a house. I don't know that I would be putting down a lot of money on a house without knowing kind of all of the -- all of the parameters around, you know, who I'm doing business with, and, you know, kind of what my ongoing obligation is going to be.

So I'll just ask that question. If it's not appropriate now, we can speak about it in closed session.

CHAIRPERSON SLATON: Well, you know, you've raised the -- I think this question goes to the heart of this particular item --

COMMITTEE MEMBER YEE: Um-hmm.

CHAIRPERSON SLATON: -- that we're going to have to ultimately make a decision on.

COMMITTEE MEMBER YEE: Um-hmm.

CHAIRPERSON SLATON: I think that the -- our ability to have a robust conversation on this very issue really needs to be in closed session. And the question is then what can we report out from this Board? I think we heard earlier today that, you know, we're not going to -- the comment was made that CalPERS is going to know more, but the public is not going to know anymore --

COMMITTEE MEMBER YEE: Than what is current --

CHAIRPERSON SLATON: -- than what we currently get in our public -- in our private equity model today. I think that was --

CHIEF INVESTMENT OFFICER MENG: Correct.

CHAIRPERSON SLATON: Is that a fair representation --

CHIEF INVESTMENT OFFICER MENG: Correct.

CHAIRPERSON SLATON: -- of what we heard today. So we have to figure out if we're comfortable --

COMMITTEE MEMBER YEE: Comfortable, um-hmm.

CHAIRPERSON SLATON: -- with that or not. But in closed session, I think we can find out more about what are we going to know - we meaning CalPERS Board and CalPERS staff - to see if we're -- have a level of comfort with that.

COMMITTEE MEMBER YEE: Okay. No, that's fair. That's fair. And we're big boys and girls. We can make that decision.

CHAIRPERSON SLATON: Okay.

COMMITTEE MEMBER YEE: So my -- there was some reference made in the testimony about following the lead of other pension funds that are already kind of in the space pursuing those models. And what are they?

CHIEF INVESTMENT OFFICER MENG: The Canadian, CPPIB, Canadian Public Pension Investment Board, and GIC, the Government Investment Corp of Singapore. So they have deployed a more in-house model. And I would encourage -- if the -- encourages that of their governance structure, their composition structure, and also geographic location.

COMMITTEE MEMBER YEE: Uh-huh. Okay. All right. That's helpful. Thank you.

CHAIRPERSON SLATON: Okay. Treasurer Ma.

COMMITTEE MEMBER MA: Thank you very much.

So I'm, you know, also leaning -- or continuing Controller Yee's comments that -- and I heard you as well saying, you know, we don't really want to do this in-house, because we're not going to be able to hire the appropriate people. We are not a government -- or a financial center for the investment world. And sometimes people would have to take a big pay cut to come, right, to work here.

So when we talk about the governance model, one of the public comments -- commenters asked about this governance model. I was kind of assuming that you were going to reallocate instead of eight percent to private equity, you wanted to now shift 16 percent of the funds to go to private equity.

CHIEF INVESTMENT OFFICER MENG: So the 16 percent is just a hypothetical number to show the different scenarios, because currently is eight percent. One end of extreme, we do nothing. We remove everything down to zero.

COMMITTEE MEMBER MA: Oh.

CHIEF INVESTMENT OFFICER MENG: And the other end I just use 16 as an example. But my overarching principle is that we need more private equity as much as we can have access to, the top -- the good performers, and also as much as our liquidity profile can allow us --

COMMITTEE MEMBER MA: Right.

CHIEF INVESTMENT OFFICER MENG: -- to -- in private equity. So the 16 percent is just a hypothetical number, but we know that directionality is right. We want more. So how much more?

COMMITTEE MEMBER MA: Right. So it could be eight, 16, 20 percent, right?

CHIEF INVESTMENT OFFICER MENG: Right. Correct.

COMMITTEE MEMBER MA: Like, I'm more comfortable with reallocating -- you know, we've had a successful track record working with the six or seven private equity funds already. But setting up a whole new division with, you know, more people, and trying to attract the top talent I think is going to be difficult. So I'm not leaning toward that direction.

And then Meketa also said it would be hard to invest the $10 billion. Is that how much we're looking at is to invest 10 billion into one fund, or to start a fund? I'm kind of confused.

CHIEF INVESTMENT OFFICER MENG: So the $10 billion Meketa was referring to is really for -- is to keep at eight percent. Currently, we cannot even get eight percent. Based on our modeling assumptions, to get -- to keep at eight percent, roughly we would need to deploy 8 -- $10 billion a year. And currently, we cannot get to the $10 billion. And that's why we're below the eight percent targets.

And that's one of the reasons we're exploring Pillar 3 and 4. Hopefully, it will get us more.

COMMITTEE MEMBER MA: Okay. So I -- so I guess Pillars 3 and 4 is this new model, governance model structure?

CHIEF INVESTMENT OFFICER MENG: Right. And the new governance model. But to you point, in terms of bringing them in-house now, as I said this morning, that it's about timing and sequencing.

COMMITTEE MEMBER MA: Yeah.

CHIEF INVESTMENT OFFICER MENG: We do not view that as a viable option now, but we need private equity return now. So -- and the sequencing that we can try out Pillar 3 and Pillar 4. Try out an idea, toss out the idea, and prove the concept before we can explore other options.

COMMITTEE MEMBER MA: Okay. I think you know where I'm leaning. Okay. Thanks.

MR. HARTT: If I just might answer the question, I'm sorry, since my name came up and Meketa's. So what I was talking about with the $10 billion a year is that's the comparison to right now their commitment about $6 billion a year.

Now, what that is, last year, there was 18 investments that in aggregate was $6 billion a year. What would be a challenge, I believe in the current structure of the program, is to take that from 6 to 10 billion dollars by just making investments in funds. And to take it from it would probably be 18 investments you'd have to take it up to maybe 30. And that would be a lot for this structure to be able to find 30 attractive investments per year that they can invest at that scale.

It's not saying that $10 billion would be invested in one shot to one manager. It's that to go from right now at a pace of $6 billion and to 18 investments to go to 10 billion to sort of in the 25 to 30 would be very challenging.

COMMITTEE MEMBER MA: Okay.

MR. HARTT: Is that helpful?

COMMITTEE MEMBER MA: It is.

MR. HARTT: Okay.

COMMITTEE MEMBER MA: So do you support us starting like a private investment fund with our own people and --

MR. HARTT: So the idea that the expanding Pillar 2, we're talking about more co-investments and secondaries, makes sense. Exploring Pillars 3 and 4, which are these additional opportunities to invest in innovation and long dated, is something to be thought through. And staff is doing a lot of work on that. There is a ways to go. There's a number of questions, governance, who's going -- he was talking about the number of items there that still need to be worked through. And that those are important items to be figured out before there is a large commitment in place.

So that's the plan and the process. So it makes sense conceptually that it's an area to be explored. Whether at the end of the day, the right partner and the right governance package to be put together is to be determined. And it's also to be determined if that manager will be successful. There's several hurdles to go through and to be thought about. But it certainly makes sense for CalPERS, its size, its scope, what it can do to explore these options.

COMMITTEE MEMBER MA: Okay. Thank you.

CHAIRPERSON SLATON: Mr. Miller.

COMMITTEE MEMBER MILLER: Yeah. Thank you. I had a couple questions. One, you know, when I think about churn, I don't so much think about one chunk of money that we put in one fund and it gets -- so I really think about, you know, if you have $10 million and you buy -- in Pillar 1, you buy six different things, over 10 years it may change -- it may go through that, you know, maturity, closure, into another fund; maturity, closure -- like three times potentially. And that's where you get effectively a tripling of if you're a 2, 10, you know -- so that's kind of the way I think about it with reference to Ms. Brown's question.

And so I don't know -- that seems helpful to me when I look at the difference we're talking about in Pillar 3 and 4.

I'm really happy to hear some discussion that my kind of pet topic is strategic workforce planning, talent management, and the challenges we've had that I think in the long run are not insurmountable, but they definitely require the crawl, cry, walk, fall, run kind of progression. And I'm really glad to hear, Ben, that you and your team are thinking that way strategically, not just in terms of how we manage the funds, but how we develop a workforce of the future.

The final thing is -- and this is where the real question comes in. It seems pretty clear that under our existing delegations, we can do 1 and 2. It seems to me that if not the exact model, but some aspects of the long hold, the horizon, it seems like we could -- you could -- you and your team could be doing much of that either now or even looking at, you know, newer market instruments that are long-hold funds.

Those -- so it really seems to me that as we stage the deployment and decisions and stuff, my focus is really on the innovation, because that introduces these elements that I still don't quite understand, and as Controller Yee mentioned, you know, we don't have all the governance stuff to deliberate and look at yet. So the devil is in the details there. And I'm going to be really -- I think it might take a little longer before we get to a point where I'm comfortable with a decision there. But I wouldn't want to hold the team up in developing things to put in front of us, if we could, you know, kind of rev up. Because I do agree, I think we need more PE and we need it now.

Thank you.

CHAIRPERSON SLATON: Mr. Perez.

COMMITTEE MEMBER PEREZ: I apologize if this has been asked and answered already. Why -- why are we looking at an LLC as opposed to -- if everything I'm reading is -- if I'm interpreting it correctly, there's already protections with the general partnership limited partnership?

CHIEF INVESTMENT OFFICER MENG: Okay. So I can answer a little bit, and then I will turn it to our legal. So the LLC is really the limited partner -- a limited liability is really protecting us -- protecting us as the LP, protect our interest. So indemnify us from -- from some liabilities. So that's the set up, the structure.

INVESTMENT DIRECTOR COLE: I'll add to that. Excuse me. John Cole, staff. And Matt may chose to come up. But it's a legal question, not an economic question.

And in our consideration of the alternatives between a traditional GP/LP or an LLC structure, the considered judgment of is -- it was relatively comparable, and therefore not a clear one over the other. But the liabilities protection incrementally that is provided in an LLC is superior to that in a general partnership LP arrangement for us. So we were looking for in the LLC, as we've learned through experience in our real assets area, that the -- that legal structure was slightly favorable for us.

Fair?

GENERAL COUNSEL JACOBS: Yeah, I can't improve on that. Basically, John nailed it.

(Laughter.)

COMMITTEE MEMBER PEREZ: You just passed the bar.

(Laughter.)

GENERAL COUNSEL JACOBS: He should have passed the bar. I'll give him a bar license.

(Laughter.)

CHAIRPERSON SLATON: Okay.

All right. Ms. Taylor.

COMMITTEE MEMBER TAYLOR: Yes. Thank you, Mr. Chair. I just want to tell you that as we went -- as you went through your explanation of this -- and I've been talking to folks week after week after week to get a clearer understanding, I just want to compliment you on making me feel like I wasn't as stupid as I thought I was.

(Laughter.)

COMMITTEE MEMBER TAYLOR: Because it just seemed like we were -- there was so much talking around the issue, and you just sort of dove right into the issue. And it just made it so much clearer for me.

And the one slide that made that more clear than anything is transparency to CalPERS -- number 6, transparency to CalPERS, transparency to public. If we're doing public -- private equity, then, of course, we're not going to have transparency to the public. But given what we will have here available to us as fiduciaries enables us to make the best decisions possible.

And then on top of that, I just feel that we have -- we have to take into account that at seven percent target rate, we are not going to be able to make that without private equity. And I want transparency. I want to see those fees more transparent. And I want to make sure that our governance structure is akin to what we want, right? Our Investment Beliefs are included and that our ESG strategies are included. And I think the only way -- you can't do that with regular private equity.

CHIEF INVESTMENT OFFICER MENG: Correct. Correct.

COMMITTEE MEMBER TAYLOR: And I think the only way we're going to be able to change that narrative where we're seeing companies get bought -- you know, stripped and sold is if we're doing something different.

CHIEF INVESTMENT OFFICER MENG: Right.

COMMITTEE MEMBER TAYLOR: So I think that we are in a position now where we have to say, okay, we're not going to let, you know -- say no to this, because then our employers will owe more money. And we have to reduce the rate of return again. And I just -- I can't go to my constituents and say that.

So I look forward to hearing more in closed session. But again, the clarity that I got in this presentation, I'm very thankful for. Thank you very much.

CHIEF INVESTMENT OFFICER MENG: Thank you.

If I may say one thing, since we're on slide 6, so this slide actually apply to Controller Yee's question as well. So the improved transparency -- improved transparency to us is also improved control, without going too much details until we -- until the closed session. But this slide applies that compared to the traditional conventional model we're doing right now the commingled fund, Pillar 3 and Pillar 4 will have more control, more governance, more control, not less. Just like transparency, we'll have more transparency to CalPERS for the benefit of the employers and beneficiaries.

CHAIRPERSON SLATON: Okay. Ms. Pasquil Rogers.

COMMITTEE MEMBER PASQUIL ROGERS: Ben, thank you. Thank you so much for your presentation. Being one of the new kids on the block, I could tell it was a little cloudy. Might still be cloudy for me. But one thing I do know and that is that, and correct me if I'm wrong, this will provide you and the team additional tools to get to seven percent. You are not going to just go out there, correct, and just willy-nilly, you know, do something that you would have to come back -- you and the whole team would have to come back and say we really messed up?

You, given this, correct, are going to go through steps to make sure, yes, transparency, but, you know, is this the best decision for this body, for the people that rely on us, and those that come after us, am I correct?

CHIEF INVESTMENT OFFICER MENG: Exactly.

COMMITTEE MEMBER PASQUIL ROGERS: It's not going to happen over night?

CHIEF INVESTMENT OFFICER MENG: Exactly. And as you said --

COMMITTEE MEMBER PASQUIL ROGERS: This is the next step?

CHIEF INVESTMENT OFFICER MENG: Yes. Exactly as you said that, and also as mentioned early on, that I'm very glad to see the staff has already adopt a trial and learn with no specific timeline, no specific outcome in mind. And the staff have all the reason and will continue to do so -- to do so in a most risk-prudent way and most risk-intelligent way.

COMMITTEE MEMBER PASQUIL ROGERS: Thank you.

CHAIRPERSON SLATON: Thank you.

I don't have anymore requests to speak. I guess my -- oh, wait a minute. No, she's --

COMMITTEE MEMBER PASQUIL ROGERS: Sorry.

CHAIRPERSON SLATON: That's all right.

I guess my final comment is, you know, this is -- this is the definition of a partnership. And it's a partnership between the staff and the Board trying to figure out how to navigate through this to arrive at the best decision on behalf of our members, and our employers, and the State of California.

So that's the effort -- that journey that we're on. And I think this dialogue has been good. We'll continue to it in closed session where we can dig more into details.

CHIEF INVESTMENT OFFICER MENG: Yes.

CHAIRPERSON SLATON: But I just want to compliment the work so far and this dialogue that we're all having, which I think is very positive.

So with that, that completes 7c.

We'll move to Item 8, which is Summary of Committee Direction.

CHIEF INVESTMENT OFFICER MENG: Okay. Mr. Chair, so I jotted down a number of follow-up items.

One from Mr. Perez. In April, the staff will come back with a high level policy review of divestment. And this is not a deep dive and not about making a decision. It's particularly for the benefit of new Board members --

CHAIRPERSON SLATON: Um-hmm.

CHIEF INVESTMENT OFFICER MENG: -- what is our Divestment Policy. So that's in April.

And in March, the Controller's office asked for an update on carbon pricing. So, in March, our ESG team, Sustainable Investment team, will come back next month with a presentation on that.

And Ms. Brown asked for the PE co-investment study. So once they have the study internally, we write it out, and we will find an appropriate opportunity to bring that study back to this body.

And Treasurer Ma asked for the most recent program review of the real assets, particularly real estate.

And then Controller Yee asked for the roles and purpose of each asset class.

Mr. Jones -- Mr. Jones asked for a good infrastructure partners to come to talk to us how they make infrastructure investment decisions, and what they view of the infrastructure market opportunities.

And again, Treasurer Ma asked for part of the John Rothfield's presentation, slide 16, with more labels. So we'll come back to you with updated chart from John Rothfield's presentation.

And then last one is Ms. Brown asked for an estimate of the churning cost and the direction of the past year. So we'll come back with our best estimate on that.

So I think that's all I have, unless I missed anything.

CHAIRPERSON SLATON: I think -- I think we have covered it.

CHIEF INVESTMENT OFFICER MENG: Great. Thank you.

CHAIRPERSON SLATON: Thank you very much. We'll move now to -- move now to public comment.

And I have one request to speak from Ms. Foldman[SIC]. And if you would come up to the microphone, you'll have three minutes.

MS. RILEY: Hi. My name is Kate Riley, and I'm a retired member of CalPERS. I worked for over a quarter of a century at the California State Assembly and have retired as of 10 years ago.

I just wanted to speak as a -- as a person who has -- you know, living -- basically, living off of the fund. I'm disturbed that my money is being used -- is being used to help these companies -- two companies specifically, the GEO Group and CoreCivic that are involved in the detention of people.

And I think what's disturbing to me, well on a personal level, is that it seems like for this fund to be invested in these companies is really counter to what the rest of the state is doing. I think if you looked at your own members, if you looked at the public, you would find that people do not like this program. And so I just -- I'm trying to understand. You guys have been such leaders in the past when I first came to work for the Legislature. CalPERS was divesting from South Africa, and you were one of the leaders nationwide in that.

And so that's why it seems surprising to me that this has not become more of an issue. I am not an expert, so I'm not -- please don't ask me technical questions. But I just want to say as a member, I find it very disturbing.

Also, I know that the two companies in particular that our request is that they -- that you divest from Core

Group -- I mean, GEO Group and CoreCivic. But the other companies are engaged in the detention of children. And that -- that is like particularly egregious.

And so I'm just asking the Board to take that seriously and to direct your staff to -- to prepare proposals that will help us divest from this pretty revolting set of businesses.

Thank you.

CHAIRPERSON SLATON: Thank you, ma'am. Yes.

MS. GOLDMAN: Perfect.

CHAIRPERSON SLATON: Yes, you're on, Ms. Foldman[SIC].

MS. GOLDMAN: My name is Emily Claire Goldman. I'm a human rights lawyer and the Founder and Director of Educators for Migrant Justice, as some of you may know.

I am speaking today on behalf of CalPERS members who are outraged that their retirement savings are providing financial support to companies aiding and abetting crimes against humanity, including CoreCivic, GEO Group, General Dynamics, and United Rentals.

While CalSTRS voted to divest from for-profit prisons, CoreCivic and GEO Group, in November, CalPERS has yet to provide -- to my knowledge, provide an update on its ongoing engagement with these companies. It's worth asking what CalPERS hopes to achieve through corporate engagement with companies that rely on deliberate understaffing, medical neglect, and forced labor to cut corners for profitability, particularly given that CoreCivic and GEO Group have failed to take steps to remedy issues at their facilities despite dozen of lawsuits, fines from government agencies, as well as numerous scathing reports from the Office of the Inspector General, which is ICE's oversight body.

I will remind the Board that CalPERS oversees -- as you all know, oversees $360 billion and currently has a $11.4 million combined in these two companies. While CalSTRS oversees 219 billion, and had 3 -- 13.7 million invested in CoreCivic and GEO. At the time that they determined that owning private prison companies is de minimis to the overall portfolio return and tracking error, meaning that it would be consistent with your fiduciary duty to divest.

From a purely financial perspective, these companies have not performed well. CoreCivic's stock price has dropped nearly 50 percent over the past four years, and GEO Group has dropped, I believe, nearly 20. Their dividends are also equally as horrible. And I know that you are all very concerned about volatility in terms of returns, and these could not be more volatile.

On the specific issue of family separation and detention, CoreCivic and GEO Group have both maintained that they are not detaining separated migrant children or their families, but are now actively fighting shareholder resolutions that would require them to adopt policies to that effect.

In letters to the SEC, both companies raised several objections to the shareholder resolutions with -- which they said were vague, misleading, and impossible to implement. GEO Group specifically additionally stated that they do not determine who is assigned to their case, nor do they have any knowledge of their specific cases or circumstances.

And this response really begs the question if GEO Group doesn't have knowledge of specific cases or circumstances of those in its custody, how can they provide any assurance that they aren't holding separated children or their parents in their facilities. They can't.

GEO isn't alone in its attempts to mislead investors and the general public through what I consider nothing short of blatant lies. And I know my time is about to expire, so can I take the rest her 45 seconds?

CHAIRPERSON SLATON: Just please complete your thoughts.

MS. GOLDMAN: So the Chief Investment Officer's coverage of CalPERS' December Board meeting included a statement from CoreCivic that reads, and I quote, "Our ICE contracted facilities are contractually required and held accountable to federal performance-based national detention standards".

Yet, several weeks ago, the Office of the Inspector General, ICE's oversight body, released a report titled, again I quote, "ICE does not fully use contracting tools to hold detention facilities..." --

CHAIRPERSON SLATON: Ma'am, you do need to complete --

MS. GOLDMAN: -- "...contractors accountable..." --

CHAIRPERSON SLATON: You need to complete your remarks, please.

MS. GOLDMAN: This is the last sentence. "ICE does not fully use contracting tools to hold detention facility contractors accountable for failing to meet performance standards".

CHAIRPERSON SLATON: Okay. Thank you for your comments.

MS. GOLDMAN: Thank you for your time.

CHAIRPERSON SLATON: All right. I think we've completed the open session agenda. And so we will reconvene in closed session in 10 minutes.

(Thereupon California Public Employees' Retirement System, Investment Committee meeting open session adjourned at 2:43 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 23rd day of February, 2019.

James F. Peters

JAMES F. PETERS, CSR
Certified Shorthand Reporter
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