MEETING

STATE OF CALIFORNIA

PUBLIC EMPLOYEES' RETIREMENT SYSTEM

BOARD OF ADMINISTRATION

INVESTMENT COMMITTEE

OPEN SESSION

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TUESDAY, NOVEMBER 13, 2018

9:00 A.M.

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A P P E A R A N C E S

COMMITTEE MEMBERS:

Mr. Henry Jones, Chairperson

Mr. Richard Costigan, Vice Chairperson

Ms. Margaret Brown

Mr. John Chiang, represented by Mr. Steve Juarez and Mr. Frank Moore

Mr. Rob Feckner

Ms. Dana Hollinger

Ms. Adria Jenkins-Jones

Ms. Priya Mathur

Mr. David Miller

Mr. Ramon Rubalcava

Mr. Bill Slaton

Mr. Theresa Taylor

Ms. Betty Yee

STAFF:

Ms. Marcie Frost, Chief Executive Officer

Mr. Ted Eliopoulos, Chief Investment Officer

Mr. Matt Jacobs, General Counsel

Mr. Eric Baggesen, Managing Investment Director

Mr. Dan Bienvenue, Managing Investment Director

Ms. Elisabeth Bourqui, Chief Operating Investment Officer

Ms. Tanya Black, Committee Secretary

Mr. John Cole, Investment Director

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

STAFF:

Ms. Sarah Corr, Interim Managing Investment Director

Mr. Nelson Da Conceicao, Investment Manager

Mr. Mahboob Hossain, Investment Director

Ms. May Leung, Associate Investment Manager

Mr. Christine Reese, Investment Manager

ALSO PRESENT:

Mr. Al Darby, Retired Public Employees Association

Mr. Allan Emkin, Pension Consulting Alliance

Mr. Steve Foresti, Wilshire Associates

Mr. Steve Hartt, Meketa Investment Group

Mr. Andre Junkin, Wilshire Associates

Ms. Hannah Schriner, Meketa Investment Group

Mr. Larry Woodson, California State Retirees

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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 BLACK: Henry Jones?

CHAIRPERSON JONES: Here.

COMMITTEE SECRETARY BLACK: Richard Costigan?

VICE CHAIRPERSON COSTIGAN: Here.

COMMITTEE SECRETARY BLACK: Margaret Brown?

COMMITTEE MEMBER BROWN: Here.

COMMITTEE SECRETARY BLACK: Steve Juarez for John Chiang?

ACTING COMMITTEE MEMBER JUAREZ: Here.

COMMITTEE SECRETARY BLACK: Rob Feckner?

COMMITTEE MEMBER FECKNER: Good morning.

COMMITTEE SECRETARY BLACK: Good morning.

Dana Hollinger?

COMMITTEE MEMBER HOLLINGER: Here.

COMMITTEE SECRETARY BLACK: Andrea Jenkins-Jones?

COMMITTEE MEMBER JENKINS-JONES: Andrea Jenkins-Jones, here.

COMMITTEE SECRETARY BLACK: Priya Mathur?

COMMITTEE MEMBER MATHUR: Here. Good morning.

COMMITTEE SECRETARY BLACK: Good morning.

David Miller?

COMMITTEE MEMBER MILLER: Here.
COMMITTEE SECRETARY BLACK: Ramon Rubalcava?
COMMITTEE MEMBER RUBALCAVA: Here.
COMMITTEE SECRETARY BLACK: Bill Slaton?
COMMITTEE MEMBER SLATON: Here.
COMMITTEE SECRETARY BLACK: Theresa Taylor?
COMMITTEE MEMBER TAYLOR: Here.
COMMITTEE SECRETARY BLACK: Betty Yee?
COMMITTEE MEMBER YEE: Here.
CHAIRPERSON JONES: Okay. Thank you.
The next item on the agenda is Approval of the November 13 timed agenda.
And I would just like to note a minor modification of the closed session agenda. We're going to move item 4c to be discussed after item 5. And we will not have the Item 6, the Investment Strategy Session with the Board Consultants.
Ladies and gentlemen, before we begin our agenda I'd like to make a few comments about our Chief Investment Officer.
Today is a special day for our Chief Investment Officer Ted Eliopoulos. It's his last Investment Committee meeting and his last week with us after a 17-year career at CalPERS.
Some of you might not know that Ted served as a

representative on this Board during his tenure with the pension fund. He also served as our Senior Investment Officer for Real Assets and for the last four years our Chief Investment Officer.

During Ted's CalPERS career, he worked to rebuild our Real Estate portfolio, and helped set a strong vision for our Investment portfolio to improve returns, reduce complexity, and manage risk.

Ted has also been a champion for diversity and the need to expand our workforce with the best new talent in the investment industry. Ted is thoughtful, measured, and embodies all the qualities of a true public servant.

On a personal note I want to thank Ted for his support and guidance in my role as chief -- Chair of the Investment Committee. You are not just a colleague but a very special friend.

Ted, on behalf of the Investment Committee, thank you for all of your contributions to CalPERS and California. We wish you all the best in New York. And we will have a more formal presentation of our Chief Investment Officer at our full Board meeting on Thursday.

So, again, thank you Ted for your service.

(Applause.)

CHAIRPERSON JONES: And with that, I'll call on you for your last Executive Report.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Well, this will be very brief. We have a focus on getting the work of the system done, and today in the Investment Committee we have quite a full agenda in front of us. And as you said, you know, I'll have a chance to say goodbye on Thursday, and I don't want to take up our precious minutes today with all of the emotional thoughts running through my head. It's been quite a 17-year career and it's been an absolute blessing to work on behalf of the CalPERS members and to work with this incredible staff and this incredible Board. And I thank you from the bottom of my heart for the friendship and for the leadership and for those kind words. And really onto the work of the Committee today.

Thank you.

CHAIRPERSON JONES: Okay. Thank you.

CHIEF EXECUTIVE OFFICER FROST: Chair Jones, if I could add just a couple of comments.

As you indicated, this week is Ted's last week at CalPERS and we'll spend more of the days this week acknowledging and recognizing his contributions. And then on Thursday I plan on making some additional comments as well.

Since Ben Meng, our incoming Chief Investment Officer, is not able to join us the system until January, I've appointed Eric Baggesen as the Acting Interim Chief Investment officer. And many of you know Eric and have worked with Eric for several years. He's been with CalPERS for over 14 years. His current role is the managing investment director for asset allocation. He also has been instrumental in creating our ALM process, and so very familiar with the work of this committee. You've seen him testify or make presentations to this committee on several occasions.

I also want to thank the Investment Office - Eric, Elisabeth, and all the managing investment directors - for ensuring that we have a smooth transition between Ted to Eric to Ben, and I know they're working diligently to do that.

So with that, I'll turn it back over to Chair Jones to get the Committee started.

CHAIRPERSON JONES: Okay. Thank you very much.

Okay. The next item on the agenda is the Action Consent Item.

Do we have a motion?

VICE CHAIRPERSON COSTIGAN: Move it.

CHAIRPERSON JONES: Moved by Mr. Costigan.

COMMITTEE MEMBER MATHUR: Second.

CHAIRPERSON JONES: Seconded by Ms. Mathur.

All those in favor say aye.

(Ayes.)

CHAIRPERSON JONES: Opposed?

Hearing none.

The item passes.

Information Consent Items.

I've not received a request to move anything from that item. So we would accept that item and move to the next item on the agenda.

MS. HOPPER: Henry?

CHAIRPERSON JONES: Yes.

MS. HOPPER: Approval of the minutes?

CHAIRPERSON JONES: That was a consent item. Yeah, that was approved when we approved the consent item.

MS. HOPPER: Oh, okay. Thank you.

CHAIRPERSON JONES: Okay. Thank you.

Okay. Now we will move to the Action Agenda Item, Item 6, Policy and Delegation. Review of Investment Policy Update.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Good morning, Mr. Jones. Eric Baggesen, Acting Chief Investment Officer, fortunately for not that long a duration before Ben gets here.

(Laughter.)

MANAGING INVESTMENT DIRECTOR BAGGESEN: So I'll endeavor not to screw this up too badly for you.

(Laughter.)

MANAGING INVESTMENT DIRECTOR BAGGESEN: Agenda Item 6a is an action item. It is the final reading, or hopefully the final reading, of the Total Fund Policy Revision. That will be presented by Kit Crocker; and I believe Elisabeth Bourqui may have some comments as well.

INVESTMENT DIRECTOR CROCKER: Thank you.

Okay. Am I on the wrong one?

So sorry.

There we go. Okay. Thank you.

Kit Crocker, CalPERS staff.

Thank you, Eric.

Item 6a, as you mentioned, is a second reading of the proposed updates to the Total Fund Investment Policy and Real Assets Program Policy. And as we discussed at the first reading in September, these changes arise out of the recently concluded program reviews for TLPM, Trust Level portfolio Management, and Real Assets.

The changes to the Real Assets Program Policy have been made to reflect comments from the Committee during the first reading, which is I think really just the replacement of the word "limits" with "parameters" in Item 6a, page -- of Item 5, page 7 of 8 of the redline version, Attachment 4. The Total Fund Policy is unchanged from the first reading. Again, this is a second reading and we are seeking action from the Committee.

CHAIRPERSON JONES: Okay. Do we have a motion?

COMMITTEE MEMBER MATHUR: Move approval.

CHAIRPERSON JONES: Moved by Ms. Mathur.

COMMITTEE MEMBER HOLLINGER: Second.

CHAIRPERSON JONES: Seconded by Ms. Hollinger.

All those in favor say aye.

(Ayes.)

CHAIRPERSON JONES: Aye.

Opposed?

Hearing none.

The item passes.

Thank you very much.

We now will move to Item 7, Information Agenda Item - Program Reviews.

7a, Global Equity Annual Program Review.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Okay. Just as a piece of background on Agenda Item Number 7. These are the program reviews that began in August, and this is a continuing -- a continuation of a number of programs that have already had reviews before this Board. It started in August with trust-level portfolio management and opportunistic, continued on to September with the Global Fixed Income Program and the Real Assets Program. And today we'll have the Global Equity Program followed by

Agenda Item 7b, which will be the Wilshire review of the Global Equity Program.

Agenda Item 7c is the Private Equity Program review. That program review will be conducted in two parts: First a review of the historic results of the program; and then we're going to have John Cole basically making some comments about the aspirational future of the program.

And that will be followed by an item from Meketa Investment Group reviewing the Private Equity Program.

So I think, Dan, if you're ready, you can take it on for Global Equity.

MANAGING INVESTMENT DIRECTOR BIENVENUE: All right. Thanks, Eric.

Good morning, Mr. Chair, members of the Committee.

(Thereupon an overhead presentation was Presented as follows.)

MANAGING INVESTMENT DIRECTOR BIENVENUE: I'm Dan Bienvenue, the Managing Investment Director for Global Equity. And joining me today are several members of the Global Equity team. But presenting to you will be Nelson Da Conceicao and May Leung also, that we just heard a research effort that was going on in Global Equity. And then Christine Reese will come up. Christine's our newly minted Investment Director over Global Equity Capital Allocation and the affiliate's allocation. And Christine will give us an update on the affiliate funds.

So as Eric said, this our annual program review. As in years past, we'll start with an executive summary, where I'll give the Committee an update on the performance and the positioning of the portfolio and then a business update. And from there we'll take a deeper dive with May and Nelson leading into the research; and then, as I say, an update on the affiliates from Christine.

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MANAGING INVESTMENT DIRECTOR BIENVENUE: Okay. So Fiscal Year '17-'18 was a very strong year in the public equity markets, and Global Equity participated of course in that strength, with a strong absolute return of 11 and a half percent. This 11 and half percent represents about 40 basis points of underperformance relative to the benchmark. That underperformance is due to two main things: First of all, a defensive position; and then secondly, a value-oriented positioning. This was especially the case in the fiscal fourth quarter, and indeed all of the underperformance came in the fourth quarter. The portfolio was outperforming for the first three-quarters of the year. But in the fiscal fourth quarter the market got very concentrated and very sort of growthy in a handful of tech names that Global Equity was underweight intentionally, but that hurt the performance from a relative return standpoint.

The longer numbers, the 3-year and the 5-year, represent a handful of basis points of outperformance. The 10-year still includes the effect of the financial crisis, so that's a challenged period. But then out to the 20-year and since inception the numbers get better again.

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MANAGING INVESTMENT DIRECTOR BIENVENUE: Moving on to positioning. That defensive and value-oriented positioning still exists in the portfolio. You can see the defensive through the relatively low beta, represented by the red bar; and then the very high quality, represented by the orange bar; and then the value you can see through the high exposure on the two yellow bars.

--o0o--

MANAGING INVESTMENT DIRECTOR BIENVENUE: By way of business update, we'll first start with some accomplishments and then we'll move on to some of the major initiatives for Fiscal Year '18-'19.

For '17-'18 the main accomplishments I'd like to draw your attention to are the launch of two internally managed - they're externally sourced - ESG-based active investment strategies.

Secondly, the strategy rationalization that continues to go on in the Global Equity portfolio, including internalization of mandates, closing and collapsing some mandates, and then launching a handful of strategies.

Finally, the main accomplishment here is the affiliate ALM review process. Your recall members of the Global Equity team and the trust level portfolio management team, Eric's team, coming to present to you in April, May, and June on successive updates to the strategic asset allocation for the various affiliate trusts.

For Fiscal Year '18-'19, the major initiatives I'd like to draw your attention to are, first of all, the search for transition managers. And you'll get an update on that from the IMEP team next month. And then also the review of the emerging manager program that's going on as we speak.

Secondly is the implementation of the ALM outcomes. So this asset liability management that new strategic asset allocation for both the PERF and the affiliates, that's certainly an area of focus for Global Equity this year.

We also continue on our rationalization of the portfolio, both the strategies and the risks that we take in the portfolio.

And then finally we're continuing to implement on the ESG strategic plan. That includes integration of both the team and then the ESG factors under the decision-making that goes on in Global Equity, our work on Board diversity and executive compensation, and then of course the engagements on the Climate Action 100+.

So, one of the points of this -- these annual program reviews is to help the Board get a better understanding of what goes on in the various asset classes. So what we'll do is we'll pause for questions after each section. So I'll pause here and then we'll move on to research.

So with that, we really welcome any questions.

CHAIRPERSON JONES: Yes. Thank you. I have a couple of questions, Dan. On page 2 -- no -- page 2 of the presentation - and that's iPad page 294 - could you expand on the term "defensive" and also at the bottom, "active risk." Could you take a little deep dive on those two items.

MANAGING INVESTMENT DIRECTOR BIENVENUE:

Certainly. If it's all right with you, I'll take that in reverse order. We'll start with "active risk" and then we'll move on to the next slide on "defensive."

So active risk is really the amount of sort of differentness the portfolio is from the benchmark. So how different the portfolio is. That can -- active risk can be forecast. So how different the portfolio's holdings are, and then what a risk model would say how difference the performance can be in the future versus the -- I'm sorry -- for the portfolio versus the benchmark.

In this case since real active risk here is actually the realized active risk. So that's the volatility of the differences of returns for the portfolio versus the benchmark.

--o0o--

MANAGING INVESTMENT DIRECTOR BIENVENUE: As far as defensive goes, really -- defensive, think about sort of consistency. So some securities are very volatile and very growthy and they'll have very high upside and very high downside returns. Defensive is kind of the opposite of that. It's something that will be -- you know, think of like a telecom company. So very consistent profitability, very consistent earnings, very consistent profit margins, something that you would expect to perform maybe not as well when the market's up but to hold up much better when the market's down and when the economic and business cycles are down.

CHAIRPERSON JONES: Okay. Thank you.

Yeah, we have Mr. Juarez.

ACTING COMMITTEE MEMBER JUAREZ: Yes. Thank you, Mr. Chair.

I've asked this question before generally of the portfolio, but maybe it's a good time to ask it about Global Equity. And you -- because you made mention of the fact that we're still seeing the effects of the 2007-8 period when we realized significant losses.

When are we likely to have the first posting of the 10-year when it doesn't reflect sort of that bad news?

MANAGING INVESTMENT DIRECTOR BIENVENUE: I'm really happy you asked that question, because I've been waiting for that day since that period.

(Laughter.)

MANAGING INVESTMENT DIRECTOR BIENVENUE: This next year is the year that the Fiscal Year '8-'9, which is, you know, Lehman went bankrupt in September of '08. That was the period that is so challenged both in absolute and relative returns. And as I say, I'm really looking forward to reporting next year when that period rolls off -- rolls off of the 10-year. It will still be in the 20 and since inception of course. But rolls off of the 10-year.

ACTING COMMITTEE MEMBER JUAREZ: Okay. Well, that'll be a good time to discuss the ramifications of that all.

Thank you.

MANAGING INVESTMENT DIRECTOR BIENVENUE: Certainly. Thank you.

CHAIRPERSON JONES: Ms. Taylor.

COMMITTEE MEMBER TAYLOR: Yes. Thank you.

So I wanted to continue Mr. Jones' -- because I think you said -- his question on defensive. So I think you said something about tech oriented earlier in your presentation, that that would -- that we weren't --

MANAGING INVESTMENT DIRECTOR BIENVENUE: That is the opposite of defensive, absolutely. Tech is very growthy and very high volatility.

COMMITTEE MEMBER TAYLOR: Okay. And that's where gains were made in '17-'18, which we were not as involved in; is that what you were saying?

MANAGING INVESTMENT DIRECTOR BIENVENUE: We certainly participated. I mean the 11 and a half percent return certainly is a strong absolute return. But, yes, we were underweight those names. You know, candidly I would say one of the perspectives of a -- of certainly Global Equity, and I think the organization, is that we probably have a greater, I guess -- you know, the term is "utility" -- but I guess we enjoy the upside less than we feel pain from the downside --

COMMITTEE MEMBER TAYLOR: Right.

MANAGING INVESTMENT DIRECTOR BIENVENUE: -- if that makes sense.

So a very strongly downmarket given the cyclicality of the -- you know, the California economy, et cetera. The downside pain is worse than upside gain. Especially getting 11 and half percent, we -- you know, we're content with that.

COMMITTEE MEMBER TAYLOR: Sure, sure. Okay. That's what I just wanted to clarify.

And then on page 4 of your presentation, the very first item under Fiscal Year - Major Accomplishments was: Launched Two Internally Managed ESG-Based Strategies. Could you expand to that for me.

MANAGING INVESTMENT DIRECTOR BIENVENUE: Yeah, so those were the ones that we did a search for ESG strategies. You recall, part of the ESG Strategic Plan was doing a search for strategies within Global Equity. Those are the two strategies that resulted from that.

COMMITTEE MEMBER TAYLOR: Okay. Great. Thank you.

MANAGING INVESTMENT DIRECTOR BIENVENUE: They each launched at about a billion dollars apiece and --

COMMITTEE MEMBER TAYLOR: Oh, nice.

MANAGING INVESTMENT DIRECTOR BIENVENUE: -- you know, it's very early days. But --

COMMITTEE MEMBER TAYLOR: Right, right, right.

MANAGING INVESTMENT DIRECTOR BIENVENUE: -- but they're performing well so far.

COMMITTEE MEMBER TAYLOR: Nice.

All right. Thank you.

CHAIRPERSON JONES: Ms. Mathur.

COMMITTEE MEMBER MATHUR: Yeah. Well, I just wanted to say a couple of things. One, is that I think this defensive posture is -- was the -- is the right posture, that it's -- we never know in advance when the correction is coming; and it is coming. It is going to come. And so it could have happened a quarter ago. It didn't. But I think -- I personally think it's the right posture to be in. And that is worth giving up that bit of growth-related performance over the last quarter. So stick to your guns is my message there.

Similarly with sort of the global benchmark, which we went -- which we moved to I think what, a decade ago now - something like that - which I know we believe is the right thing, and I still believe it's the right thing. It didn't serve us really over the last several years, but it seemed -- but I still -- again, it's one of those things which you're wrong until you're right. But I believe that that's -- that's the right place to stay now.

I did want to ask about active management, because -- and I don't know, maybe -- I don't know if I should hold that question. But we have moved increasingly towards more passively oriented portfolio. And, you know, I know that different of our peers have different approaches. Some are similarly oriented as we are, and others have a more significant active portfolio.

Florida, for example, has a very -- an active portfolio, it's been performing really strongly. I guess I'm just -- I would like you to maybe talk a little bit more about our -- your philosophy around that and where you think there might be opportunities on the active management side that we haven't perhaps captured or -- and what you think is sort of the balance moving forward.

MANAGING INVESTMENT DIRECTOR BIENVENUE: Thank you for the questions.

I will say that, you know, active management in the equity space is very difficult, right. The markets are fairly efficient; not perfectly efficient but fairly efficient, and so active management is challenging.

And to your previous comments on not knowing when the next downturn will come, not knowing when Stock A is going to outperform Stock B, all of those things. If we had a critical ball it would be much easier, but we don't.

I will say that when you look at the third sub-bullet under the second bullet here on the business update, one of the things we're working our way through is actually getting the whole Investment Office to get a perspective on that active management, both within Global Equity and elsewhere because it is the case that we do think that there's some opportunity to be added by active management; but, you know, it can also be detracted by active management. And so it's just got to be prudent. And so we're working our way through that as a team.

COMMITTEE MEMBER MATHUR: Okay. Terrific. Thank you.

CHAIRPERSON JONES: Okay. Ms. Yee.

COMMITTEE MEMBER YEE: Thank you, Mr. Chairman.

Thank you for the update so far.

On this same slide I was wondering, can you just elaborate a little bit more on the strategy rationalization and what that entails.

MANAGING INVESTMENT DIRECTOR BIENVENUE: On the -- I'm sorry, for accomplishments on the second --

COMMITTEE MEMBER YEE: On the second bullet, uh-huh.

MANAGING INVESTMENT DIRECTOR BIENVENUE: Certainly.

So we internalized a handful of strategies. So we -- basically when a strategy we think -- if the trading in the portfolio construction or the strategy are very tightly linked, we think we need to keep that externally managed. But when there's situation where we can separate the trading from the portfolio -- from the creation of the portfolio or the model, we like to internalize that. It gives us the opportunity to cross, it gives us greater control of the assets, it's lower cost generally by far. So that's one of the things that's in there, is that internalization of strategies.

We also closed a handful of strategies concurrent with the launch of the two ESG-based strategies. We closed the climate change index strategy that was -- had been provided by HSBC that they no longer provided for us.

So that's basically what that rationalization is, is that -- is a series of internalizations, close and collapses, and then the launching of the strategies also.

COMMITTEE MEMBER YEE: Okay. Great. Thank you.

And then -- I'm sorry. Are you going to be going into some of the other slides in the appendix, or should I --

MANAGING INVESTMENT DIRECTOR BIENVENUE: We will. We're going to be going through the research, which I think are from slides 19 to maybe 24 or 5. And we can -- we can either go into those and then anything we don't cover, then take questions. Or if you'd rather cover anything that's outside of those, we'd be happy to take those now also.

COMMITTEE MEMBER YEE: Oh, I'll just hold off.

In terms of the ESG strategic plan implementation I had some questions about some of the internally managed ESG-based strategies, but I can wait.

MANAGING INVESTMENT DIRECTOR BIENVENUE: Okay. All right. So why don't I hand it -- I'm sorry, are there other questions?

CHAIRPERSON JONES: Yeah, I think Eric's been trying to get my attention.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Yeah, just -- I wanted to make a comment in relation to the questions about active risk. Because ultimately this whole topic of active risk -- and you need to understand that the active risk means basically someone is making incremental decisions that extend beyond the beta and the structure of the strategic asset allocation that this Board has decided. So we actually need to then question whether or not -- what is the decision process that underlies those differences and what is the probability and the consistency of the expected outcome that happens from that. So that's going to be a topic that basically, you know, Ben, our new Chief Investment Officer is absolutely committed to doing an examination of the elements of active risk and looking at that across the entire portfolio. Because ultimately we need to determine what you as a board -- what is the appetite for variation that you actually have on behalf of this plan relative to the strategic asset allocation And are we basically allocating that appetite for variance to the places where we have the greatest confidence that we're going to get a positive outcome from that happening.

Because the only reason for taking active risk is because you believe that somehow you can improve the situation by either generating higher returns or lower levels of risk for the same level of return. And it's a very high hurdle that needs to attach to that activity.

So that will be an examination, as Dan mentioned, that has to happen across all the places where we are making decisions that are incremental to the structure of the strategic asset allocation.

CHAIRPERSON JONES: Okay. Thank you.

Okay. Dan.

MANAGING INVESTMENT DIRECTOR BIENVENUE: All right. So if there are no further questions, I'll turn it over to May and to Nelson, as I say, to take us into the research and, Ms. Mathur, to your comment on the sort of the global-cap-weighted nature of the portfolio. You'll see that on slide 23 and we'll be discussing that.

All right. Nelson.

--o0o--

INVESTMENT MANAGER DA CONCEICAO: Good morning. Nelson Da Conceicao, the Investment Manager, Global Equities.

Turning to slide 19.

All right. I'm truly delighted today to shed light on Global Equity's research function. After a I high level description of what we do, why we do, and how we do it, May and I will get into a few practical examples of our research.

Turning to slide 19, framing slide. There the three things I'd like to share with you today about the team.

The first thing is the mission: Produce quality research to support CalPERS Global Equities portfolio management.

In other words, we aim to deliver actionable insights aiming to improve the outcome of our portfolio.

Second, the scope of our research. It is wide, including market diagnostics, internal strategy development, and support of our external manager selection function. Our team impacts all aspects of the Global Equity portfolio management.

Third, how does the team operate? Our three percent team, Bridgette, May and I, face a vast asset class and, as just mentioned, a wide array of topics to research. Therefore, our projects need to be vetted and prioritized carefully. We use two core guiding principles - internal beliefs, if you will - to do so.

The first principle is the principle of active stewardship. This is the principle by which we don't take past realizations for granted. Instead, we thrive to deeply understand the drivers and robustness of the forward returns we pursue and the nature of the risks we undertake, in active or index-related strategies; and that's important.

Principle number 2. It is the principle of maximization of return on capital and alignment with Total Fund priorities and beliefs. We'll touch on these critical components a bit later in the presentation.

At this stage, if you don't have any questions on this high level presentation or view of what we do and how we do, I will turn the microphone to May for our first drill down.

CHAIRPERSON JONES: Proceed.

Your Mike.

ASSOCIATE INVESTMENT MANAGER LEUNG: Hi, everyone. May Leung, Associate Investment Manager from Global Equity.

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ASSOCIATE INVESTMENT MANAGER LEUNG: Equity returns can be broken down into a few very basic components. And in the shorter term, it is the earnings growth and the valuation that drives the equity returns. Over the longer period, for example, 10 to 20 years, as you can see on the chart, is mainly earnings that drive equity returns.

Valuations still matters for us, because I can walk over an example on how valuation adds to volatility and downside risk.

Next slide.

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ASSOCIATE INVESTMENT MANAGER LEUNG: So our current house view is valuation for Global Equity is within fair change. U.S., as highlighted here, is the most stretched out of all the major regions.

Earnings typically by historical standards has tracked GDP growth very closely, and so far this cycle has been the same. But as of late earnings growth has been very strong and has been exceeding GDP growth. So this poses a risk of disappointment for us, because if earnings were to decelerate, that would have an impact on our equity returns.

Next slide.

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ASSOCIATE INVESTMENT MANAGER LEUNG: So as I mentioned earlier, valuation does matter even though we're a long-term investor, because it adds to volatility and downside risk.

The CAPE ratio here, which stands for the cyclical adjusted price-to-earnings ratio, is currently suggesting the U.S. region is expensive.

And on the left-hand side, where you can see if starting evaluation is low, the subsequent next five years return, which is the gray bar, typically is high; and it also comes with high upside and very low downside.

Contrast that with the far right, which is the high valuation - and that's where U.S. is today - these subsequent next five-year return would still be positive although lower, upside is still very high; however, where you see the big difference is downside is substantially much more negative.

So this ties into why we are actually holding a more defensive tilt in our portfolio.

I would like to pass it back to Nelson to go over a few more research items.

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INVESTMENT MANAGER DA CONCEICAO: The analysis that May just performed or shared with you focuses on the relatively short horizon, at least from a CalPERS point of view, and it's a year or two at most.

As long horizon investors, we can't and we don't ignore short-term market dynamics. And we spent a large amount of time researching long-term drivers of risk and return.

I'd like to share with you also today a few examples -- a few expressions of that kind of research.

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INVESTMENT MANAGER DA CONCEICAO: Slide 23. The first item on this slide relates to our review of long-term prospects of growth in our strategic benchmark. And specifically it's allocation to emerging markets. The topic is multi-faceted, complex, controversial, and work in progress. So instead of sharing with you definitive premature conclusions, I thought I would share with you a few stats that perhaps frame best the research topic at hand.

As shown on the bars on the bar chart, emerging markets represent today a bit more than a third of the global GDP. It's projected - those are projections of course - to represent almost half of global GDP in less than 20 years, accounting for most of the growth over that period of time.

In contrast, today, emerging markets (countries) represent 9 percent in the index. And the question for us is really, is that gap justified? Should it be filled? Should Global Equities be the place to fill that gap if we think we should fill that gap? This is an area of fantastic cooperation and potential cooperation with other asset classes within CalPERS.

The second expression -- next slide -- of this long --

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INVESTMENT MANAGER DA CONCEICAO: -- term horizon research relates to style or factor investing. We just spoke about it. It is an area that was also featured last year during the Global Equity Program review and an area where we spend a large amount of our tracking error or active risk budget, as Dan just mentioned.

Factor strategies are active strategies, as this is a quick reminder that target and amplify exposure to stock characteristics other than country and sector, which are heavy in the index, and that are in our mind in the research in suboptimal mixes in the index. Value, quality, momentum, that Dan mentioned are among those characteristics. Those are not new styles. Those have been alive, documented for the last 25 years, starting with -- starting with Eugene Fama Nobel Prize, and then researched by - sometimes tortured by - hundreds of researchers since then. And implemented with success -- with good success by many investors.

So why are we there?

Our continued interest in style, factor investing is based on a core belief, a strong belief that long-term investors with low extraction costs, like CalPERS, can harvest the full benefit of these type of strategies - persistent patterns of returns, persistent properties of diversification.

As early adopters we think we have an edge, a true edge in this area that touches to the philosophy, if we keep researching. And our focus this year, in the next few quarters is to enhance our allocation among factors and really integrating ESG considerations in that framework. It is a very important dimension in this type of work. We strongly believe that those two items will further enhance our capabilities in this area.

With this, this concludes our team's comments, our review of this team, and we are -- we'll be excited to respond to your questions.

Thank you.

CHAIRPERSON JONES: Okay. Thank you.

Ms. Hollinger.

COMMITTEE MEMBER HOLLINGER: Yeah, thank you. Thank you very much for the presentation.

I have a question. How -- when we're looking at our allocations or you're doing your evaluations, how are we factoring in that -- due to the fact that we have a maturing population and that we have actuarially a symmetrical risk, because more people going on claim than coming into the system, how are we weighing in that analysis when we're looking at our allocations or our defensive positions?

MANAGING INVESTMENT DIRECTOR BIENVENUE: So really the primary place -- and I should probably look at Eric -- because the primary place --

(Laughter.)

MANAGING INVESTMENT DIRECTOR BIENVENUE: -- where that's weighed in is in the strategic asset allocation. It is the case, to Ms. Mathur's point, that we do believe that having a defensive positioning --

COMMITTEE MEMBER HOLLINGER: Which I agree with, right.

MANAGING INVESTMENT DIRECTOR BIENVENUE: What happened in the crisis was both strongly down and underperforming. That is, as I say, much more painful than strongly up and outperforming.

So we certainly do weigh it in in our defensive positioning, but the primary place is in the strategic asset allocation.

And I'll let Eric take the question.

COMMITTEE MEMBER HOLLINGER: Thank you, Eric.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Yeah, let me take a stab at that a little bit.

If you recall the work that we've done on the strategic asset allocation, we basically have looked at both -- the expression that you just related, Ms. Hollinger, really shows up in the cash flow profile of the fund.

COMMITTEE MEMBER HOLLINGER: Correct.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Okay. So in other words, it's the anticipated negativity of the cash flows prior to the decision that was made to reduce the discount rate and shift some of the actuarial assumptions.

That decision has basically improved the anticipated cash flow picture of the fund. But we do not try to -- intentionally do not try to take that cash flow posture and push it into every single asset class. In other words, this issue of managing the liquidity in the demographic profile is something that is absolutely better managed from the strategic asset allocation across all the asset classes --

COMMITTEE MEMBER HOLLINGER: Got it.

MANAGING INVESTMENT DIRECTOR BAGGESEN: -- in contrast to trying to encumber Global Equity at the moment anyway with that challenge. And that would also be a true statement in relation to, for example, Private Equity where we are basically committing capital for long periods of time.

So currently, that --

COMMITTEE MEMBER HOLLINGER: But it still makes us -- if I'm understanding you correctly - and I agree with Ms. Mathur, it's still making us more sensitive to our downside risk because of those circumstances - it could be exacerbated. And what I like is we're protecting our beneficiaries -- or we're trying to buffer.

MANAGING INVESTMENT DIRECTOR BAGGESEN: No, that's exactly right. And if you recall though basically in the strategic asset allocation work, we are -- CalPERS has a relatively moderate allocation to public equities compared to many pension funds and public pension funds in the United States. Part of that is all of that expression and the way that that -- all of these risk elements get distilled down into the decision factors that you contemplate. And, again, those decision factors are the effect on the funded ratio. So certainly the downside affects the funded ratio. It's also the effect on the contribution levels that we're asking employers to be able to contribute to the fund, and also the change in those levels of contributions.

So all of this whole picture of that demographic profile that you allude to are all reflected in those risk measurements as we consider the strategic asset allocation. But this -- it's important to recognize, within each asset class we are not trying to manage the entire risk profile of the fund within each asset class.

COMMITTEE MEMBER HOLLINGER: Right.

MANAGING INVESTMENT DIRECTOR BAGGESEN: We do that across the asset classes, as the tools that we have to manage those risk elements are actually -- in asking -- Global Equity can only protect the downside so much from within Global Equity.

COMMITTEE MEMBER HOLLINGER: No, I recognize that.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Right. So basically there are better tools within the structure of the strategic asset allocation to actually accommodate the real -- the real downside of that exposure.

COMMITTEE MEMBER HOLLINGER: Okay. Thank you.

CHAIRPERSON JONES: Ms. Mathur.

COMMITTEE MEMBER MATHUR: Thank you.

Well, I think this might be the best Global Equity asset class review that we've had, honestly. I think embedding it into the research and sort of what's underpinning some of the questions that the team is asking and the positioning that the team is taking is really helpful to the Board. And these slides are excellent. They're so crisp and really get at -- and really get at these issues. So I want to thank you all very much for this presentation.

It does highlight to me, particularly page 23, that we cannot be managing this portfolio by looking in the rearview mirror. We have to be looking ahead. And that is a very tricky place -- thing to do, because obviously nobody really knows what's going to happen. There are lots of projections. But this really asks the question, page 23, of whether we want to be cap weighted, as, you know -- in our public equities, or whether we want to think of something else that might better capture the global growth moving forward. And that's a really tough question.

So I thank you for posing that and educating all of us.

MANAGING INVESTMENT DIRECTOR BIENVENUE: So first and foremost, thank you for the comment. I can't take any credit. I've got to give all the credit to the team. But thank you.

A lot of thought did go into the review certainly.

I'll also say that when it comes to the benchmark, we are thinking about it. We know that as part of the ALM cycle there's a two-year midpoint where we review the benchmark again. We know we -- there's some stuff on dual-class shares and voting rights.

But then also one of the things is to look at emerging markets, and particularly China, to see if we want to do something -- you know, something that's different from just cap weighting. And there's certainly more -- very early days on the research, more to come. But we'll be coming back with that in a year or so.

COMMITTEE MEMBER MATHUR: And as you note -- I think one of these noted that it might not -- Global Equity might not be the right place to manage the exposures to the emerging markets. And that's also an important question. So I appreciate that the Global Equity team is thinking beyond just global equities enough at the Total Fund level.

MANAGING INVESTMENT DIRECTOR BIENVENUE: Certainly. Absolutely a team effort across the board.

COMMITTEE MEMBER MATHUR: Yeah, thanks.

CHAIRPERSON JONES: Yeah, thank you.

Eric and Dan, I think both of you made reference to cash flow. And are we cash flow negative? And when -- I'm defining cash flow as the contributions versus our payout of $21 billion or $22 billion a year.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Yeah, the cash flow is currently -- and certainly the Finance Office could also comment on this. But the cash flows currently I think are just slightly negative. We're pretty much in balance. And the picture actually gets a little bit better going forward. And that picture getting better is largely driven by the fact that there are incremental contributions that are expected to be paid into the fund over the next couple of years.

So that whole cash flow picture has gotten significantly better than it was in the 2013 asset allocation work where we at this -- in this stage of the game we anticipated we would be pretty significantly cash flow negative.

So basically that neutrality around the cash flow picture allows us to potentially increase our exposure to longer term assets, things like this whole Private Equity discussion that will be coming up later on today.

And also to sustain the risk that is engendered by investing in the equity markets.

So literally you saw for the last fiscal year an 11+ percent return from the asset class. If you're looking at our current fiscal year, that return number is negative. So that kind of volatility, the equity asset class pays off, but you have to be able to maintain that exposure through lots of different economic environments. And that's what the cash flow posture and the improving cash flow posture basically helps enable.

CHAIRPERSON JONES: Yeah. And I'll wait until tomorrow and ask Mr. Cohen what's the number, okay, on cash flow.

Okay. Thank you.

Okay. Seeing no further questions.

Thank you for the presentation.

MANAGING INVESTMENT DIRECTOR BIENVENUE: All right. Thank you.

CHAIRPERSON JONES: Next.

MANAGING INVESTMENT DIRECTOR BIENVENUE: So Nelson and May will step down and let Christine join us up here. And as I say, Christine will give us an update on the Affiliate Program in whole; but then also, you know, specifically on the implementation of the new ALM and strategic asset allocation that you saw in April, May, and June.

So with that I'll turn it over to Christine.

INVESTMENT MANAGER REESE: Thank you, Dan. And good morning, Mr. Chair and members of the Committee. Christine Reese, CalPERS team member.

So before I get started in the presentation, I wanted to acknowledge that I may be presenting but that my team is -- you know, is very dedicated and has quite a few contributions to the management of these funds. And then joined here with me today in the first row are two of my team members, David Carmany and Katie Karl.

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INVESTMENT MANAGER REESE: Thank you.

So to get started, I am going to cover a little bit of background on the Affiliate trust funds, provide an investment update and a business update. And within the appendix are further details covering the points that I -- that I verbalized in the presentation.

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INVESTMENT MANAGER REESE: So on slide 3 are the eight Affiliate trusts that we manage in the Investment Office, and they are segregated into the four styles of funds. And the important point here is that each of these trusts are established by law. They have different beneficiaries, different legislative mandates, and IRS treatment, which leads to a unique and individualized asset allocation and investment strategy.

So although we tend to maybe talk about the affiliates as a group, they are unique and they do require individualized investment management.

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INVESTMENT MANAGER REESE: With regard to the investment update, with growth and performance at June 30, 2018, our assets under management were 16 and a half billion, up 77 percent within the last five years. And both investment returns as well as contributions are driving that growth. CERBT is one of the Affiliate trusts that has seen quite a large growth factor. For example, in Fiscal Year '17-'18, the CERBT trust grew by about one and a half billion, with a billion of that being from contributions alone. And we expect for that particular trust for the growth trajectory to remain into the near future.

For investment returns, our investment belief number 6 states that strategic asset allocation is the dominate determinant of portfolio risk and return. A lot of our affiliate trust funds are multi-asset class funds wherein we invest in equities, bonds, TIPS, commodities and REITs. And as Dan mentioned earlier, we set the asset allocation strategic review earlier in the year and what we see for performance when looking in the rearview mirror is that, from times past, the -- the returns are aligning with our strategic asset allocation objectives.

And then investment belief number 8 states that costs matter and they need to be effectively managed. And one of the ways that we do this for the Affiliate funds is by investing in institutionally managed index funds with low cost profiles and fee profiles, as well as utilizing technology to manage the various funds, their various mandates, in an efficient and effective manner.

So diving in a little deeper into the asset allocation implementation. Back in April, May, and June we came to the Committee for review and approval of the strategic asset allocation for the funds. And since that time, we have partnered with our Investment Office -- many Investment Office teams as well as other CalPERS teams such as Program Administration and Legal, as well as our third-party partners to effectuate this change. And because we have so many different trusts, they all require something slightly different. So, for example, within the Supplemental Income Program that required a fairly extensive communication campaign to the 30,000+ participants.

Along with that, we worked to structurally set up the systems and documentation. And we were able to trade to the new allocations at -- as of October 1st. And we packaged that with our regular quarterly rebalance of the funds for an efficient and effective trade.

And then one thing I want to mention is that with the allocation there were two other elements with regard to the SIP funds. One was that we changed the glide path for the target date funds from a "to retirement" to a "through retirement." And effectively what that means is that through retirement each of the target date funds will have a higher allocation to equity.

And then we also were able to launch the 2060 fund.

Moving into our business update. So for 2017-18, in addition to the asset allocation review, a large component of that was the defined contribution review wherein we worked with our consultant, RVK. They looked at the demographics of the population and in the funds and created a custom glide path specifically for our CalPERS funds.

As well, we worked really closely with the investment risk and performance team on implementation of the global investment performance standards, also known as GIPS, for several of the Affiliate trust.

And then looking ahead, for 2018-19 we've already completed the implementation of the asset allocation. We will be looking into the California Employers' Pension Prefunding Trust. And It was recently signed by the Governor. The legislation will go into effect in January. And given that there's a ramp-up period to implement something of that nature, we would be looking to launch that in Fiscal Year 2019-20.

And then, lastly, we are -- this year we'll be looking at implementing a fairly significant technology upgrade with our systems provider.

So that concludes my prepared remarks. And I'm happy to take any questions.

CHAIRPERSON JONES: Okay. Well, I see no questions. So thank you very much for your presentation.

So we move on to Item 7b, Consultants Review of the Global Equity Program.

Wilshire.

MR. FORESTI: Good morning. Steve Foresti --

CHAIRPERSON JONES: Your mike.

COMMITTEE MEMBER MATHUR: Your microphone, Steve.

MR. FORESTI: Good morning. It's always the biggest challenge for me is getting the microphone turned on.

(Laughter.)

MR. FORESTI: Good morning. Steve Foresti, Wilshire Consulting.

I'm not working off of slides today, but I'll make some comments summarizing the opinion letter that we put together for the annual review, which I believe is on -- in your deck is pages 343 --

CHAIRPERSON JONES: 44 and 45 -- 344 and 45.

MR. FORESTI: Right. So let me just take a second just to talk a little bit about the process that we go through.

We have throughout the course of the year, the Wilshire team, has calls with senior members of the Global Equity team. Those tend to take a pretty common structure, which is to review any staffing issues, to talk about portfolio positioning, to discuss performance, and then any other miscellaneous items. So that's just an ongoing conference call that we have with the Global Equity team.

And then in preparation for the annual review, we do a full onsite within the CalPERS offices, meeting with again both senior members of the team as well as key members of implementing the Global Equity strategy. So we do that onsite this July.

And that all feeds a common research model that we use, not just for this sort of assignment but in our manager research process in general. So the evaluation that we put together, which is on -- summarized on page 5 of the Wilshire letter, essentially goes through that model. And it looks at functionally what we think are the key components that every asset management, again whether it's a private asset management firm or an asset owner such as CalPERS, who's managing money and implementing a portfolio, needs to go through. And it starts with a review of the organization. There we look both at the organization at large, which we would refer to as the firm part of this scores, as well as the team.

The firm part of the score would be something that as Wilshire looks across the various programs that we review on an annual basis would be consistent across those. So when we did the -- for example, the Global Fixed Income review in September, my colleague Tom Toth talked about that firm's score and how we had a reduction in that score from the previous year was simply just indicative of some of the high level turnover experienced in CalPERS in the last year, and that's with the -- you know, the departure of the CIO and a new CIO coming in place and a change in leadership at the COIO position.

So that's something that took a slight step back, which would be, you know, as we look at asset management firms if we saw that sort of CIO level turnover would be something that just creates a bit of organizational risk, and that's reflected in the score.

You know, as these positions become stabilized and integrated across the platform, that's an area that we would see again as we see that stability in a year or so ticking back up again.

But our current score, that was one place where there was a step back.

When you combine the strength of the Global Equity team with that overall organizational score, that would be -- we would refer to that as if the -- our scoring mechanism puts these across deciles. So if you think about 10 tiers, with a 1 being the highest score, top decile, for example, and a 10 being at the bottom; overall, first two deciles we would refer to as an A, the next two would be a B, et cetera. So overall a team receiving a B, when that's coupled with the organizational score that we discussed a couple of months ago, overall org score would be a C.

All other components of the scoring - and that would be information gathering and processing a portfolio, forecasting, portfolio construction, implementation and attribution, those are all highly scored at an A or a B level. Our review of the program -- I should take a step back because I think it starts with what the objective of a program is. As Dan and team just described, the focus here is a risk-controlled, low-tracking error, something in the 50 -- from zero to 50 basis points of annual tracking error, low cost implementation. So as we review the program, how it's set up, the governance, the risk controls, we're very much reviewing it against the objectives that the program is designed to achieve. And as we look across the portfolio, everything we see in terms of the way the portfolio is structured is very consistent with the objective of the program, namely, again that low tracking, every targeted risk level and low cost. So that shows up in places like index-oriented strategies. Those would be the low-tracking error type strategy as being a little over 60 percent of the portfolio. Those are also, by the way, very low cost for implementation. Also, the program being designed with 80 percent or so internally managed, that obviously is a way to keep the costs and maintain controlling over the program.

So when you look across that process at all, it's very consistent with the objectives.

In staff's deck, I think it was page three, where Dan and team shared the risk characteristics, much of what we've seen in terms of implementation of the strategy in the past handful of years is some shifts from traditional active type of approaches just to some more of these systematic, they're referred to in the category of alternative beta, but alternative beta strategies, which squeezes out of some of the systematic elements that you sometimes find in traditional active management but delivers them in more targeted strategies that are fee appropriate for the exposures and the risks that are being taken. And you see that again with the value tilt that the program had, you see it in some of the other quality-type measures. So those are very intentional systematic and targeted exposures.

We do note in our letter one of the I think strengths of the program is portfolio construction and the rich set of risk tools that the team has at their disposal. I think you saw a little bit of that today. But there's a really deep set of other analytics underneath that, you know, including down to characteristics about ESG measurement.

We did note in our letter the performance that was referenced by staff in the fourth quarter of the fiscal year where some of those defensive tilts really worked against the portfolio. Indeed, all of the 40 basis points of underperformance were realized in that quarter. Again, that was not, you know, a failure of a risk system or something that was unforeseen. That was a very intentional position put in place by staff. It didn't work out in that particular period of time. It certainly in recent weeks here it's probably working out very positively for the portfolio.

But that's a thing that -- I think that is something, as we noted in the letter, to keep an eye on just going forward. As much more of those tilts are structural in nature, there has been a tick up in excess returns. Our view there would be it's much more indicative of the market environment and cycle that we're in. Just a huge dispersion in recent months between using one of those factors, growth and value. Probably not something that's indicative of the type of risk you'd expect from that factor going forward or over the long run but really is materialized in the short run.

So something to keep an eye on again with the structuring the portfolio, but nothing that's of significant concern to us.

From our perspective we'd be more concerned about unknown risks, risks that materialize by surprise rather than something that was a known and understood position within the portfolio.

One last comment I'll make. And we again mentioned this within the context of the letter. At the end of the previous fiscal year, so coming into the end of the '16-'17 year, the execution services function, which was formally a part of the Global Equity team, was moved into a centralized function. That now falls under the opportunistic strategies group. You know, that move to a centralized function I think makes a lot of sense. It was certainly supported by the Global Equity team. We simply highlight it because as a centralized group, some of the control that Global Equity had over that particular function is obviously lost and now shared with the organization at large, which simply just highlights a potential issue in terms of prioritizing against other program-wide interests. So that's not to highlight that that risk has materialized anything important, but it's just something to keep an eye on going forward as it gets more integrated into the full organization.

With that, I'll pause and be happy to take any questions you may have.

CHAIRPERSON JONES: Okay. Thank you very for your comments.

Ms. Yee.

COMMITTEE MEMBER YEE: Thank you, Mr. Chairman. Thank you for the review.

I have a couple of questions in your letter that you reference. And one was the statement about bringing some third-party services related to the Global Equity in-house. And I wanted to see if you could elaborate on what those might be.

MR. FORESTI: So that was around some of the proxy voting and some of the activities around those functions where some third-party organizations are leveraged upon, and by separating the functions. So if you go back a couple of years where these functions were all underneath one team and they were kind of split between Corporate Governance now and the Global Equity platform. There's a sense among the team that they will be able to bring some of those activities in-house and potentially, you know, save in external costs. But it's around proxy voting and those sorts of elements.

COMMITTEE MEMBER YEE: Okay. That's good. Thank you.

And then you also noted that the staff do access data through MSCI and Sustainalytics with respect to the global companies and those are measured on each of the three ESG components. And I was curious as to whether the process used for that also applies to -- can be incorporated into our passive index investments as well. Or is that just...

MR. FORESTI: Well, you know, I think it can be applied anywhere. The main use at the moment is working with external providers in terms of understanding a rationalization for specific positions in a portfolio. So the way these -- the comment you're referencing within the letter specifically speaks to monitoring where there are exposures and potential issues, and then engaging with managers who hold that position. To understand the rationale for the position and really challenge that rationale.

It certainly could be applied on the index side of things. But typically those are rules-based implementation, so it doesn't have direct application. Where it might have application would be on tilted type of strategies. And perhaps you heard about a couple of the ESG-focused strategies that were implemented this past fiscal year. But I think more application there.

I did comment that along with the rich data set - you saw elements of it - the two providers you mentioned on the ESG side, Sustainalytics and MSCI, those are just more statistics that the team can look at in terms of whether it's a targeted level. And there are some data issues when it comes to ESG data, that this is not uniform across vendors in terms of what stats appear. But you can -- you can kind of monitor those -- those exposures through time; and to the extent that there's a preference to tilt in certain areas and indeed some of the structural implementation that you have, namely, you know, some of the divestment programs that have been approved by the Board, that would show up in some of those statistics. But the comments in the letter were more about engagement with external vendors in terms of holding positions, that might show up on any ESG type of risk dashboard.

COMMITTEE MEMBER YEE: Great. Thank you.

CHAIRPERSON JONES: Yeah. The low letter grade for firm in your report, is that primarily due to our two managing director vacancies? And also the poten -- the leaving of the CIO, is that included in this low grade?

MR. FORESTI: That's all included. So that grade from the previous fiscal year in our scoring moved from a C to a D. The C is the -- just by virtue of comparing the structure of CalPERS, the ownership structure, the incentive tools that are available to the organization versus some of those incentive tools that are available to private asset managers. So that -- that's a part of the previous scores. What reduced the score from the C to D is purely that level of turnover, at CIO level and COIO level. Again, and that's something that, you know, as we move forward in things, stabilize and get integrated, I would very much expect to see that again -- if we see the stabilization, expect to see that tick back up again.

But part of it is a big contributor, just the structure of a public organization such as CalPERS compared to peers. And that essentially is just some of the challenges in terms of attracting and keeping staff.

CHAIRPERSON JONES: Okay. Thank you.

Ms. Mathur.

COMMITTEE MEMBER MATHUR: Thank you.

I noted a couple of -- thank you for your memo. It really helps to have -- one of the things that I really appreciated about it is that you highlighted some of the sort of strengths of the program and some of the challenges.

One of the things that I particularly appreciated was, on page 7, you say the collaborative process promotes a consistent, thorough, and objective analysis of investment decisions and provides input, independent advice, and perspective to the MID to reach an informed decision concerning multiple points of view. And that is exactly what we want to see is a respect and consideration of a diversity of views, good discussion and deliberation, and ultimately strong decision making. So I appreciate that that's happening in this asset class and this program. And I thank you for highlighting that to us. Because obviously that's something that we, as the Board, we can't be in there every day seeing how the -- how the sausage is made, and it's really useful to get that feedback.

So that's really what I wanted to say. Thanks so much.

MR. FORESTI: Sure. If I could just make one comment on that.

COMMITTEE MEMBER MATHUR: Yes.

MR. FORESTI: You may recall I think it was two years ago in our review one of the points of focus that we had in terms of a potential risk was very much around the

Committee structure that was set up. And the GE program is essentially run -- the decision-making framework is through a global equity, Capital Allocation Committee, then subcommittees to that. And that was being put in place a couple of years ago. And we just had concerns that it -- it didn't seem very well defined.

And in last year's review we actually noted that, as a point of improvement because we saw, A, some structure come around that, and in retrospect as we look back at it, I think some of what we saw that we had flagged was very much intentional by the MID and other senior leaders to draw other colleagues from the Global Equity team into the decision-making process and provide opportunity to contribute, in a meaningful way. And then through time - and it's been a couple of years now - that has formalized to a more I think stable subcommittee structure where there's involvement, not just from people in GE but there's involvement on these committees from some of the other asset class programs. So again that was something we flagged as a potential risk a couple of years ago that I think is really stabilized and is a strength of the organization at the moment.

COMMITTEE MEMBER MATHUR: Terrific. Thank you.

CHAIRPERSON JONES: Yeah, one other question on the letter.

On page two, under "Overview," you call out additional monitoring needs to occur to determine whether it's merely a reflection of anomalistic versus symptomatic outcome of events in terms of our risk level taken.

Could expand on what kind of monitoring you're talking about.

MR. FORESTI: Sure. So, Mr. Jones, that's consistent with a comment they made earlier about, you know, some of these factor tilts, and the way that those intentional positions have actually led to excess return. And again in the fourth -- fiscal year fourth quarter led to negative excess returns.

Now, those month-by-month variances seem very large, and indeed they are against a program that otherwise has been running well below its tracking error limit. So we're just highlighting that since those variances have materialized and they look like things that are extreme, we think it's more that the market environment that we're in right now is extreme in terms of the relationship between some of these factors and how volatile they are against their kind of expected history. That being said, we didn't want to discount it. So we're just flagging that is something to monitor, which is to be very specific about it, the risk estimates versus the realized risks. And since these positions are being very intentionally taken on some of these alternative betas, just monitoring the ability of the system to predict tracking are just something important to watch. Now, you know, our sense would be that some of what we've seen in the recent past is extreme because of what's going on in the market rather than a failure of a risk system. We just merely flag it because its something to keep an eye on going forward. That's all.

CHAIRPERSON JONES: Okay. And does that chart on page 3, Exhibit 2, is that -- does that reflect the comments that you just made in terms of the tracking error?

MR. FORESTI: It does. So that reflects -- I'm glad you noted that because that does reflect that over kind of any reasonably longer term period of time - and we show this 3-year roll - you see that the program has stayed well within that 50 basis points or less of tracking error. You know, albeit, it has ticked up in this recent past. But absolutely. So even with this tick up, in a rolling 3-year basic, this tick up being over the last year or so, it's still well within that tracking error.

Now, should what we've seen in the last six months or so continue for the next three years, then I would expect that line to come over the 50 basis points, which is precisely kind of what we're highlighting. I would not anticipate that we see that. But, look, maybe markets have changed and they're -- we're just systematically in a different regime. I think that's probably unlikely, but that's precisely what flagging.

CHAIRPERSON JONES: Okay. Thank you.

Ms. Taylor.

COMMITTEE MEMBER TAYLOR: Yes, thank you.

As you guys were talking earlier, I just wanted to ask again. So the low score is because of the turnover -- partially because of the turnover we're experiencing right now. And you said you would -- or kind of given us a low score last year as well. You moved from a C to a D. Is that correct that I heard earlier?

MR. FORESTI: Right. So at the firm level. So that's one component of the overall organization support.

COMMITTEE MEMBER TAYLOR: Right.

MR. FORESTI: Last year we scored that component as a C. So think about that as median.

COMMITTEE MEMBER TAYLOR: Oh, and you moved it from a C to a D.

MR. FORESTI: It moved from a C to a D entirely because of the issues with senior level turnover.

COMMITTEE MEMBER TAYLOR: Great.

MR. FORESTI: The C is not -- I wouldn't

characterize the C as a transient, something that we really expect to change. But moving, you know, again as we see things get integrated and stabilize, very much would expect if things progress the way they're expected to, that that's -- that D would return to a C at some point in next year or two.

COMMITTEE MEMBER TAYLOR: And you had said earlier too that you didn't expect that C to change. So we don't make it up to a B or an A because? Any specific reason?

MR. FORESTI: You know, that's just an -- and it's -- it has to do mainly with just the organizational structure and those incentive packages that are available to CalPERS.

COMMITTEE MEMBER TAYLOR: Oh, okay.

MR. FORESTI: This has been a issue that we talk about every year, and it's not --

COMMITTEE MEMBER TAYLOR: It's compensation.

MR. FORESTI: You know, you can look at the staff members that come in front of you all the time, and you see some of the high quality people in the industry. So it by no means suggests that attracting, you know, top tier individuals in this industry can't be done. Indeed it can. It's just that, look, let's face it, there are people out there that are going to be attracted by one thing and one thing only. And they might not be available, you know, to CalPERS or at least maybe not to stay here for the long haul. We're just simply highlighting that risk. It's not a -- you know, it's not an unsurmountable risk. We just highlight it because it is indeed a risk and it's a competitive -- I don't if disadvantage is the right word -- but it's a competitive issue in terms of attracting and retaining talent.

COMMITTEE MEMBER TAYLOR: Okay. I understand that. I didn't --

MR. FORESTI: We're not putting here forth that there's something you can do to change that. And, indeed, I think there's been -- you know, we talked a little bit about the committee structure. There's other ways beyond some of these compensation packages to attract people that have diverse interests in terms of the quality of work that they do and the involvement and their ability to influence and contribute to a process. And I would commend staff for taking full advantage of those and making it a -- you know, a very I think rewarding place to work and contribute.

COMMITTEE MEMBER TAYLOR: Yeah, I will reiterate that as well. I think that the folks that we have here who aren't getting the millions of dollars that they could get on Wall Street are here for a service to the State of

California, and I do appreciate that work that you guys do every day.

I also had one other appreciation that I wanted to give to Global Equity and to Wilshire. One of the paragraphs here was talking about our ESG scoring component. And as a key metric demonstrating evidence of progress - I thought that this was amazing - the 95 percent of programs' external partners, internally and externally managed strategies, currently have established ESG policies up from 20 percent. That's amazing. So thank you all for your work in implementing our strategy.

Thanks.

CHAIRPERSON JONES: Okay. Thank you. That concludes that item.

MR. FORESTI: Thank you.

CHAIRPERSON JONES: The next item is Private Equity Annual Program Review. And I would -- before we begin the Private Equity Program Review I want to remind the Committee that there's a separate closed session item to discuss the Private Equity business model.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Sure. The private Equity Program Review will be conducted by Sarah Corr and Mahboob Hossain. And also John Cole will be joining that to provide some comments after Sarah and Mahboob do their commentary on the outcome of the program recently. John will be giving that forward point of view.

(Thereupon an overhead presentation was Presented as follows.)

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Good morning. Sarah Corr, Investment Office staff. I'm joined by my colleagues, Mahboob Hossain and John Cole. Today I will walk through the performance of the Private Equity Program, some portfolio characteristics, and recent and upcoming activities.

Mahboob will provide a high level overview of the current working environment. And, finally, John will provide an update on CalPERS current thinking about the strategic business model for Private Equity.

Before I begin I would like to acknowledge the efforts of the broader Private Equity team in preparing this agenda item.

Additionally I would like to thank the Private Equity team for the focus and dedication of implementing the business plan despite numerous distractions throughout the year.

What we see here before you is the support of 30 people across the street that allows the Private Equity Program to operate effectively.

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INTERIM MANAGING INVESTMENT DIRECTOR CORR:

Moving to the fiscal year performance. While on an absolute basis the performance was strong for the fiscal year at 16 percent, the return did not exceed the policy benchmark. However, as a long-term investor and a long-term asset class, it is important to take a longer view and to take into consideration the role of the Private Equity within the strategic asset allocation.

The role of the program is to enhance the Total Fund equity return. In all time periods the performance exceeded the expected return for the asset class, as well as the Global Equity benchmark. In the 10-year, the Private Equity Program exceeded Global Equity by 230 basis points, and in 20-year by 460.

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INTERIM MANAGING INVESTMENT DIRECTOR CORR: I'll now show the portfolio characteristics. The Private Equity portfolio is largely exposed to the buyout strategy, which has consistently been the best performing strategy within the portfolio. Over the past few years the allocation to the credit strategies has come down. This is the result of private credit strategies now being covered by opportunistic. It is likely this allocation to buyout will continue to increase over time. As you may recall the Private Equity policy was revised in August to reflect the changing position of the portfolio. The target to credit was decreased by 5 percent and buyouts was increased by a similar amount. Those new targets are reflected on this slide.

I will now turn it over to Mahboob to discuss some dynamics of the current market environment.

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INVESTMENT DIRECTOR HOSSAIN: Thank you, Sarah.

This is Mahboob Hossain, Investment Director, Private Equity.

I'll start with some comments on the market from slide 4. And then our capital allocation from slide 5, with some additional highlights from slides 18 and 19.

To start with the market. Overall environment continues to be very conducive for fundraising. And valuations are quite high for transactions being completed.

Many institutions are increasing their capital commitments. And managers are also raising bigger and bigger funds. However, record fund raising has created some overhang in the market. And according to some estimates, there is about a trillion dollars of committed but uncalled capital.

It should be noted that the market has also been very robust for liquidity, and CalPERS Private Equity portfolio has generated about 3 to 4 billion dollars of positive cash flow for last several years.

One additional comment on liquidity. While there has been a rising trend of manager-to-manager transaction for our portfolio, this has been limited to about 10 percent of exits in last three years.

Now on capital allocation, we have maintained a steady pacing rather than being reactive to the fund-raising environment. During the last fiscal year we committed about $5.3 billion and for this year we are on plan to deploy at least $6 billion.

Thank you very much. I'll now refer back to Sarah.

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Thank you, Mahboob.

I would like to close this section out with an update providing a short review of what we accomplished in the past year as well as what we'll be focusing on this year.

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INTERIM MANAGING INVESTMENT DIRECTOR CORR: As Mahboob mentioned earlier, CalPERS closed on commitments totaling $5.3 billion during the past fiscal year. Staff also released the first report related to AB 2833 which increased the transparency to the public about fees and expenses paid by CalPERS related to the Private Equity

Program.

The second report will be provided to this Committee next month.

A significant milestone that was achieved during the fiscal year was the implementation of PEARS. After four years all the agreed-upon functionality was implemented. While the implementation is complete, staff will continue to work with the vendors to augment the functionality and reporting available to staff to enhance the investment analysis during the investment decision-making process.

Looking forward, areas of focus for the current year, staff has a full list of objectives. Aiming area of focus will be a collaborative effort between Private Equity, Global Equity, Total Fund portfolio management, and investment risk and performance to develop an operating model implementing a holistic approach to the growth segment, which will include aggregating exposures across both private and public equity.

As Mahboob mentioned earlier, the program's on track to commit an allocation of up to $6 billion. Evaluations are currently close to all-time highs. In private markets it's important to remember that the commitments that will be made today will be invested over the next five years.

While we do not have a crystal ball, we are nine years into a bull market. It is more likely than not that a portion of currently uncalled capital will be invested in more favorable multiples.

CalPERS continues to collaborate with an investment -- institutional limited -- on a number of initiatives.

Staff has been involved in the creation of a portfolio company reporting template, which is currently out for comment and has not yet been launched.

Additionally, staff participated in the development of guidelines creating a code of conduct organizations can use to create policies related to harassment, discrimination, and workplace violence.

Finally, the ILPA due-diligence questionnaire was enhanced to incorporate questions related to diversity inclusion with the investment Office staff of external managers.

I will conclude my remarks by stating it's been a busy and productive year for the private Equity Program. A significant area of focus that has not been commented on yet is a strategic business model for private equity.

I will now turn it over to Ted for a brief comment before he gives an update to the Committee.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Great.

Thank you so much, Sarah. Sarah and Mahboob, I just want to thank you both for your leadership of this Private Equity Program over the course of the last 18 months, during a time of, you know, important review and strategic thinking by this Committee and our entire organization, our entire staff about -- thinking about ways we can invest in addition to our traditional model of investing in private equity. And the work that Sarah and Mahboob have done in running the traditional model of private equity investing has been exemplary. You can see the amounts of capital that they've been able to put out in a steady and risk-aware manner over the course of the last 18 months. They've actually been able to increase not only our capital commitments and access to the strategic partners that we have, but I believe over the course of the last 18 months we've been in just about every first closing, which shows just a big uptick in efficiency in how the staff operates, and it really has to do with the leadership of Sarah and Mahboob overseeing this program.

John has a really good I think summary he's about to give you in terms of an update on, you know, the business model. Looking at the four pillars that we've discussed before. And really pillars 1 and 2 are the traditional private equity fund model, both the traditional private equity general partners as well as our emerging and transition manager program. And as you can see, that work continues, our 20+ year history of investing in that space continues and is really well organized and well led within our Private Equity Group, and will form the major substantial part of our Private Equity Program going forward

What I thought I would do is just highlight what we see as new in the pillars 3 and 4 that we're all discussing and have been discussing; but what new things can we add into the Private Equity Program in order to invest -- invest at greater scale and in different areas than we traditionally have been able to. So I just wanted to underscore three or four points of what's new about what we've been talking about, and then really underscore what's not new about pillars 3 and 4, you know, what's really old and tried and true, and so that the Committee can really understand the evaluation of pillars 3 and 4, and think about the risks of the newness versus what's not new in terms of these pillars.

In terms of what is new in terms of these new, you know, pillars 3 and 4, and these are not a surprise to this Committee. It's what we've been talking about for a couple years now.

Number one, these pillars allow us to construct partnerships vehicles, that had a long duration, much longer than the traditional commingled fund. And they allow us to create a partnership that we can set an evergreen or indefinite investment horizon, which really much more closely matches the long-term horizon of CalPERS. That would be new versus the traditional commingled funds that have a four-year investment cycle and an eight-year time period versus a long -- much longer duration period. And we get all the benefits of that duration by thinking about these new strategies.

Number two, we're able to specify; for instance, we've specified in pillar 3 a technology and life science focus, and in pillar 4 we've really focused on the long duration, real economy type companies. So we're able to put a specified focus on what CalPERS investment objectives are for our portfolio versus the trillion dollars of dry powder that's out there which really the Global Equity commingled fund is telling us what those objectives are.

In these pillars 3 and 4, we're able to specify what CalPERS wants within the portfolio much more directly. That's new.

Number three, and really the last of the three points, is we think we may be able to achieve better alignment of interest. And that's why we say with humility, may be able to. And principally, we have -- we have the opportunity to create a partnership where we have fees based on a budget versus assets under management. And we think that is -- will provide better alignment for CalPERS going forward.

We're also able to specify the incentive measures that are more specific again to CalPERS objectives versus what we might get off the rack in the commingled fund offering.

So those -- those are really what's new about these opportunities and what John will cover in pillars 3 and 4.

What's just as important I think is what's old and tried and true for CalPERS. And that's the method by which we would invest in pillars 3 and 4. And what we've settled on is a partnership structure. Now, during this -- during this journey over the last 18 months to two years, together we've talked about lots of ideas and lots of possibilities and alternative ways to invest in these two pillars.

Could we create a company and own 100 percent or part of the company? Could we bring this in-house? Could we set up -- could we buy a company and own it as a captive. And we looked at all of those and we -- what really settled on is that the traditional partnership structure, where you have a general partner and a limited partner, is really the structure that we think is best suited to -- best suited to pursue pillars 3 and 4 into the future. And what -- what that means is, it's a structure, a partnership structure that we've used hundreds and hundreds of times over the last couple decades in our Real Estate portfolio and our Infrastructure portfolio, and in the traditional Private Equity model.

Those commingled funds are structured as partnerships where you have a GP. But you have many LPs. And that's the second piece about what we're proposing, is that this separate account partnership structure where there's a GP - that we don't own - a GP and one limited partner - CalPERS at least initially - is the structure that we think works best for us going forward. And again, that is something that we've experimented with - more than experimented with - we've used quite deliberately in our real estate and infrastructure program for over 20 years now.

A separate account partnership agreement is something that we have tremendous experience with, over two decades of experience with. Our staff, our collective Investment staff, our legal team, our compliance team, we all have a lot -- decades worth of experience of working in the form of a partnership agreement. It's really nothing new to us, and it's actually more than that. It's something quite established for CalPERS and it's really right within the core competencies of our staff, and investing through a partnership structure with a general partner and an LP.

And, you know -- and the last piece of what's old is what I alluded to at the beginning. We are going to continue with the substantial investment in the traditional private equity model side by side with these two pillars 3 and 4 should the Committee ultimately, you know, approve that strategy going forward.

So that from a risk standpoint, we'll have a substantial portfolio of our traditional Global Equity commingled funds -- our private equity commingled funds, and we're looking to add two new types of partnerships, one focused to technology, the other at long duration. But those partnerships are forms that we're very familiar with and have quite a substantial experience, as I said, throughout not only Investment staff but throughout our enterprise. And that's really what I wanted to underscore. And I know that John has some more information. And after -- maybe after John speaks it might be time for Q and A.

CHAIRPERSON JONES: Okay. John.

INVESTMENT DIRECTOR COLE: Thank you. John Cole, CalPERS staff.

Before I dive in and talk a little bit about it, I wanted to share with the Committee the fact that I've had the opportunity over the last couple of weeks to be with stakeholder in stakeholder meetings where a chance to describe what we have talked about in public session, most recently in September, and also to have the opportunity to respond to questions and hear what's on people's minds. So what we hope to accomplish today is to fill in some of those questions to make sure we address what we think have been some misinterpretations or maybe lack of information, that help us move along as a committee in your case and as a staff in thinking about an execution phase.

So that's I think an important step. And what I want to do is to follow on with that with my remarks here.

So I'd like to start by briefly reviewing what we set off to do two years ago. And that was to take an in-depth study and look at our strategic business model in Private Equity.

Two years ago, as you'll recall, we were completing our asset liability management process, the ALM process, where we look out over 10 years to forecast investment returns by asset class, and determine our total fund strategic positioning for the next few years.

As you know, today our required rate of return stands at -- or to be 7 percent and to pay the -- in order to pay the promised benefits. And the funded ratio is approximately about 71 percent.

Our ALM process resulted in forecasts by asset class where only one had a projected return greater than 7 percent. That was Private Equity. In CalPERS Total Fund our Private Equity proportion has gone down over the past two years from a high of about 12 percent to now about 7.7 percent. That represents about $28 billion invested today. And that has been a result of committing at about a $5 billion per year rate over the past number of years.

At our current path, we will continue to trend down as a percentage of the Total Fund. So at a time when we would like to have a growing presence, we have a diminishing one. The scale necessary to move back towards 10 percent, which would be our longer term goal in the fund, translates into more than double our current commitment rate.

Now, several questions arise. A lot has been written generally about how much capital is going into Private Equity and how high valuations are. And as Mahboob pointed out, both are true. To the first point, the overall Private Equity market is growing very quickly due to a number of factors, including - and we've touched on this I think at our offsite back in July, 18 months --

or more than 18 months ago - and that's that the number of public companies in the United States is one half what it was 20 years ago, and there's been a steady slide to get to that level, roughly 3600 companies down from roughly 7200 companies.

And also, the number of companies that are private and have chosen to stay private has grown dramatically. And along with that, the size of companies that are private has also expanded dramatically. They -- we've referred to the term "unicorns." That's companies with a market capitalization greater than a billion dollars. There are now hundreds, not only in the United States, but in China and elsewhere around the world.

So the opportunities and the implications for our -- particularly our innovation direct investment vehicle, which would be focused on the nexus of technology, life science and health care, are very positive around those developments that have been occurring.

As to the high valuations, we are very aware, and reminded by experience. CalPERS in 2006 and 2007 chose to permit -- to commit very large amounts of capital that was put to work just in front of the great financial crisis. And we suffered the consequences. Learning from that experience, it's our intention at this stage to be prepared for the inevitable end of this cycle. As Ms. Mathur pointed out early on, we don't know when and we can't have confidence in predicting. But we do know that what it means is that we need to be ready to invest with a team in place, having established relationships, and ready to take advantage of market disruptions. And if we're not there in advance, we'll be unable to do that.

That all must be done in advance, and that's why now is an opportune moment to get ready.

More. More as to why. We're seeking higher returns. We are willing to accept some higher risks but in a very targeted fashion. So that consideration that Ted described that we've undertaken over the last two years has been very focused on identifying where risk makes sense for us, where we supplement our current access to the private equity market and where combined we can create a larger amount of capital providing higher returns.

We want to better align our interests with general partners who can in this instance -- and I'm now talking specifically about pillars 3 and 4, that is what we've referred to as our direct investing approach. General partners in these two areas would serve the mandate that we have determined. It would be very tightly defined, including incorporating processes around our values, our beliefs, our principles, and most importantly the objectives that we want for the funds and their investing.

A great contrast being in the traditional world where general partners have -- where our relationships are primarily through commingled funds, which have dozens, literally dozens of limited partners, and a term that tends to result on a focus on the shorter term horizon, several years, again as Ted noted.

And therefore a playbook that often emphasizes the use of leverage and paying out dividends quickly and early, cuttings costs, and often selling assets. Those are part of what comes with a shorter time horizon and have been present in the -- broadly in the private equity world. And there's an effective place for that. It makes companies better over time, but it is not the sole way to create value.

In our horizon entity for direct investing, by having no fixed term, no time when we put pressure to have to sell to realize the end of a contract period, we are incenting behavior that results in long-term value creation and promoting growth - growth focusing on investing in the business, investing to maintain competitive advantage versus technology disrupters, and by expanding into new products and new geographies that over the long run create jobs, generate cash flows for long-term dividend and build sustainable contributions to society and to the customers.

With that as prologue, allow me to describe what we've learned.

Over the past two-year period we've come to appreciate the need for evolution at CalPERS in order to address our need for large scale investing; the need to anticipate the changes that we expect, in fact believe, are coming in the private equity business; and the need to put ourselves into a strong competitive position that takes advantages of our strengths and addresses some of our challenges as a public -- large public organization.

We come to this without a desired outcome except to build a structure and strategy that is durable, supported by the organization, and allowed to succeed.

Here's how our thinking has evolved. The baseline is that today most of our private equity assets are again, as you know, in large commingled funds. We have reduced the number of general-partner relationships from several hundred to about 90 today and a target of about 40. We think that makes sense in order not to dilute our impact and, as a result, the returns from the entire Private Equity portfolio.

Virtually all that we now commit goes to this model and, as I mentioned, averages about $5 billion per year.

We also have now, and have had, an emerging manager program in place for some time, over a decade, and which is a couple hundred million dollars in size. And that's it. That's basically, simply stated, what exists.

Prospectively we've identified four pillars to a private equity strategy that would provide for an evolution and to increase the scale. First, to maintain an emerging manager program that promotes new blood and new thinking in the industry. Yes, the fees are higher, and we do pay a fund-of-funds advisor in order to work for us in the marketplace. But we can learn much and support this initiative in the investors of the future. And we think that's a worthwhile endeavor and pays long-term dividends to the fund.

This program will grow a bit, but still be a small part of the total portfolio; in fact, less than $500 million of the total.

Next, pillar 2 is the traditional general partner world of commingled funds, where we have a little negotiation leverage and even less control over the investments made and the governance employed.

We've learned a lot here. A year ago, we thought maybe the best -- it would be best to find a large partner in a discretionary role to help us identify good funds, and to expand our relationships to include more co-investing and access to secondary transactions.

We found six outstanding organizations and issued an ASP, alternative solicitation. And those organizations who might serve in that role were outstanding and are outstanding. But we have come to the realization after a lot of analysis and discussion that the structure is unlikely to meaningfully strengthen our position.

So as we complete our search, which will be in early 2019, for a permanent head of our Private Equity team, we will re-examine our options under pillar 2, and consider whether an advisory role in order to supplement our own capabilities is more appropriate and will allow us to extend our -- both our resource reach and our capacity best.

That analysis will occur during the first half of 2019, and we'll be back to talk about that at the appropriate time.

We expect to continue to access commingled funds for the foreseeable future, while adding co-investing to the mix, probably in a similar total range as today, rough -- say 5 to 7 billion dollars in commitments a year.

Our third and fourth pillars are establishing independent captive investment vehicles that have very specific purposes. And by captive, I simply mean that there is a single general partner, and we create -- or we participate as a single limited partner in that vehicle.

They are importantly meant not to compete with our existing general partners, but in fact might likely work together in some instances. And that's why the focus of and attention to what the mandate is is so critical in building the supplement to our existing program.

They together are referred to as -- we've referred to as CalPERS Direct, with a third pillar referenced as Innovation, being an entity dedicated to late-stage venture capital at the nexus of life sciences, health care, and technology.

We expect it to be a vehicle that will invest at a rate of 1 to 2 billion dollars in commitments annually and grow to roughly $10 billion over a decade.

The fourth pillar is -- that we've referenced is referenced as Horizon, which will be focused on core economy companies that with durable business models capable of attractive cash yields over time, with the opportunity to grow revenues by taking advantage of longer term investments and a platform approach to building the portfolio.

This vehicle we expect would invest in larger amounts and likely less frequently, but -- and as a result, likewise would be an entity that grows to also somewhere in the neighborhood of $10 billion over the course of the next decade.

Both vehicles would employ an operations approach, an active supplying of support to help our portfolio companies' investments grow and adapt. Both vehicles would be designed with no fixed term, thus not requiring a short-term payoff for returns or a necessity the sell at a specific point in time.

They would operate independently of CalPERS, with a clear definition of their mandate, routine interaction with senior CalPERS staff - I'm talking about the CIO, the COIO, the head of sustainability and head of private equity, at a routine basis, and their own board of advisors which would be focused on:

Advising the management team about adherence to the CalPERS mandate;

Advising on succession planning, so that we can keep these vehicles as perpetual entities if they work as we intend them to;

Reviewing an appropriate operating budget to make sure that what would have been paid in management fees is paid simply in the amounts necessary to operate the business;

And providing General Counsel and advice on sourcing and other matters.

We feel this buttresses the overall governance; and it reflects the types of partnerships that we've had over the past 20 years, and we've learned a great deal from, particularly in Real Estate portion of our portfolio.

So in summary, the key to success of pillars 3 and 4 is to attract and retain very talented professionals, meaning to find philosophical alignment and to create competitive and compelling economic incentives.

The combination of these four pillars will provide CalPERS:

The capacity to invest in scale and incrementally to the way that we've grown our portfolio to date;

The opportunity to take advantage of economies of scale, so as the assets under management, the vehicles, grow, the rate in which we pay and therefore fees over the long run we would expect to be -- would -- to go down, to diminish relatively; and a chance to create evergreen structures, that incent private equity investing that doesn't just use the playbook that pulls out leverage and cost cutting, but focuses on long-term investments and growth.

We get the chance to embed our values, our beliefs, our principles, and we distinguish ourselves in the marketplace as purveyors of patient, long-term capital investors.

So that concludes my remarks. I'm open for questions for the team.

CHAIRPERSON JONES: Okay. Well, thank you very much for that report and update. And also we'd like to thank you and others for reaching out to our stakeholders and answering their questions regarding pillars 3 and 4 primarily. And I understood that that went very well. And I think we need to have that dialogue with our stakeholders going forward.

And, Sarah, thank you for managing a successful program of Private Equity. And the returns look good and you beat everybody else.

So congratulations on that.

So with that, Mrs. Mathur.

COMMITTEE MEMBER MATHUR: Thank you.

Well, first, I also want to add my thanks to you, Sarah, Ms. Corr, for leading this team so ably and over the last -- I don't know, it's been a long time now, 18 months, in a period of such uncertainty. I think it's really remarkable how effective you have been and the team has been in diligently allocating capital during this really challenging period. So I'm really grateful for your leadership and to the team for coming together around it.

And the PEARS implementation is such a milestone. It's quite an accomplishment. I know it's been a long road, but I think it's really important for CalPERS and for the market to have better transparency around fees and investment analysis.

I did have a question about the ILPA role out of the New Portfolio Company Reporting Template, which I think is an important next step. ILPA -- we've worked so closely with ILPA for many years now to improve how this market functions -- this private market functions. And I think this is important.

My question for you about it is, does the new reporting template incorporate material ESG risks as -- for example, such as the risk and factors such as the metrics that SASB has developed?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: There are a few ESG-related questions in there. The template was recently put out into the public domain for comment, and there was some comment back that there should be some more ESG-related items in there. And that's under review right now. So a new version of the template will be distributed most likely in he beginning of '19.

COMMITTEE MEMBER MATHUR: Okay. I do think -- you know, we've been such a strong supporter of SASB, and

I think that material financial -- reporting financial risks that are related to environmental, social, and governance factors are important for the long-term performance of companies, whether they are public or private. So I would encourage us to support the further deepening of that in the template.

So I thank you for that.

And with that, I'll conclude my questions. Thank you.

CHAIRPERSON JONES: Mr. Rubalcava.

COMMITTEE MEMBER RUBALCAVA: Thank you, Mr. Jones.

Thank you again for the presentation. Each time I come I appreciate all the work that your staff -- that Sarah's staff does. They're professionals. And this area of private equity is always very intriguing to me. I'm learning.

I had a question on -- through the presentation on the program performance of you, Sarah. Chart number 2 is very robust returns. But there was a comment made that it was below the benchmark. But I notice in the appendix, that the bench -- this is as of June 30th -- this return, June 30th, 2018. But July 1 there's a new benchmark. So if you could explain to me how that new benchmark would have impacted this. And why was there a change in the benchmark?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: So I'll start and Eric can jump in if you want to.

The benchmark was changed during the asset liability management work that was done last year. It moved from being two-thirds U.S., one-third rest of world to being the same as the Global Equity benchmark of market cap weighted. And the premium was changed from 300 down to 150.

In the benchmark though it will continue to have the old benchmark in it. And then the new benchmark will show up for the monthly returns going forward.

But all the historic will keep the historic benchmark in there.

You know, U.S. has outperformed the rest of the world recently, and so the benchmark market cap would be slightly lower than it is with the two-thirds/one-third combination.

Eric.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Let me offer a couple more comments, Mr. Rubalcava, in relation to that.

One of the reasons for changing the benchmark structure is a recognition that Private Equity -- the opportunity cost of investing in Private Equity is Public

Equity. So basically the benchmark represents the opportunity cost. Historically the benchmark used in Private Equity actually tried to express some kind of a risk profile. But honestly, private equity is not capable of managing the risks that engender to the kinds of investments that get made there.

So, one of the things that we've been working on is, in an effort to try to merge private and public equities, one of those -- one of the planks of doing that merger is to actually harmonize the benchmark structure and acknowledge the fact that this basically represents an opportunity cost more than a risk profile.

But one of the reasons for merging the two areas together is to try to be able to understand what risks emanate from the Private Equity Program that are intentional from the managers.

So in other words, you have managers that invest in the Private Equity space, and they may invest in economic sectors that they understand the businesses in those sectors very well. But when you allocate capital to those managers, you're creating a tilt in your portfolio towards those economic sectors. Those managers typically do not believe that they are going to make their exposure in that sector perform better than the rest of the entire marketplace. They're trying to make better performing companies within that sector.

So it's this trying to distinguish exactly which risks are intentional and risks that are appropriately accountable to an individual decision process, whether it's an external manager or an internal decision.

But literally the attempt is to try to separate those out. And where we have risks that are just a fallout of managers doing business in certain sectors, then we potentially want to offset those risks so that we don't end up with a bet that is actually not accountable to anyone making a specific judgment about it.

So it's a subtle nuance. But in order to really harmonize these programs and really think about this risk management on a wider basis, you actually need this harmonization of the benchmark structure, and it literally represents the opportunity cost.

So that's the sort of global capitalization weighted relative to the U.S. tilted versus international.

But the hurdle rate for Private Equity also has been changed in the benchmark structure. And that hurdle rate -- you can debate how these calculations should be done, but the expectation for Private Equity has always been that it would outperform the public markets by approximately 300 basis points. But that's -- this is where you get into different kinds of mathematical calculations. That's an arithmetic calculation. So if you're looking at this over time, you would have expected that it would -- any time you did the calculation it would show approximately a 300 basis points difference.

When you turn around and compound those numbers together, given the risk profile that's attached to private equity, the compounded return number that in my mind should have been being calculated for a number of years, it's closer to 150 basis points. And that's because as you move from an arithmetic number to a compound number, there's a volatility element that gets into that. And I think Mr. Miller could probably tell us more about that calculation given his background.

(Laughter.)

MANAGING INVESTMENT DIRECTOR BAGGESEN: So basically we think that what we've done with this benchmark is move it closer to the actual opportunity cost and to the actual numbers that are appropriate to be compounding going forward. And you see that in the historic results that have been generated by the program basically where we think the 150 basis points is our real expectation.

And quite honestly, we do not have any other easy to identify alternatives to try to add that excess value on top of what we extract from the Public Equity markets, which is one of the reasons that Private Equity is such a core component of this. As it has been mentioned, Private Equity is the one part of our asset allocation where we actually expect to earn a rate of return that is higher than the discount rate that were currently being applied to the whole program.

So this is an absolute critical part of that. And if the asset class is not ultimately able to generate that excess return, we'll ultimately have quite a problem with the overall returns that are generated in the structure given the expectations that are there.

So I don't -- hopefully that answers your question a little more completely.

CHAIRPERSON JONES: Okay. We have several additional requests to ask questions. So let's take a 10-men break and reconvene at 11:10. Okay?

And, Ms. Brown, you'll be first up.

(Off record: 10:59 a.m.)

(Thereupon a recess was taken.)

(On record: 11:12 a.m.)

CHAIRPERSON JONES: And the first request to speak is Ms. Brown.

COMMITTEE MEMBER BROWN: Thank you.

I want to start where we left off with the Private Equity performance. So that's Attachment 1, page

2.

And so, Mr. Baggesen, you were explaining about why we change the way we valuate it from 300 basis points essentially down to 150 basis points. But we -- so currently we're underperforming on the benchmark. But my concern is, if we make it down to 150 basis points, so we might make the benchmark, but how do we no if it's worth the risk?

MANAGING INVESTMENT DIRECTOR BAGGESEN: Well, that's actually a very interesting question. Because it's not clear to me, ultimately how do we know that anything is worth the risk? So, you know, the question is it's dependent on how you would care to define risk. So if we're talking about that as being the uncertainty of the return, you know, in essence what you're seeing is basically across all the time periods that are here, this asset class has exceeded the return available from the public markets. And we do not have a mechanism in place that is easily substituted for that excess return. So by our judgment, we believe that Private Equity has demonstrated enough consistency in that incremental return that it has generated -- that has been evidenced, that the ultimately that ends up being worth the risk.

Now, the risk, if you just turn around and define this in terms of illiquidity, if you turn around and define it in terms of being able to manage the cash flow profile of the fund, it certainly creates risks that have to be accommodated somewhere else in the program. So that can spring into allocations to cash, it can spring into all kinds of things.

In reality, Private Equity for the last five or six years has actually been the source of cash in the face of a negative cash flow situation. So it has been the source of actually making benefit payments which we never would have anticipated from this asset class.

So it's not crystal clear to me how you would like to define the risk. You know, Private Equity is not an asset class where the risks can be understood on an ex-ante or expectational basis, since basically you have to wait until the capital is actually called and put into an investment, and then you see what risks emanate from that and you basically, in essence, then try to accommodate or understand are those risks that you really want to have in your portfolio, which is why we're trying to merge the private and the public equities together, because we can actually change the structure of our Public Equity portfolio to offset some of the risks that might evidence themselves from the Private Equity Program.

But it's hard to judge. You're judgment or any individual's judgment is, is 150 basis points of excess return worth the risk? We don't have a lot of alternatives to get the 150 basis points. So in our minds it is worth the risk.

COMMITTEE MEMBER BROWN: And have any other large pension funds reduced the benchmarks? Did we copy anybody or is anybody copying us?

MANAGING INVESTMENT DIRECTOR BAGGESEN: Well, I think there's a lot of different attitudes about how to benchmark private equity. And ultimately the judgment -- and, you know, you consultants can also chime in on this. But ultimately I don't anybody believes that they actually have a good benchmark for private equity. So it literally just becomes one of, okay, would you like to earn an excess rate of return? Well, we could aspire for that rate of return to be 500 basis points; and if we only get 400, are we going to be disappointed with that? We don't have another alternative to get that 400 even.

So I think that ultimately we're just trying to come up with a set of expectations that we think are rational given the state of the evolution of the marketplace. You've heard, for example, about the amount of capital that is being committed to private equity on pension funds around the world, particularly here in the United States, are trying to pile money into private equity simply because again it evidences a higher rate of return than they've been able to extract from any other parts of their portfolio.

So all of that capital moving into the asset class, in our minds, mean that we should reduce our expectation of the excess return going forward. So by using a lower excess return number, we're de-emphasizing that excess return in the structure of our overall asset allocation. So that provides more room for other alternatives to come in, but it's still a core plank that is trying to get us to our expected 7 percent rate of return.

But as I said, you know, if we had lots of other alternatives, then maybe we would say that we don't like the illiquidity of private equity, we don't like the fees of it, we don't like lots of things about it. But we do not have a lot of substitutes to try to generate that level of excess return.

COMMITTEE MEMBER BROWN: So let me move on to a question you might have a good answer for. And that's on Attachment 1, page 6, for the 2018-19 objectives. And maybe this is for Sarah or Ted.

Under the first bullet point, it's ongoing review. And it says implementation of the Private Equity Business Model. So we haven't approved it yet. So I might say the implementation is a little too soon for an objective since we haven't approved it.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Yeah, I'll take that one.

You know, we are implementing pillars 1 and -- pillar 1. So we're moving --

COMMITTEE MEMBER BROWN: Well, maybe we can be a little more specific since we haven't approved 3 and 4 yet. I hate for it to be an objective if the Board hasn't agreed to do it yet.

The other one is with Ms. Mathur's comments on the rollout of the ILPA. You know, I've talked with quite a few other managers whose primary concern about the ILPA is all of the different pension funds want to report something different. And if we don't end up coming up with a standard format, it makes it very, very difficult for the managers to report -- to report fees and expenses and returns. And so, I caution us that we make sure that we aren't overly demanding, because we need to get at least a set document that everyone's reporting to. If every time every large pension fund changes what they want in ILPA, we'll never get a standard set. So I just want to caution us that sometimes, you know, great is the enemy of good.

That was just an editorial.

One more.

And then on Attachment 1, page 12, and we talk about our -- that the manager selection and alignment of interest are important to our Private Equity successes. And I'm wondering if GPs sharing in our losses is an alignment of interest. I'm not sure if we'll ever get there. But, I mean, I think that's the biggest alignment of interest. I mean they get -- they share in the profit. And maybe they should share in the losses. That would be a wonderful way of aligning our interests. And maybe with this new PE structure that will happen, they share in the losses.

And then the third bullet is more troubling, that we're still focused on allocating more capital to fewer managers. I wasn't on the Board at the time, but I believe it was last either November or December the Board's consultant said it was not a good strategy, that we were not getting the savings in; because we were allocating more dollars to fewer managers, we were not getting better returns. And so I'm wondering why we're focused on that when in fact our consultants said it wasn't a good strategy for us.

INTERIM MANAGING INVESTMENT DIRECTOR CORR: So that comment was meant to express that though there are 90 managers in the portfolio, we don't anticipate committing capital to 90 managers going forward. The numbers that were originally talked about were in the 30 range. Currently we're thinking more in the 40 to 45 range. So it's not that we're still allocating to just a smaller number of managers, not 90. Somewhere between 30 and 45 was probably where we will end up. But we're still reducing from 90, which where we are today.

COMMITTEE MEMBER BROWN: But didn't our -- didn't our consultant say that it isn't working?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: My recollection is that the consultant said that 30 managers was probably not enough. We have increased that target to something between 40 and 45. But Meketa will be up here in the next agenda item and they can address that.

COMMITTEE MEMBER BROWN: That would be great.

Just two more questions. I know we've lot a long list to go.

I have to go to my notes.

On page -- Attachment 1, page 27, the first bullet says: "PE collaborated with IMEP." I don't know what I-M -- what's I-M-E-P?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: It's the Investment Manager Engagement Program that's led by Clint Stevenson.

COMMITTEE MEMBER BROWN: Okay. I'm terrible at acronyms.

And then I want to go to Attachment 2, page 2, and our venture capital returns, which is the 1, 2, 3, 4th item down, are pretty terrible. Public equity gets better returns. And so I'm really wondering why we are focusing on venture capital.

INTERIM MANAGING INVESTMENT DIRECTOR CORR: We are not focusing on venture capital. We have not made a commitment to a venture capital fund in over 10 years. That is the trailing off of the venture portfolio that was built up between '99 and 2006.

COMMITTEE MEMBER BROWN: And maybe this is really for John Cole. I was focusing on venture capital. Don't want go into anything that's closed session. But you're going to probably tell me it's a different kind of venture capital, right? Is that what you're going to tell me?

INVESTMENT DIRECTOR COLE: No. But I think it's -- that's more appropriate for discussion later.

COMMITTEE MEMBER BROWN: All right.

And then the last question I have is Attachment 2, page 3, which is the expenses here. And so we're looking at this private equity expense summary. And I think these costs ignore carried interest and fees. Or does it have fees but not carried interest? And what do we think carried interest is costing us? I know we just -- I just read something in a newspaper that

Philadelphia or some Pittsburgh fund just came up with a cost of carried interest, was able to calculate that. So I'm wondering if this includes carried interest and where we are with that.

INTERIM MANAGING INVESTMENT DIRECTOR CORR: On slide 25 of Attachment 1 has I think a similar chart. And on there the profit sharing paid for the fiscal year is showing up at $431 million.

CHIEF INVESTMENT OFFICER ELIOPOULOS: I want to say I was looking at that. This chart actually we had for each of the annual program reviews for each asset class and we've had for Private Equity for three or four years running now. And for this fiscal year, as Sarah said, $431 million in profit sharing. And you'll look below the chart there, a profit sharing paid of 431 million. That's the share of the profits to go to the general partner. CalPERS realized 3 and a half billion dollars. That's the share of profits that we earned.

INTERIM MANAGING INVESTMENT DIRECTOR CORR: And on Attachment 2, page 3, the profit sharing paid is the third line down.

COMMITTEE MEMBER BROWN: Right.

Thank you.

CHAIRPERSON JONES: Okay. Thank you.

Mr. Miller.

COMMITTEE MEMBER MILLER: Thank you, everybody, for the presentations. And I'll try not to do too much. Just thinking out loud here. But what I will say is I really appreciate putting it into a perspective that's somewhat responsive to the questions that we've had, particularly some of the questions that I've had about kind of the strategic -- where this fits in terms of the longer term strategic workforce planning and building on the successful program we have. There was a lot of confusion, at least for me and stakeholders I heard from, about whether this was replacing our Private Equity Program with something else, and what it would do to our risk profiles and everything. And I think the comments from the team, and Ted helped reiterate, that this is building on our existing program, not replacing it.

And so - and this is where I just want some clarification of my understanding - with pillars 1 and 2, which is continuing to do what we've been doing. The challenges we've had with what we've been doing sounds to me like it's primarily been a function of market structure, market dynamics, money chasing money, not able to get commitments called, not able to actually deploy our resources in a way that gives us those advantageous returns, whether they're risk adjusted or they're at 150 basis points or 500, whatever, we're not getting that because we can get them deployed.

And that's more a function of that than a function of having 30 versus 50 staff on that function.

But that with pillars 3 and 4, we've talked about all the advantages, but my interest in terms of a long-term strategic planning is - and this is where the devil will be in the details that we'll get to over the next few months to start taking a look at - is, you know, what are the capacity and capability constraints for our team that we need to develop short and long term to be able to, you know, build on that and eventually maybe have even more efficiencies and effectiveness at being able to get private equity funds deployed, because I for a long time have been an advocate of having more of our allocation moving toward private equity. And so this all is kind of music to my ears.

But our taste for risk is the balance to that. So thank you. But have I kind of got the big picture right on that?

INVESTMENT DIRECTOR COLE: Yes, indeed. In fact, you're framing ideally what we'll get into a little bit more this afternoon about the planning, looking out over five years and addressing the very elements you've described. So, yes.

COMMITTEE MEMBER MILLER: Thank you.

CHAIRPERSON JONES: Ms. Hollinger.

COMMITTEE MEMBER HOLLINGER: Yes. First of all, thank you for the staff - Sarah, John, everyone - also during this transition and your commitment this past 18 months.

I mirror a little bit Ms. Brown. I wanted to know with the increase of capital moving into private equity, I guess what I was thinking, Eric or John or Sarah, about how is it working for a reduction in managers? Because similar to Ms. Brown, with our consultants advising us differently -- and I understand you can go down one path and then realize, hey, we may need to readjust, and I respect that. So that was my question, is about maybe rethinking that or how's it working. I just wanted to hear from you.

INVESTMENT DIRECTOR COLE: My suggestion is that perhaps we allow Meketa to cover.

COMMITTEE MEMBER HOLLINGER; Oh, okay. That's fine.

INVESTMENT DIRECTOR COLE: And then if we need to pick it up later, we can do that.

COMMITTEE MEMBER HOLLINGER: Fine

CHAIRPERSON JONES: Okay. Ms. Mathur.

COMMITTEE MEMBER MATHUR: Thank you.

I just wanted to come back to the benchmark question, because I think it might be worth clarifying, and how the benchmark for Private Equity is so dramatically different from the benchmark for the other asset classes. It is not a collection of results from the market the way the Public Equity benchmark is where we can actually test how we perform against the market as a whole. It is sort of an estimate of on average what we hope to achieve or target of what we hope to achieve in terms of performance for the program. And we know that because of the private equity markets do not so closely match the public equity markets, that we're going to have periods of significant underperformance and periods of signi -- of overperformance relative to that benchmark, because it's just not possible to hit it on the nose. And there is no collection of results from the Private Equity market the way there is for Public Equity or Fixed Income.

So, anyway, I just -- I thought that was important to articulate because it's -- it's called a benchmark but it's just not the same. We can't closely track -- monitor tracking error or manage tracking error in the way we can in some of the other asset classes.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Yeah. If I could just comment on that for a moment. You're absolutely right. And you actually can obtain peer benchmarks that represent the returns that are generated by different category of investors. As an organization, we have not used those peer benchmarks for anything other than just looking at the program more anecdotally.

But there are some organizations that use exactly that. You know, they're not so worried about what does private equity represent for my risk profile. They end up wondering more about how their program performs relative to other organizations' programs.

So that is something that absolutely can be measured. And I think that some of that information comes out, for example, in like the Wilshire review of the overall Total Fund. So you'll see information in that area.

But one of the things that people need to think about with private equity - and this gets into the number of managers and -- that you have this tension that exists between attempting to deploy capital into the marketplace -- so obviously if you just start passing money out to every manager that walks through the door, you can deploy money into the marketplace. And CalPERS actually had some experience with passing out money into the marketplace. The results that came from that did not tend to be very favorable. Generally speaking, everything I've ever heard about private equity is that you do not want an index of private equity firms; that literally that result that you get from that will not provide the kind of outcome that we're trying to extract, which is always trying to focus on the managers that at least are in the top half of that universe, if not the top quartile.

That becomes one of the reasons for trying to be more limiting as to the number of managers that you bring into the program. Simply by the law of large numbers, if you start spreading capital around to lots and lots of managers, that whole outcome is going to move right towards the average of that universe.

So literally, the effort to try to concentrate capital flow on smaller number of managers is to try to be more effective and to try to make our relationship with those managers more material to them so that we're able to basically try to get a larger capital allocation in their process.

Now, not all managers want to do that. They do not want to be captive to CalPERS and the capriciousness potentially of this organization. So there's a tension that exists in this space.

But this benchmark issue for us, that's why I said, in the last asset allocation, we believe the most relevant aspect for -- to consider as far as the benchmark is to look at it as an opportunity cost. If we are not investing in public equities, we can invest in private equity. If we do not invest in private equity, we're going to put that money probably in the public equity portfolio. So we look at those two things as being relatively fungible and representing the same kinds of economic characteristics in their exposures, because they're related to economic activity and economic growth ultimately to be the big drivers of their returns structures.

So that's the reason that we created this basically merged benchmark with this excess-return hurdle, which is our aspirational outcome that we want to have happen to basically try to contribute to the overall return for the fund.

COMMITTEE MEMBER MATHUR: And 150 basis points, yes, is our aspiration hurdle, but also you could say reflects the risk -- the premium that we want in exchange for the additional risk of investing in the private markets.

MANAGING INVESTMENT DIRECTOR BAGGESEN: No, that's right. And just -- think about what happens. In other words if we put an asset into any kind of an optimizer or a -- call it a puzzle solver when we try to do our asset allocation. If we have an asset that has a much higher disparate return, that will overwhelm all of the other assets in the asset allocation structure. So literally, the higher the expected return increment on private equity, the optimizer's simply just going to try to keep piling on exposure after exposure after exposure into Private Equity.

We want those numbers to represent something that we think is rational, not necessarily what we might aspire. We would all love it if Private Equity would generate 10 percent on top of public equities. We can want that, but we may not be rational in absolutely aspiring to that, or in planning for that in the structure of how we organize the structure of our asset allocation.

So we believe the 150 basis points, is it a much more rational number given again the capital demands for private equity, given that we basically -- we still need to try to actually achieve something. So we want an expectation set that matches what we think may actually be the outcome. And if we get a surprise, we would like it to be to the upside, not to the downside, because that's going to cause a lot of problems in the long run.

And if we're wrong about 150 basis points, if it returns just what public equities do, we're going to have problems in this organization going forward trying to maintain that 7 percent discount rate.

So it's all about just trying to be rational with the numbers. It's not -- you know, we can wish for anything we want. But we've got to try to make this reflect what we think the opportunity set really, really can do for us.

COMMITTEE MEMBER MATHUR: Yeah. Thank you.

CHAIRPERSON JONES: Yeah, thank you.

Making reference to the PEARS tool, I recall four or five years ago when you were being asked to provide information on fees and carried interest, and we kept saying wait until we get a system that we're unable to. And we got criticized a lot in the press for not knowing. And we kept saying wait until we finish the development of this system and we will be able to answer those questions. And so I'm seeing now the results of information coming to us that is more accurate and more timely as a result of that system.

It may be helpful to give the Committee a presentation on the PEARS system. And if it's -- part of the information is relative to a closed session, then so be it, do it in closed session as opposed to open session. But it may be helpful to get an understanding of how that system is working.

And then to the second question. Not a question but a comment - I guess it is a question - to Ms. Brown's question to you about sharing in the losses. It was my understanding that there is a hurdle rate in our Private

Equity at which returns have to exceed a certain level before they participate in those earnings. So in a way -- if that's correct, in a way that is requiring them to earn money to get money. So is that correct?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: So most funds do have a preferred return of 7 or 8 percent on them. Additionally, most funds, the management fees have to be returned to investors before the general partner can participate in the carried interest. Additionally, they put their own money in the fund and so therefore, to the extent there are losses, they're losing their own capital as well.

CHAIRPERSON JONES: Okay. Yeah, I thought it was a little piece of that. Okay.

Okay. Seeing -- oh, yes.

CHIEF OPERATING INVESTMENT OFFICER BOURQUI:

Sorry, Mr. Jones.

CHAIRPERSON JONES: Yes.

CHIEF OPERATING INVESTMENT OFFICER BOURQUI:

Thank you very much for your question about the PEARS system. And we are very happy actually to present that in the further sessions about how we continue to develop the system, I mean how it is today and how we continue to develop it.

Thank you very much.

CHAIRPERSON JONES: Okay. We look forward to that.

Okay. Seeing no further questions.

We move to 7d.

And you're finished -- Sarah, you're finished?

INTERIM MANAGING INVESTMENT DIRECTOR CORR: Yes.

CHAIRPERSON JONES: Okay. The consultant's review of Private Equity Program.

MR. HARTT: It's still good morning, but not much morning left.

Steve Hartt from Meketa Investment Group, joined by my colleague Hannah Schriner, the PE Board consultant.

I know there's some questions being discussed about the program that we can address, so we'll make our review of our letter for the 2017-18 program pretty short. It's on pages 390 through 398 in your package.

And just a quick overview in terms of how we are involved with the Private Equity team. We are involved as a participant on the investment review committees. They happen a couple of times a month. The last time period was almost 30 investment meetings that took place.

We have -- I have more or less a biweekly call with Sarah and John. Sometimes they're not both there, but we often have that call pretty much on a biweekly basis.

We review as your Board consultant from a policy perspective every investment that the staff makes; and over the '17-'18 time period that was 19 investments.

And as part of the review of the program, we did do an onsite meeting in September with the staff.

So just quickly here in terms of the components that we'll be covering today: The performance, implementation of the program over the last 12 months, policy compliance, and the staffing. And Hannah will cover the first part, the performance.

MS. SCHRINER: Okay. Thank you. Hannah Schriner with Meketa Investment Group.

So a couple of comments on the observations that we did make in our letter regarding the performance for just the fiscal year. So as you know, some of the things have already been mentioned, so I'll keep it a bit high level.

There was an increase in the net asset value of about 1.3 billion for the fiscal year. When we kind of extrapolate that, we see that the net cash flows continue to be positive. We did hear the comment about, you know, cash flows have been, you know, significantly more than expected over the recent periods. And this is actually the 8th consecutive year that distributions have exceeded contributions. And so for the fiscal year there were 7.4

billion in distribution and 4.5 billion in contributions, for a net positive cash flow of 2.8 billion.

This is a trend that we do expect to slow down. You know, it does pose a challenge for staff - you can kind of, you know, think of the metaphor of swimming upstream - as they're trying to deploy more capital to get to that policy target, they're continuing to receive those distributions back into the program.

For the fiscal year overall, the program did realize a 4.1 billion dollar value increase, which we feel is a very positive thing to point out here because as we look at the performance relative to the policy benchmark, you know, the discussions have been around the underperformance. However, when we look at the one-, three-, and five-year periods, as compared to our report that we gave a year ago, those individual trailing numbers are stronger than they were a year ago. And the total program continues to outperform the Global Equity benchmark over all periods. And so, while it is lagging the Private Equity benchmark, the program does continue to add the value as already been noted before.

MR. HARTT: So on the implementation, as had been mentioned by Sarah and others, during the 2017-18 time period, they committed $5.3 billion out of a budget of 6. And that difference came from a shifting of the Emerging

Manager Program review and allocation from that period to just the current period.

This compares to $3.3 billion that was committed in a prior period. So prior period was 9 investments, this was 19 investments. So certainly an uptick in activity by the staff in deploying the capital.

Would note that in the prior period all 9 commitments were to core managers; whereas, the 19 commitments, 16 were to core managers, 2 were transition, and 1 was a new manager in the program although there had been exposure in the Emerging Manager Program with that manager.

In terms of the overall activity as we have talked about and the strategic plan is the challenges around being able to deploy capital at scale and doing it effectively and consistently. And we're talking about it here, the strategic plan; the four pillars; and the opportunities to do additional capital through pillars 3 and 4; a continued rethinking around pillar 2, which is I would guess the standard investment program, where there is fund investments and John and the team considering additional ways to deploy capital through separate accounts, through co-investments, through secondaries, that would be a logical part of a program of the size and scale and the resources of CalPERS to continue to do that.

And that will be reviewed as additional processes to continue to develop the pillar 2 strategy. And we can talk about more of that in closed session.

The Emerging Manager Program being somewhat refocused a little bit. I think that before the amount of capital and the couple-hundred-billion-dollar size range tended to invest in managers that were really frankly a little too small to eventually make it into the CalPERS program. And by increasing that commitment size to that program to a larger amount, and so that that advisor fund-to-fund manager would be able to commit a larger amount to larger managers and be able to target ones that can scale up more rapidly and to be included into the core program I think is a shift in the -- in the program and hopefully allow additional managers to make it into a more core program within CalPERS.

We've talked about the separate accounts and co-investments. As mentioned, there is the combination of the Private Equity with the Global Equity to make a one program there. And teams will remain separate, investment programs are separate. But it will be interesting to observe potential sharing and commonalities between the two programs. Perhaps there's ways where Global Equity, the public equity side, can think about investment opportunities that might be more private-equity like.

There are various managers that run programs; there's, you know, continued IPOs and listings of private-equity-like vehicles invest in private-equity-like opportunities. So those can be opportunities to be explored, and seeing the overlap between the Global Equity and the Private Equity Program could lead to some interesting opportunities.

MS. SCHRINER: Thank you.

So taking a look at the policy compliance as of the end of the fiscal year. The program was within compliance with the key parameters of the program, the key policy parameters. And so, as Steve had mentioned, we did review 19 investments - so 18 funds, one separately managed account. And for those investments in our review, they all were within policy compliance. And following the end of the fiscal year, so in August, the PE policy was revised, so there were some updates to the policy ranges. And so we just did want to highlight that as well as it followed fiscal year-end.

MR. HARTT: From the staffing perspective, the number of team members in Private Equity remains stable, essentially at 34 members. There remains five vacancies. There's always a certain number of vacancies as things kind of move around. So there's five vacancies currently, including of course the managing investment director.

One thing on the way the staffing has been done.

Sarah and the team have reorganized the staffing such that there has been a merger between the underwriting teams and the monitoring teams. Something that we noted previously had been separated now had been combined together. And I think that it does a couple things: One, it reduces any frictions there might have been between observations that the monitoring team was having with regards to particular investment managers and being able to reflect that effectively and quickly in the underwriting processes. But also, by combining them, just frankly having more staff to do that. Now there are six underwriting teams, so that there's more ability to -- increased ability to be able to deploy capital and to underwrite investment managers.

I think that, in conclusion here, the returns have been strong and have improved over time. There is obviously a continued need to increase investment pace in order to achieve the 8 to 10 percent target allocation and investing in scale, and doing it in a way that really takes advantage of CalPERS attributes.

And we think that with that increase in scale, there will be increased needs for development of staff and resources within the organization to be able to take advantage of these opportunities.

Happy to answer any questions.

CHAIRPERSON JONES: Okay. Thank you.

I guess this is a question for Ted or John in terms of the increased staff as you mentioned in your letter about the increased complexity will require. So I assume that's going to be addressed when we talk about pillars 4 and 5.

CHIEF INVESTMENT OFFICER ELIOPOULOS: It is. There's a section in closed session regarding that.

CHAIRPERSON JONES: Okay. Thank you.

Ms. Mathur.

COMMITTEE MEMBER MATHUR: Yeah, I just have a question about combining of the underwriting and monitoring teams, because I know -- I think over time it has gone back and forth between being combined and separate. And the reason for separating was really to avoid conflicts where someone would select a team and then also monitor that team, and that perhaps there could be a conflict embedded there.

Are there safeguards in place or processes in place to protect against that and -- or maybe that's better for the team. I don't know, maybe --

MR. HARTT: So what I would observe on that is that an issue can be, if you monitor a particular team, you can fall in love with it and you, you know, kind of want to continue to deploy capital to that team, you get focused on that.

From our perspective, what we see is a very robust investment review committee process, with lots of voices going on, lots of discussion, participation, and thoughts on that; and that that's the venue I think where there's challenges and thoughts along that, that -- also being said, that it's a very review -- a very thorough review process of the investment and making sure that the characteristics of that opportunity really meet what our CalPERS standards are.

COMMITTEE MEMBER MATHUR: Great. Well, I think this is an instance where processes are our friend. You know, out having ad -- doing things ad hoc doesn't achieve -- you know, prevent -- you know, can create a lot of risk. But if the processes are appropriate, then that -- I'm comfortable.

Okay. Thank you.

CHAIRPERSON JONES: Okay. Thank you.

I see no further questions.

Thank you for the report.

MR. HARTT: Okay.

CHAIRPERSON JONES: We do have a request to speak on this item. Mr. Al Darby.

If you would come to my left. And you will have three minutes to speak.

And I'm sure you know the routine, Mr. Darby.

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

The existing Private Equity Program in CalPERS outperformed Public Equity in 2017-18 fiscal year, but failed to achieve its 18.6 percent benchmark. But I believe that benchmark was reduced down to 15.6, if I'm not mistaken.

The five-year average for a private equity return is 14.2 percent, less than the old benchmark of 16.4, I believe it was.

Global Equity produced 10.2 percent return overall.

It was recently reported that about three-tenths of all public equity allocation in CalPERS is currently invested in public equity. So the current Public Equity staff is finding PE homes for all this -- for all but a fraction of the allocation. The fact is that current staff is filling private equity investments despite the alleged shortage of public -- of private equity opportunities.

Now, getting onto the issue of CalPERS Direct. The San Francisco Pension Fund has a system similar to the proposed CalPERS Direct. Its return-on-investment expectation is S&P 500 plus 500 basis points. This is less than the current CalPERS benchmark if you took -- or right at the CalPERS new benchmark.

So the -- if CalPERS Direct has established what data or research is available that supports the belief or claim that the CalPERS Direct model will produce significantly more return, enough return to support the added cost of separate staff: PE experts that will be very expensive people; administration; and a new board or two boards and still outperform the current benchmark of 15.6 percent - I believe that's the current benchmark, it was 18.6 - its independence could be problematic to CalPERS' interests. For such a small allocation, it sounds like we're only going to put 2 or -- 1 or 2 billion into this -- it seems like a whole new bureaucracy, seems like overkill to manage 2 billion up to 10 billion over 10 years. This does not do anything to help the PERF, which is a claim that's being made for CalPERS Direct now, it doesn't do a thing for the current funded status of the PERF.

I gave you a copy of this Bloomberg report that says that by levering up a typical S&P 500 Index Fund, you could get the same results as private equity. So why invest in all this time and effort and money into a whole new bureaucracy to run $2 billion worth of assets that might expand to 10 billion over 10 years?

Thank you.

CHAIRPERSON JONES: You're welcome. Thank you, Mr. Darby.

Okay. So now we will move to Summary of Committee Direction.

Oh, 9. Sorry.

No, that comes after.

Okay. Summary of Committee Direction.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Okay. The item that I've identified that I think is a Committee direction is basically to bring back some information on the PEARS system.

Are there any other items that I missed, Mr. Jones?

CHAIRPERSON JONES: No, I think that was the only one. The rest we'll be talking about in closed session.

Okay. Now we go to Item 9, Public Comment.

We have a request to speak. Mr. Larry Woodson.

If you'd come down to my left. And you will have three minutes to speak.

And identify yourself and your organization.

MR. WOODSON: Good morning. Larry Woodson, California State Retirees. Chairman Jones, Board members, thank you for the opportunity to comment this morning.

I'm speaking on behalf of our President Tim Behrens, who's not able to be here. But my comments are on CalPERS Direct, the proposed Private Equity model which CEO Frost and staff have been promoting after -- over the last several months.

CSR has strong reservations and concerns regarding the proposal. We along were other stakeholder groups have expressed concerns, asking for more detail and meetings with staff. In last Thursday's stakeholder briefing, Mr. Cole did give us a detailed presentation providing more information to stakeholders, which we appreciated. However, it did not alleviate our concerns, many of them, and raised more questions, which we'll be asking as this moves forward.

We noted that the proposal is on the agenda today for today's closed session of the Investment Committee, but it is not specifically listed on the open session today. It's not in any of the attachments. Apparently it was - and I'm sorry to say - masked in a -- under the program review topic. And so this, you know, we find disappointing.

But, you know, on a positive note, staff has agreed to provide the detailed written program description to stakeholders, which we will be looking forward to.

Our concerns include, just a few: Number one, the governance model itself, which is described to us as the creation of these two private companies fully funded by CalPERS, both of which would have a CEO with expertise in PE, who would select their own five-member board, and both of which would be given a percentage of our assets as outlined. And these companies would not be subject to Bagley-Keene or California Public Records Act, and it would operate with little transparency, raising concerns about potential conflict of interest or worse.

Number two, Mr. Cole in response to one of my questions Thursday indicated that there has not been full costing for funding these two CEOs, their staff, board members, leasing of space, benefits, transportation and so on, and that that would be finalized in negotiation with the CEOs. I would expect those costs to be enormous, greatly reducing net gain. And I would hope that costing would occur -- accurate costing would occur prior to any approval of this proposal.

Third, PE is a higher risk investment, as noted, and it's been -- up until today there's been no real detailed information on how that risk would be mitigated.

And then both the manner and the timing in which this proposal has been rolled out--

CHAIRPERSON JONES: Mr. Woodson, your time's up.

MR. WOODSON: -- is a concern. We don't believe there's any need to rush.

So, in conclusion, we hope the Board will have the same concerns stakeholders have and ask the tough questions that need to be asked.

Thank you for your time.

CHAIRPERSON JONES: Thank you.

Okay. That concludes the open session.

We will convene in closed session in 10 minutes.

Is that enough time for closed session?

COMMITTEE MEMBER MATHUR: 15 minutes I think we need --

CHAIRPERSON JONES: You need 15?

Okay. Fifteen minutes. So that's 12:15.

(Thereupon California Public Employees' Retirement System, Investment Committee meeting open session adjourned at 11:59 a.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 19th day of November, 2018.

JAMES F. PETERS, CSR
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