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PUBLIC EMPLOYEES' RETIREMENT SYSTEM

BOARD OF ADMINISTRATION

INVESTMENT COMMITTEE

OPEN SESSION

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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, also represented by Mr. Steve Juarez

Mr. Rob Feckner

Mr. Richard Gillihan, also represented by Mr. Danny Brown

Ms. Dana Hollinger

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

Ms. Natalie Bickford, Committee Secretary

Ms. Elisabeth Bourqui, Chief Operating Investment Officer

Ms. Kit Crocker, Investment Director

A P P E A R A N C E S

STAFF:

Mr. Alison Li, Investment Manager

Ms. Christine Reese, Investment Manager

ALSO PRESENT:

Mr. Al Darby, Retired Public Employees Association

Mr. Allan Emkin, Wilshire Associates

Mr. Steve Foresti, Wilshire Associates

Mr. David Glickman, Pension Consulting Alliance

Mr. Dane Hutchings, League of California Cities

Mr. Andrew Junkin, Wilshire Associates

Mr. George Linn, Retired Public Employees Association

Mr. Steve McCourt, Meketa

Mr. Tom Toth, Wilshire Associates

Mr. Ben Vernazza, Precision Fiduciary Analytics

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P R O C E E D I N G S

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

And the first order of business is roll call please.

COMMITTEE SECRETARY BICKFORD: Henry Jones?

CHAIRPERSON JONES: Here.

COMMITTEE SECRETARY BICKFORD: Richard Costigan?

VICE CHAIRPERSON COSTIGAN: Here.

COMMITTEE SECRETARY BICKFORD: Margaret Brown?

COMMITTEE MEMBER BROWN: Good morning.

COMMITTEE SECRETARY BICKFORD: Good morning.

John Chiang represented by Steve Juarez?

ACTING COMMITTEE MEMBER JUAREZ: I'm here.

COMMITTEE SECRETARY BICKFORD: Rob Feckner?

COMMITTEE MEMBER FECKNER: Good morning.

COMMITTEE SECRETARY BICKFORD: Richard Gillihan represented by Danny Brown?

ACTING COMMITTEE MEMBER BROWN: Here.

COMMITTEE SECRETARY BICKFORD: Dana Hollinger?

COMMITTEE MEMBER BROWN: Here.

COMMITTEE SECRETARY BICKFORD: Priya Mathur?

COMMITTEE MEMBER MATHUR: Here.

COMMITTEE SECRETARY BICKFORD: David Miller?

COMMITTEE MEMBER MILLER: Here.

COMMITTEE SECRETARY BICKFORD: Ramon Rubalcava?
COMMITTEE MEMBER RUBALCAVA: Here.
COMMITTEE SECRETARY BICKFORD: Bill Slaton?
COMMITTEE MEMBER SLATON. Here.
COMMITTEE SECRETARY BICKFORD: Theresa Taylor?
COMMITTEE MEMBER TAYLOR: Here.
COMMITTEE SECRETARY BICKFORD: Betty Yee?
COMMITTEE MEMBER YEE: Here.
CHAIRPERSON JONES: Okay. The next order of business is the Executive Report. And I think I'm going to call on Marcie.
CHIEF EXECUTIVE OFFICER FROST: Good morning, Chair Jones and members of the Committee.
We'd like to start the Investment Committee this morning with an announcement. Mr. Eliopoulos, our Chief Investment Officer, has decided that 2018 will be his last year with CalPERS and leading the Investment Office. So I know many of you have had an opportunity to work with him in this role for a number of years; and would also like to express appreciation for his focus, his attention on fee transparency in particular is something I noticed in coming into this role. And also, a focus on the fiduciary duty of watching out for the trusts, the monies that are being entrusted to CalPERS to oversee.
So I know it is a bittersweet for Ted. And I'll

ask him to go into a little bit of detail about why this is the right time for him.

And at this point I'll go ahead and turn it over to Ted.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Thank you, Marcie. Thank you, members of the Investment Committee. It is a bittersweet announcement for sure. As many of you know, my older daughter is in New York City and my younger daughter just accept -- was just accepted to her dream school in New York as well. And I think those that know me well, or many of you know well what an amazing young lady she is. But she's -- you know, we have some significant health considerations in particular with respect to her, and my wife and I want to make sure that we give her every bit of support as we can as she makes a transition back east. And we were thrilled for her, and thrilled to be in a position to provide that level of support. And while the decision is tough, I know it's the best one for our family.

In addition to that, I just want to say thank you to Marcie, our CEO. We've been able to work together, you know, quite seamlessly and now thinking through this transition, it was very important to her and important to me that we provide lots of time for us to make sure that this transition is seamless and protective of CalPERS.

And for that reason, I'm not going anywhere any time soon. I feel like I don't want to be maudlin or spend too much time on this because you'll be seeing me every month for, you know, quite some time, through the end of December.

So there'll be plenty of time to -- hopefully for me to express my sincere sere appreciation to all of you individually and as a board for what you do. But it's been a great honor to work for you, work for this system, to work on behalf of our beneficiaries and serve them, the, you know, 1.9 million hard-working Californians that keep all of us, our whole senior team, coming to work every day thinking about how we can provide for them and their families, for the health care that we provide and for the retirement benefits that we provide. It's essential to California families for a sense of security.

And I felt that from my own family, both from my parents and down to my daughters, and now I think all of us in the -- that work here feel that in our bones.

I'd like to thank our executive team that is in such great, you know, hands going forward. And this incredible investment team that we've put together over decades here. We have over 70 percent of our assets that we manage internally. We have an unparalleled set of partnerships with external managers managing our private assets. And I think it's important for you to know while we have plenty of time to say goodbye, the transition will be seamless and it will be done with the utmost attention to serving CalPERS' interests going forward.

So with that, Mr. Chair, that's my comments on that. And I have other comments on the markets and...

CHAIRPERSON JONES: Well, thank you, Ted. And, Ted, as disappointed as I am to hear this news, I certainly understand that family comes first. You will be sorely missed here at CalPERS. The Board and the whole CalPERS team are incredibly grateful for all of your hard work over the years. You joined us over a decade ago and have certainly seen the challenges and opportunities that we think that we face up close.

Your leadership helped our organization move past the aftermath of the Great Recession and on to better times, including the last years' double digit investment returns.

Through it all, your calm demeanor and willingness to listen and embrace new ideas have put us in a strong position for future success.

You have left your mark on CalPERS, Ted, and we're grateful for it.

I know you will soon be entering another important chapter in your life, and I'm glad that you will be with us to help us with the transition of new leadership in the Investment Office over the next few months.

That said, I'm certainly glad I don't have to say goodbye just yet. But what I do want to say right now is that I am grateful that, despite the market's ups and downs over the past few years, your commitment to our mission and to California's public employees and retirees never wavered. I look forward to working with you over the next few months. And, again, thank you very much, Ted. Okay.

Let's -- I don't want to clap because --

(Laughter.)

CHIEF INVESTMENT OFFICER ELIOPOULOS: I'm still here.

(Boo, Boo.)

CHAIRPERSON JONES: Okay. Ms. Mathur.

COMMITTEE MEMBER MATHUR: Thank you.

Well, Henry, has so eloquently expressed so many things that I would like to say. But I just really briefly want to say that throughout your career here at CalPERS, even once a delegate deputy serving on this Board, you have always delivered and kept the members at the top of your mind and everything you have done has been to support this organization, its mission, and our -- ultimately our members. And I thank you for giving us this breathing room to run an effective search and identify another candidate and to, you know, have your leadership through the upcoming period.

So again, you're putting our members first, and I really respect and value that so much. So thanks so much, Ted.

CHAIRPERSON JONES: Okay. Thank you.

So now we will turn back to you, Mr. CIO.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Okay. I'm still here.

(Laughter.)

CHIEF INVESTMENT OFFICER ELIOPOULOS: Thank you so much, Marcie.

Well, I tried to think of an easy transition to these comments - and, Matt, thank you so much for joining me at the dais to my CIO talk - and really want to give a brief snapshot of the markets as we head into the summer.

And as you know, we have a very full market analysis and review as well as a performance review in August. But I thought, given -- given some of the volatility and other activities, it would be good to check in a little bit on our views of what's happening around us, around the globe, and in the markets.

Having said that, you know, our investment beliefs are focused on the very long term. And as a team, both the Investment COMMITTEE and the Investment staff, we caution ourselves not to get too focused on month-to-month activities. So we try not to have too much of a focus every month on market fluctuations and really try to stay focused on the longer term and particularly the long-term asset allocation of the Fund.

Today, in that regard, Agenda Item 5a will be taking up the asset allocation for some very important affiliate funds, and that will occur momentarily in a few minutes.

But it's a good reminder that asset allocation is one of the most important things that we do, and the affiliate funds are a very important part of our overall responsibilities, and we want to spend the time and attention to each of those asset allocations as well.

So I and the team are very appreciative for carving out the amount of time that we have at the beginning of this year to go through each of the affiliate funds to make sure that it receives the -- they receive the attention that they're due.

Now turning to the markets, here's my hook on the transition. It's also a time of transition globally. You know, that actually was the theme of the annual Milken conference that I just came back from and the Chair -- our Chair, Henry Jones, was at. The theme, you know, was it's a time of transition globally.

Our summary -- our view of, you know, these transitory or transition forces around the globe: Fundamentally, first, you know, global growth continues to be strong across many geographies, in the U.S., Asia, Europe, and select emerging markets. Particular, I think it's important to note the pick up and growth recently in the U.S. and in Japan.

What we're seeing at least in the first half of 2018 here in the U.S. is that the U.S. economy could, you know, well deliver, you know, real growth approaching 3 percent, which is above the expansion average of about 2 and a quarter that we've talked about so much over the course of the last eight, nine years.

Certainly one of the global success stories abroad has been the strengthening of the Japanese economy after, you know, such levels of stagnation for decades.

And one of the hopeful signs in that economy are the, you know, kicking in of the third-arrow reforms of the Abe -- the administration that are delivering gains. Particularly of note in the first half is a strong gain in female labor force participation, which was one of the goals of Prime Minister Abe's third arrow. So those are -- those are hopeful signs and signs of trending stronger growth and -- in the first half of the year.

But, you know, there are some -- there's some other issues on the horizon as well that we're paying attention to, particularly the level of growth in China and Europe. With respect to China, there's been a mini-slowing of Chinese growth recently as they take on, you know, new -- new solidification of their leadership, taking on some of the long-standing structural impediments to their overall economy; and that's showing some signs now.

The strength that China has, particularly with the huge reserves that they have, is that they can stimulate their economy if there are any concerns that are coming out of the reforms that they're making. But we're watching that. It's such an important economy.

In developed Europe the rate of growth has moderated somewhat in the last two quarters, so we're keeping an eye on that. And little more to come on the political environment there as well.

But those are things to -- well worth keeping in mind throughout this summer and for this Board to think about. As we come back in August, those will be important economies to keep our eye on and see how it develops another quarter in.

Another important transition point across the globe that we've talked about quite a bit is the removal of quantitative easing across federal reserves and banks across the globe here, in Japan and Europe. That will continue and we'll see what the impact will be over time as a potential countervailing tension to the growth story that we're watching.

Certainly tensions in the Middle East have now, you know, come back more into the forefront, particularly with Iran now squarely in focus and the relationship between the United States and Iran and the rest of the globe.

In that regard, you know, probably one of the more direct changes we've seen is a sharp move in energy prices over the last year and over the last calendar year. Up 11 percent since January and over 40 percent over year over year. So oil prices are moving. And it's always dangerous to attribute causes to that, but certainly some of this tension in the Middle East is part of it.

Nevertheless, with those energy prices moving, inflation still appears to be contained. And this is interesting and of note especially considering the rise of energy prices over this time period. We're going to spend a lot of time and have been spending a lot of time on that very topic, both from a portfolio construction standpoint, but you'll hear a lot more of that in August when our chief economist comes to report.

Now, against this backdrop of global transitions and tensions moving back and forth, market asset prices continue to be elevated. But it's worth I think noting over the course of the last couple quarters, the beginning of this year, that equity markets really haven't moved much despite very strong corporate earnings being reported in the past two quarters.

So that -- you know, all is -- the to and fro and the tensions between one direction and the other really leads us to think of this transitory moment both in the markets and across the globe and how these forces will interact for asset prices and our investment portfolio over time.

For this Committee to think through and watch over the course of the summer as we come back in August, we'll be monitoring and thinking about interest rates and fed actions across the globe, tensions in the Middle East, the Korean peninsula geopolitical situation, trade negotiations that are ongoing between the United States with respect to China and NAFTA.

Brexit. I mentioned the Eurozone. But Brexit and the Eurozone will be something to pay particular attention to over the course of the summer into the very early fall as the negotiation process between the UK and Europe continues, and the likelihood of agreement being able to be struck between the European Union countries and the UK are in question.

And while we don't see huge impacts to the rest of developed Europe, a very messy or negative outcome in those negotiations could have a, you know, real impact on the progress of the UK. So that will be something to pay much attention to as well.

Last, we talked about Japan. There are some political developments to pay attention to over the summer, particularly within the legislature -- legislative body of Japan whether or not there'll be any challenges to Prime Minister Abe's leadership emerging out of that. And certainly with the three-arrow plan of Prime Minister Abe, those will bear real attention and will have impact in the market, so -- if something changes with respect to the leadership in Japan.

I think clearly this theme of a world in transition is apt. It's what we've discussed for well over, you know, a year now, and those tensions continue, the forces moving forward and backward are at play.

You know, at its conclusion for us today, really the point is our asset allocation is our guide and our benchmarks are our guide. We're well within our -- not only well within our targets and we're very close to our benchmark weights across our portfolio - we've taken some moderate risk off the table - but we're very close to our targets as we head into this summer season and look at the developments across the globe and the positioning of our portfolio.

So with that, Mr. Chair, that's my commentary on the markets.

And I have one last one last comment before I end.

CHAIRPERSON JONES: Okay.

CHIEF INVESTMENT OFFICER ELIOPOULOS: I want to make sure to introduce to the Board -- I know you had a chance to meet her just briefly, but for all of our partners and beneficiaries in the audience today, I just want to introduce our new Chief Operating Investment Officer. It is her -- literally her very first day or first morning here at CalPERS. She arrived from Zurich, Switzerland, late Friday night. So even with jet lag and the rest, I'm just so delighted to have Elisabeth Bourqui here. And I was just going to ask Elisabeth to stand up so everyone can see you and -- have a chance to see you.

Welcome

(Applause.)

CHIEF INVESTMENT OFFICER ELIOPOULOS: And with that, Mr. Chair, those are my remarks.

CHAIRPERSON JONES: Thank you.

I'd like to take a moment to welcome Elisabeth to the INVO team.

Elisabeth earned her Ph.D in mathematics in Switzerland and served in a succession of roles in investment banks in Europe, Japan, and Canada. She joins CalPERS from her last position as head of a pension assets and liabilities at ABB, a large public technology company based in Zurich, Switzerland. She speaks French, German, English, and Japanese fluently.

We're pleased to be able to welcome her here today on her first day at CalPERS.

Welcome, Elisabeth.

(Applause.)

CHAIRPERSON JONES: Okay. So now we will move to the next item on the agenda, which is consent action items.

Do we have a motion?

COMMITTEE MEMBER MATHUR: Move approval.

CHAIRPERSON JONES: Moved by Ms. Mathur --

VICE CHAIRPERSON COSTIGAN: Second.

CHAIRPERSON JONES: -- second by Mr. Costigan.

Any discussion?

Seeing none.

All those in favor say aye.

(Ayes.)

CHAIRPERSON JONES: Opposed?

Hearing none.

The item passes.

I've not been asked to take anything from the information consent item. So we will move to Item 5, Asset Allocation.

Mr. Baggesen.

(Thereupon an overhead presentation was Presented as follows.)

MANAGING INVESTMENT DIRECTOR BAGGESEN: Okay. Good morning. Eric Baggesen, Managing Investment Director for Trust-Level Portfolio Management.

This Agenda Item 5a is an action item that continues in the sort of tri-version of all of the affiliate funds and asset-allocation-related material for them.

Last month we covered the savings plan. This month we're covering the other defined benefit structures; and the California Employers' Retiree Benefit Trust, the CERBT program, where employers can save money for other post-employment benefits.

Next month we'll be covering some of the health plans, including the Long-Term Care Program.

Just like last month, the majority of the information will be presented by Christine Reese, an investment manager in our Global Equity team; and Alison Li, an Investment Manager in TLPM.

We've also got Steve Foresti immediately to my right. Steve is our representative from Wilshire Associates. And there is an opinion letter from Wilshire Associates attached to this agenda item.

And I think without any further ado, we will we will pass this over to Christine.

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INVESTMENT MANAGER REESE: All right. Thank you, Eric.

So as Eric mentioned today, we're going to be reviewing four different programs with regard to the asset allocation.

And before I get started, I want to acknowledge the collaborative efforts of our colleagues in the Investment Office, the Actuarial Office and the Financial Office. Although you see us presenting here today, this really is a culmination of I across all of those teams in collaboration with each other.

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INVESTMENT MANAGER REESE: And then with regard to the presentation, I'll be covering an overview of characteristics for the programs and a little bit of history. And then Alison will delve into the Strategic

Asset Allocation section.

So starting on page 5, just a little bit of history. So Legislators and Judges and Judges II are all defined benefit plans. Legislators and Judges began in and around the time of the PERF back in the 1930s, 1940s.

Legislators is now closed to new participants. It closed in 2013 with PEPRA. And legislators now have the choice of participating in the PERF.

Judges closed in 1994, at which point Judges II opened and effectively replaced that program.

And so all of those are defined benefit programs.

The CERBT program that we'll also talk about, as Eric mentioned, is an OPEB plan, so other post-employment benefits, primarily retiree health care costs.

Now, this program is a little bit different from defined benefit programs in a few important ways. One is that the liabilities for these benefits in the future are retained by the employers, not CalPERS. And for that reason, we've structured the program differently than the defined benefit programs in such that we offered three strategies for the employers to choose from. After they work with their actuary and determine their own situation, they can then choose a strategy option that aligns best with their goals.

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INVESTMENT MANAGER REESE: Looking at page 6, shows the key statistics for the various programs. A couple elements I'd like to point out:

Legislators has $117 million in assets under management, with a total of 250 approximate participants. It's a -- the funded ratio as of June 30, 2017 is 115.9.

And Judges with 48 million has 2,000 participants and is only funded at 1.5 percent. That's a pay-as-you-go program. I'll talk about that more on the next page.

Judges II has approaching 1.4 billion with almost 1700 participants, and had a funding level of 99.3.

And then CERBT has a -- is approaching 7 billion. Was begun in 2007. So in the last 11 years it's grown quite dramatically. We do not show the employer or employee contribution rates, as the contributions are voluntary by the employers. There are 524 participating employers. And again, the employers calculate their own funded ratio, so we don't have that reflected here.

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INVESTMENT MANAGER REESE: So a little bit more about the Judges program. This program is a pay-as-you-go program. It has been for quite a while. We do manage 48 million -- the 48 million in assets. And the purpose of that 48 million is as a reserve. It's approximately 2 and a half months worth benefits. And should the State be in a position where it's unable to pay, then CalPERS can continue those benefit payments uninterrupted to the beneficiaries.

And the primary reason that the State would be unable to pay is if we hit a delay in the budgeting process -- in the annual budgeting process.

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INVESTMENT MANAGER REESE: So moving into more detail on Legislators and Judges and really contrasting the two programs. Looking at page 8, we're showing the assets under management and participants for each of those two programs.

The two red lines at the top show that the upward trend for both participants at about 1600 and the assets under management at 1.4 billion. Contrasting to that, Legislators are the two bottom lines, both showing a decline in the assets under management and the participants over time. So that matches with Judges II being a very young, active program, with Legislators being a much more mature and declining program.

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INVESTMENT MANAGER REESE: Looking at page 9, we look at another statistic in terms of the active-to-retired ratio; so the number of active employees to retirees.

With LRS being a very mature program, if you look at the table, the very bottom line is 2017. So the ratio for Legislators is 0.03 actives to retireds; Judges II is 9.39, which is very healthy. And then as a reference point, we've included the PERF at 1.33. And then the last measurement we have for our Public Pension Peers at 1.42.

So another indicator that Legislators is, you know, very mature and Judges is again very young and growing.

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INVESTMENT MANAGER REESE: On page 10, we are looking at forecasted cash flows. And this is an appropriate measurement to include for the CERBT. So as we see on the CERBT graph on the left, forecasted cash flows are moving from a little over a billion up to around two and a half billion within the next five years.

Now, again, these are forecasted estimates based on -- based on past history for the CERBT. As I mentioned, it began in 2007 and it's already almost at $7 billion.

For Legislators and Judges, Judges is the top red line, it showing -- it's showing that cash flows are declining but slowly, moving from about 130 million down to 100 million. And then Legislators is the bottom blue line, which is essentially flat.

And then the last characteristic I'll cover is the asset-to-payroll ratio, which measures the sensitivity of contributions to investment performance. And the higher the ratio, the higher the sensitivity.

So if we look at Legislators again in the table, on the bottom on the row -- there we go -- Legislators ratio is 96.71. So very reliant on assets, and investment performance would have a very large impact on the contribution rates.

And in contrast to that, Judges II is at 4.65 and our reference point for the PERF is 5.98.

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INVESTMENT MANAGER REESE: So, in summary, Judges is pay-as-you-go. Legislators is very mature program. Judges II is very young, can withstand market volatility more than Legislators. And then CERBT has had a lot of growth and we offer the three strategies.

And I'll turn it over to Alison at this point and she'll talk about how these characteristics drive the asset allocation decisions.

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INVESTMENT MANAGER LI: Good morning.

As we will see, plan characteristics just presented by Christy have significant implication on the strategic asset allocation we'll recommend.

So now let's first review the steps involved in obtaining the policy portfolio. The first step in the asset side is forecasting capital market assumptions for years 1 through 10 for strategic asset classes including expected returns, volatility, and correlations. This presents an overview of opportunity sets available to investors.

We also set constraints that's going to be used in Step 2 because of concerns such as market capacity and illiquidity.

So in the second step there's the mean variance optimization which generates the efficient frontier. The efficient frontier gives you all the efficient portfolios. Those portfolios earn the highest expected return at every level of risk or, to put it differently, they endure the lowest expected risk at every level of return.

And the Step 3, staff will identify candidate portfolios on the efficient frontier whose risk return profile might fit with the plan characteristics and there is enough meaningful differences between the candidate portfolios.

While these three steps are in progress in the Investment Office, the Actuarial Office forecasting capital market assumptions for year 11 through 60 based on long-term data, and they also project liabilities.

The two offices come together in step 4. That's when Investment Office simulate annual returns based on CMAs for years 1 through 10 and those for year 11 through 60 respectively. Then the Actuarial Office will project funded ratios and the contributions based on those simulated returns and the projected liabilities.

Then in step 5, staff will recommend a policy portfolio based on a consolidated overview of those projections and the plan characteristics.

In the final and the sixth step, Investment Office approve policy portfolio based on the foregoing discussion and staff recommendations.

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INVESTMENT MANAGER LI: So as the outcome of the first step on the asset side, the capital market assumptions for years 1 through 10, has a significant implication on the composition of potential policy portfolios. So it has a signi -- directly affect the risk return profile of each fund.

The capital market assumptions here are mainly the same as those adopted by the Investment Office back in June 2017 for the PERF ALM process.

So the CMAs are mostly the same for assets classes such as Global Equity, Commodities, and U.S. Domestic Fixed Income and the TIPS. The only exception here is REITs, which is not a strategic asset for the PERF. Here we used a dividend discount model to forecast expected returns. The same model is used for the Global Equity in the PERF.

We also here put minimum constraints on three inflation-sensitive assets - TIPS, Commodities, and REITs - to force more diversification in their potential policy portfolios.

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INVESTMENT MANAGER LI: So before we look at the candidate portfolios that's identified on the efficient frontier, let's recall how plan characteristics will affect the choice of policy portfolios.

The three important -- the three important plan characteristics are fund maturity, cash flows, and assets-to-payroll ratio. Those measures are closely related to each other and they're usually consistent.

So a young plan means there are more active members than retired ones. So the benefit payments are -- most of the benefit payments are due in the distant future rather than at present. So the duration of liability is long.

At the same time, when there is more active members making contributions than retired members drawing benefits, the cash flow will be positive.

At the same time, when there is more active members than retired members, that means most of the benefits has not been earned but in the process of being earned. So the size of the assets relative to size of payroll is small. At this stage, even though the plans sustained market drawdown, the increase in contributions because of the market drawdown compared to the payroll is still small. So that means the -- there is low sensitivity to market volatility for a young plan.

On the other hand, for all -- for older plans, exactly the opposite. They have -- their liability duration is short; they have cash outflows; and they have high sensitivity to market volatility.

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INVESTMENT MANAGER LI: So here are the candidate portfolios staff identified on the efficient frontier that was generated by the mean variance optimization. So you if you look at the blue line, the expected compound return for year 1 through 10 are based on the CMAs from the Investment Office. The compound expected return from years 11 to 60 are based on the CMAs from the Actuarial Office. The volatilities are the same from year 1 through 60 and it's agreed upon by both the Investment and the Actuarial Office.

And then we present expected blended returns net of fees, for LRS and JRS II. They are based on the benefit payment structure of these two plans.

For CERBT, because we do not know the benefit payment schedule, here we present the expected time-weighted returns. So each participating employer should calc -- would calculate their plan-specific blended return based on their benefit payments schedule; in turn, based on their own actuarial valuation reports.

So the last row is staff's recommendation for each affiliate plan.

For JRS, a portfolio zero is actually not on the efficient frontier. Our recommendation is to maintain the current strategic asset allocation, which is 100 percent to cash-equivalent securities, because this is a pay-as-you-go plan. For pay as you go, the contribution is only enough to pay current liability, not to fund the future liability. And the amount of asset under management is enough to pay benefits when there's a delay in the annual state budget approval process.

So for LRS, staff recommend a conservative plan, P2, because of its characteristics. It has short duration cash outflows and the high sensitivity to market volatility. And this also would allow the Board-approved discount rate of 5 percent to remain unchanged.

And for JRS II, on the other hand, staff recommend moderately aggressive plan, P7, because of its characteristics. It's a young plan, it's cash-flow positive, and it has low sensitivity to market volatility. But because the asset -- the active-to-retired ratio and cash flow for JRS II are both decreasing, so staff do not recommend increased risk profile of this plan. So the current Board-approved discount rate of 6.5 percent will remain unchanged.

And for CERBT, staff provide three choices, P2, P5, and P8, which are conservative, moderate, and aggressive in their risk return profile respectively. Each participating employer should choose a plan that is consistent with their own risk tolerance and plan characteristics and they will set their own discount rate and contribution rate to fund their liabilities.

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INVESTMENT MANAGER LI: So for JRS II, there are also three risk considerations that informed our recommendation of P7 instead of a P6 and P8. Those three risk considerations are funded ratio, contribution level, and volatility. So they're measured as within any of the years in the future, 30 years, so the funded ratio -- the probability of the funded ratio falls below 50 percent. Or the contribution level exceeds 35 percent or the year-over-year change in contribution ratio exceeds 3 percent.

So you can see the first measure does not distinguish among the three candidate portfolios.

The second measure tells us P6 is more likely to be costlier. So in that -- according to that measure, P7 is preferred.

Then the third measure says P8 is more likely to introduce disruptive volatility in the contribution rate. So in that case, P7 is again preferred.

So those three risk considerations support our recommendation of P7 as the policy portfolio.

--o0o--

INVESTMENT MANAGER LI: And this graph shows the historical asset allocation for the affiliate funds and also the current recommended policy portfolio. As you can see, there's not significant change in the risk return profile of each fund as we discussed.

--o0o--

INVESTMENT MANAGER LI: And this page shows the proposed asset class ranges. Those are from the practical knowledge accumulated by our Global Equity team in managing the fund. Those ranges are believed to provide enough flexibility to reduce transaction costs associated with the systematic quarterly rebalancing of those funds.

So that concludes my presentation on the recommendation on the strategic asset allocation for each of the affiliate funds.

CHAIRPERSON JONES: Okay. Yeah, we have several questions. And thank you for the report. And this is the last of our path of asset allocations.

We have one more? Which one is that?

MANAGING INVESTMENT DIRECTOR BAGGESEN: Yeah, that'll be the Health Care Programs, the Health Care Reserve Fund and the Long-Term Care Program next month, Mr. Jones.

CHAIRPERSON JONES: Okay. Thank you.

Okay. Ms. Mathur.

COMMITTEE MEMBER MATHUR: Thank you, Ms. Li and Ms. Reese.

As you've noted, the CERBT is a somewhat different animal than the other plans. And one of the things about the CERBT is that an employer could withdraw funds at any time to pay retiree health benefits.

What assumptions have you made about the time horizon and sort of how -- when we expect employers to withdraw funds? And does that differ by CERBT 1, 2 and 3? And how does that impact the asset allocation?

INVESTMENT MANAGER REESE: So I'll take that question.

Yes, the program area within the finance team does look at both historical distributions for retiree health care as well as upcoming projections which they gather from each of the employers.

That information has been incorporated into the cash flow estimates that we have presented here.

COMMITTEE MEMBER MATHUR: And do we have -- I can't recall, but do we have any restrictions based on which fund it is? If it's a more aggressive fund, which is the higher target rate of return, we expect their assets to be invested over a longer period perhaps. Do we have restrictions on employers of when they can withdraw?

INVESTMENT MANAGER REESE: There are no restrictions on either when they can withdraw or which strategy they invest?

COMMITTEE MEMBER MATHUR: So if employers withdrew more quickly than we projected, then that would have an impact on the return of those funds?

INVESTMENT MANAGER REESE: Potentially.

COMMITTEE MEMBER MATHUR: Potentially?

INVESTMENT MANAGER REESE: Eric, did you want to --

COMMITTEE MEMBER MATHUR: It could potentially.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Yeah, I think -- Eric Baggesen.

Just in response to that question. I think that -- basically all these programs invest in what we believe are marketable assets. So that the difference would be basically in just the period of compounding. And you can see that -- could I borrow the clicker, Alison, for a moment.

You can see the potential difference in these -- in this chart. Because basically you see for identical asset allocation structures, the green, the red, and the purple rows show the different long-term compound return expectations. So, for example, in the LRS program, even if you picked, for example, portfolio P7, that would show approximately a 6.1 percent expected long-run return, whereas in the JRS program the timing of its cash flows actually infer an additional 40 basis points of return. So it's in the compounding effects as to how that would happen. And that's entirely, again, up to the judgment of the employers that choose the different CERBT programs. Hopefully they're basically incorporating those expectations when they actually pick the sleeve that they participate in. But that's up to their judgment.

COMMITTEE MEMBER MATHUR: Okay. And do we add -- in our own sort of projection of what the returns will be for these funds, do we add any conservative elements of margin for higher-than-expected withdrawals, or is that not really that important?

MANAGING INVESTMENT DIRECTOR BAGGESEN: Well, again, you see in the CERBT line on this chart basically -- this is time weighted.

COMMITTEE MEMBER MATHUR: Yep.

MANAGING INVESTMENT DIRECTOR BAGGESEN: So this is simply -- what we're inferring is that we have no knowledge of when the employers plan to withdraw assets from this. So it's simply a time-weighted rate of return across that time period. So without any real knowledge about what that plan is, it's impossible for us to infer anything in that regard other than to point out this kind of information that -- for example, if you take money out of a plan sooner, it in essence is going to reduce your long-run return basically on that program.

So again, that's -- this is the kind of information that we try to bring to the attention of the employers and their actuaries, because they also utilize their own actuarial firms to infer a discount rate for themselves in the utilization of these particular sleeves.

COMMITTEE MEMBER MATHUR: Right. So do we share with employers any projections of, let's say, if you withdraw within five years, this is what the return might be; if you withdraw in 10 years, the return would be higher; if you hold it for 30 years, then the return would be higher still? Do we do any of that kind of sort of sensitivity analysis around withdrawals?

INVESTMENT MANAGER REESE: We'd have to probably work with the program team to determine if they present that type of information to the employers.

COMMITTEE MEMBER MATHUR: Okay. Yeah, I see that's maybe not your side of the world.

INVESTMENT MANAGER REESE: Sorry.

COMMITTEE MEMBER MATHUR: So that's fine, that's fine. Thank you.

I just wonder in this, you know, what -- particularly as we've seen contributions go up on the retirement side for employers, if there's going to be more pressure for employers to withdraw earlier than they might have expected on the retiree medical side just to make their budgets work. And I just wonder if more information would be useful to employers as they're making decisions around that.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Yeah, I think -- and Steve Foresti from Wilshire Associates just whispered in my ear an observation that is actually really germane to the point that you're making, Ms. Mathur. And it's the difference between the short-run market expectations, years 1 through 10, versus the longer 11 to 60 set of expectations. If you look at these numbers, you literally will see in some cases we have over 200 basis points difference between shorter-run expectations versus longer run.

So literally a lot of these blended return numbers are obviously dependent on those long-run expectations that we do not believe are necessarily going to be realized, let's say, over the next 10 years. So that's another cautionary note on exactly the dimension that you're pointing out.

We view -- basically when you -- the bigger the gap between those short- and long-run expectations, we consider that almost like a risk factor. It obviously points to the fact that there's a lot of uncertainty and potential disagreement within the marketplace about what will be the realized rates of return over protected time periods. So that kind of uncertainty is another dimension I think that again points to the need for the employers to think about what sleeves they pick, and have that dialogue with their own actuarial firms to really try to understand their own profile. And they could literally -- you could remodel this information basically either based on that short-run sort of expectations or on the long-run sort of expectations. But, you know, that's consideration that they need to build into that.

COMMITTEE MEMBER MATHUR: Yeah. Okay.

Thank you.

CHAIRPERSON JONES: Ms. Yee.

COMMITTEE MEMBER YEE: Thank you, Mr. Chairman.

I had a couple questions regarding the LRS, and one having to do with the reduction in the treasury inflation-protected securities by 10 percent.

Notwithstanding Mr. Eliopoulos' observation that inflation as we see it today is still contained, just wondering if you were -- how confident you are in this allocation given the expected rise in inflation rates.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Why don't I take a shot at that one. And maybe what I would do is move into one of the -- I think it's page 22, which starts to get us out into some of the appendix material. And this, Ms. Yee, I believe gets to the point that you're making; that, in essence, what we're saying is, for example -- what we're really doing in this instance is we're shifting exposure from the TIPS program into the Global Fixed Income program. And that's really based on a slightly higher yield to the Global Fixed Income program in contrast to the TIPS yield.

The issues that we've identified I think with inflation assets in relation to the PERF also potentially dovetail into these programs. Until we get to a conclusion on what we think is sort of the optimal structure, to the extent that there is such a thing, for inflation assets or the specification of that, we're basically maintaining some degree of diversification by incorporating these, and that's the effect of the constraints that Alison spoke to in the information.

We tend to believe though that still having -- I mean, what you have at this point even if you go to the portfolio -- the recommendation, you still have exposures of 16 percent to TIPS, you have exposure of 5 percent to commodities, exposure of 8 percent to REITs.

So we think that that's probably an adequate level given the uncertainty that attaches to that.

But there's no perfection in this.

COMMITTEE MEMBER YEE: Sure.

MANAGING INVESTMENT DIRECTOR BAGGESEN: This is also a dance between attempting to maintain diversification and to generate a high enough level of return that it doesn't require a change to the discount rate that's currently being used for this program. And both the LRS and the JRS II programs, trying to maintain that expected rate of return to not require a change to the discount rate, actually requires a slight bump up in the expected volatility of the asset allocation. And that's the tradeoff being driven by the capital market assumptions.

COMMITTEE MEMBER YEE: Okay. Good. Thank you.

And then I guess speaking of the discount rate, which happens in the LRS at 5.75 I think in 2014 -- is that --

INVESTMENT MANAGER LI: It's 5 percent.

COMMITTEE MEMBER YEE: It's 5 percent now?

INVESTMENT MANAGER LI: Yes.

COMMITTEE MEMBER YEE: But it was 5.75.

I was just wondering whether there are any impacts with respect to the contribution rates given that change.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Yeah, that's -- I don't know that we have that information. I think we would have to ask the actuaries on that question.

COMMITTEE MEMBER YEE: Okay.

MANAGING INVESTMENT DIRECTOR BAGGESEN: But we could certainly if you're curious about that I think bring that information back.

COMMITTEE MEMBER YEE: Okay.

MANAGING INVESTMENT DIRECTOR BAGGESEN: But that discount rate I believe has already been established at 5 percent.

COMMITTEE MEMBER YEE: 5 percent, yes.

MANAGING INVESTMENT DIRECTOR BAGGESEN: So that adjustment in those -- and the impacts of that have already been incorporated into the contribution structures for these programs.

COMMITTEE MEMBER YEE: Okay. Got it. Thank you.

CHAIRPERSON JONES: Okay. Mr. Juarez.

ACTING COMMITTEE MEMBER JUAREZ: Yeah. I just had a question relative to the JRS I, and just to get a better understanding how a pay-as-you-go pension program works. Would you just briefly tell me how the money -- what the cash flow dynamics are.

INVESTMENT MANAGER REESE: Yes, to the best of my understanding. So on an annual basis, the -- the State budget sets aside an allocation to pay for benefits. I believe it's about $250 million as part of the -- you know, the General Fund budget. And benefits are paid -- I believe the contributions go into the Treasurer's office and then are paid on a monthly basis out of those funds. Any shortfall in those funds, we -- is another reason why we could potentially tap the reserve; but that hasn't been required.

So, the --

ACTING COMMITTEE MEMBER JUAREZ: So there's no investment whatsoever? It just goes -- it's an appropriation that goes to pay off --

INVESTMENT MANAGER REESE: Correct, correct.

ACTING COMMITTEE MEMBER JUAREZ: -- the obligations associated with the people that were originally in the program?

INVESTMENT MANAGER REESE: Correct.

ACTING COMMITTEE MEMBER JUAREZ: Okay. Thank you.

CHAIRPERSON JONES: Mr. Miller.

COMMITTEE MEMBER MILLER: Yes, thank you.

I had a question -- I'm not sure, I don't have figure numbers, but I think it was page 17, the JRS II candidate portfolio and risk considerations slide. And you may have touched on some of the answers to this responding to Ms. Yee.

But I'm wondering why the recommended candidate portfolio with a 5 percent volatility versus the current policy portfolio with 4 percent volatility with the same contribution. Is it related to that balancing of those asset allocations? Or what are the factors that --

INVESTMENT MANAGER LI: Sorry. If you are asking for the contribution volatility, that's not the volatility of the fund. It's the volatility in contribution rates. So the -- because of the -- based on the simulated returns and also the projected liabilities, you calculated contribution rate based on the formula of the Actuarial Office. And when there's a volatility in the simulated returns, there will be volatility in the contribution rate. And that change hopefully is not above 3 percent because that will cause difficulty in the agency budget. So we calculate the percentage of times that change is above three percent.

COMMITTEE MEMBER MILLER: Right. I guess I'm just wondering what were the factors that would go into recommending that a slightly higher contribution volatility would be warranted with -- we're only seeing this one other factor here. But does that relate back to the more favorable asset allocation considerations or --

INVESTMENT MANAGER LI: Yes. Yes, there's -- the risk considerations is only one factor we considered in the strategic asset allocation. This first of all does not consider the -- the annualized return of each portfolio, which will be -- have higher weights in our consideration.

So this is just one facet of the outcome of such a strategic asset allocation, which is: What's the percentage of the time that change in the contribution rate will exceed 3 percent? And that's a concern for some of the employers.

COMMITTEE MEMBER MILLER: Great. Thank you. That's very helpful.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Maybe I could also bring a little more context to your question, Mr. Miller. And again, I would point us out to page, I think this one's 23, which deals with the JRS II portfolio.

If you look at the -- if you look at the current portfolio page on that -- let me just get to it -- the assumed rate of return in the current portfolio given the capital market assumptions that have been adopted would be approximately 6.44 percent. That's just marginally under the 6.5 percent discount rate. So literally the slight shift in asset allocation in this instance basically. So it's, in essence, putting a little bit more money into equities, taking a little bit of money out of fixed income. There's about a 2 percent shift in that regard. That's literally to bring that expected rate of return up to the 6.5 percent so that the actuaries can, in essence, maintain that 6.5 percent discount rate.

That's the reason for adopting or assimilating or accommodating that little bit higher volatility, which marginally increases the probability that you could get a contribution change above 3 percent, as you point out.

COMMITTEE MEMBER MILLER: Thank you.

CHAIRPERSON JONES: Ms. Hollinger.

COMMITTEE MEMBER HOLLINGER: Yes, thank you very much.

Well, first of all, I wanted to thank Ms. Li and Ms. Reese, because you explained something that's very complicated in terms of the different nuances and the different compositions of these portfolios in terms of maturity, duration, et cetera. So thank you.

My question is a little bit along the lines of Ms. Mathur. Because in order to get the benefit of compounding, the money's got to sit there. So are we recommending that at least it gets to bake at least 10 years or -- because -- or -- I don't know, I'm just confused on that.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Let me take a shot at that one.

I actually think CalPERS is not necessarily recommending anything. That's a decision that's up to the employers --

COMMITTEE MEMBER HOLLINGER: Got it.

MANAGING INVESTMENT DIRECTOR BAGGESEN: -- in the discussion with their actuaries.

CalPERS has built three portfolios that we think represent reasonable alternatives depending on the conditions that the employers and their actuaries believe that they're in. But it's entirely -- it's like a defined contribution plan, in essence, for the employers. So we're not making any specific recommendation. We're just trying to point out the sensitivity to the data that exactly both you and Ms. Mathur have pointed out in that regard. That should be part of their consideration.

COMMITTEE MEMBER HOLLINGER: Right. That should they deviate from that, the numbers would change.

And then my other question is, do we ever stress test these in a bad market year?

MANAGING INVESTMENT DIRECTOR BAGGESEN: The answer's yes. And I think I'll let Alison speak to that, and the stress test chart.

INVESTMENT MANAGER LI: Yes, here's the stress test. So we look at the tech bubble and the great financial crisis. And so the -- this is like, because it's back we're looking, so each time you do a stress test that the portfolio has the highest expected return, the highest volatility will sustain the largest drawdown. But we think in terms of the amount of drawdown, that's still endurable by the responding affiliate plan.

COMMITTEE MEMBER HOLLINGER: Okay. Thank you. Appreciate it.

CHAIRPERSON JONES: Mr. Brown.

ACTING COMMITTEE MEMBER BROWN: Yes. Thank you. And I just have another I guess follow-up question on the CERBT.

I'm sure, as you know, the State has agreed with all of its employees to start prefunding OPEB, and about half of them have already started to prefund the rest will start on July 1st. So obviously a big chunk of money coming in from the State employer and the State employees. And we do plan on having it bake for 30 years. So I just wanted to confirm that you've taken that into account as you've built your recommendations for the asset allocation.

INVESTMENT MANAGER REESE: Yes. That was a component in terms of the cash flow forecast and the information that we received from the program area and the financial team.

ACTING COMMITTEE MEMBER BROWN: Thank you.

CHAIRPERSON JONES: Okay. Mr. Slaton.

COMMITTEE MEMBER SLATON: Thank you, Mr. Chair.

I know of one local agency called SMUD that's in the CERBT and actually in the -- in number 1, and very happy to have that available. Because under the MUD Act, that that local agency is not allowed to invest in the market. So this is the one vehicle that can be used for doing that.

I think that -- from my conversations with them, I think a lot of agencies -- those who are in it now -- and we're pretty -- haven't gotten to the funding level but it's fairly significant, was able to build it up pretty fast, are not in the mode yet of pulling money out to do it. You know, it's just -- it's the normal part of the budget for retiree medical and they've been able to deal with it. So I think that there's a -- there's going to be a period of adjustment of probably a few more years before agencies start getting in the mode of saying, "Well, gee, we can use part of this" for actually meeting the requirement and try to get the level up.

My question is -- SMUD is in the most aggressive fund. But if you look at how the breakout is, there's only about 4 percent of the money that's been put in is in that more aggressive investment.

Most of it's in the least aggressive fund.

So why is that? What do you think -- what's your conversations with -- because, again, this is the one place where the employer gets to choose. It's not a choice made by CalPERS.

INVESTMENT MANAGER REESE: And so if you look at - let's see - slide 6.

So strategy 1 is the most aggressive, which is the 5.6 billion. And that was the first -- that was the first strategy that was opened.

After that, strategy 2 and strategy 3 were opened. Strategy 2 has the 880 and 3 has 261.

So strategy 1 being the most aggressive is the --

COMMITTEE MEMBER SLATON: Oh, I had it backwards.

INVESTMENT MANAGER REESE: Yeah.

COMMITTEE MEMBER SLATON: I had it backwards. Sorry.

INVESTMENT MANAGER REESE: That's okay.

COMMITTEE MEMBER SLATON: Well, let me ask the question in reverse. Why is 3 -- why does the least aggressive strategy have so little participation?

INVESTMENT MANAGER REESE: Yeah. I mean that's really up to the employers. If they want to -- they are free to change strategies given, you know, a certain amount of notice. They're free to move from 1 to 2, 2 to 3, and what not. Like we say, I mean it's really up to the employer to make that choice as well.

You know, in working with their actuary, they -- you know, depending on their funding level, you know, should potentially indicate what strategy they invest, but it's not necessarily always the case.

COMMITTEE MEMBER SLATON: So we may actually see -- unfortunately we can't do this in the PERF. But we may actually see agencies saying, "Well, as I reach a higher funding level, it's time to take risk off the table." So is that -- is that kind of what we might see as a future scenario?

INVESTMENT MANAGER REESE: Correct.

COMMITTEE MEMBER SLATON: Okay.

INVESTMENT MANAGER REESE: That is the idea, as they get -- as they get more well funded, to potentially move down to the strategies. When they -- you know, when they -- when they move from strategy 1 to 2 though, they're funding level -- that calculation will change.

COMMITTEE MEMBER SLATON: Yeah. But if they reach a point where they're 100, 110 percent, then it may be prudent to make that kind of move.

INVESTMENT MANAGER REESE: It would be. And that's why, you know, we have the three offerings to enable them to do that should they so choose.

COMMITTEE MEMBER SLATON: Is there consideration of a fourth offering that really does take all the risk off the table once you reach a point where you're effectively fully funded?

INVESTMENT MANAGER REESE: Yeah. It has come up I believe in conversations with certain employers. You know, being that the third strategy is still quite small and we haven't seen a lot of movement in that direction, it's still a conversation at this point.

COMMITTEE MEMBER SLATON: Yeah, I know at least one agency back in 2006 said they wished they could have taken their PERF risk off the table.

INVESTMENT MANAGER REESE: Right.

COMMITTEE MEMBER SLATON: They wanted to do that, but there was no vehicle to be able to do it.

Okay. Thank you.

CHAIRPERSON JONES: Okay. Ms. Mathur.

COMMITTEE MEMBER MATHUR: Thank you.

Yeah, I think given the discussion it's clear that this is -- the recommendations of the Investment Office are the appropriate strategic asset allocations for the LRS, the JRS, JRS II, and CERBT, and so I move that we approve that.

COMMITTEE MEMBER HOLLINGER: Second.

CHAIRPERSON JONES: It's been moved by Ms. Mathur, seconded by Ms. Hollinger.

But before we vote, we do have a request to speak on this item from the public. Mr. Al Darby.

And Mr. Darby has requested one additional minute to his time, and I'm going to grant that. And by granting that, any other speaker today will also be able to request an additional minute.

MR. DARBY: Good morning, Mr. Chair and Board members. Al Darby, Retired Public Employees Association Vice President. My comments relate to the PERF more than to these trusts, but it certainty could have some application with the trust.

At RPEA we're receiving more and more inquiries from our members regarding the funded status of CalPERS. Frequent negative news articles and reports are raising concerns that the sustainability of CalPERS is in doubt.

Additionally there were reports of dysfunctional behavior within the Board that is interfering with the sound administration of the CalPERS business affairs.

They also question why there hasn't been substantial positive appreciation of funded status considering that more than 30 -- there's a 30 percent increase in the Dow over the last 18 months, a 40 percent increase in the NASDAQ over the last 18 months, real estate values are escalating, private equity is gaining, rising fixed income returns, global equity is showing gains as well.

With 50 percent of the PERF investment pool dedicated to global equity, real estate values rising significantly, and dig again increases from recent tax cuts, RPEA believes we should be seeing better results.

Could it be that the attention devoted to ESG and corporate governance concerns are distractions that may be unnecessarily diverting attention from the Investment staff and managers from making consistently good investment decisions? Distractions around divestiture have been curtailed. Maybe these other distractions should be sidelined as well.

Now, the most important thing is that there's a new element here - or it's not that new but it's certainly a new element - the most recent perspective talks about risk and the issues around risk tolerance.

Have we become too risk averse? Is our risk tolerance lower now than back in the heyday of the late 1990s when the fund went into euphoric conditions?

If it is lower, is it appropriate? We now have an administration in Washington that is more business friendly than ever before in the modern era. This could dictate a more liberal tolerance than ever in the past. This notion is supported by the extraordinary strength of the economy now. Unemployment at 3.9 percent, low inflation and low interest rates still. Construction, everything else is booming.

RPEA is not -- is suggesting a radical departure from current risk levels. But economic conditions today don't match what was predicted two years ago, and that -- but that seems to still be driving CalPERS investment policy.

We repeat, risk tolerance should be at a higher level now than ever before based on the strength of the economy.

Moreover, CNBC reported today that corporations are using their tax-cut money to accelerate buy-back in stock purchases, thereby raising stock prices. Wage growth is gaining strength, a positive development for the economy as well.

We believe that all of these conditions should be fully taken into account by the Investment Committee and perhaps risk tolerance returned to its higher level. It seems that Joe Nation and those other fellows out there who -- and other people out there who seem to think that 4 percent fixed income is what we should be fixed at is, we believe to be, erroneous and we believe we should return to a little more aggressive investment condition.

Thank you.

CHAIRPERSON JONES: Okay. Thank you, Mr. Darby.

We have a motion by Ms. Mathur and a second by Mrs. Hollinger.

So all those in favor say aye.

(Ayes.)

CHAIRPERSON JONES: Opposed?

Hearing none.

The item passes.

Thank you.

We will now go to Item 6, information agenda item: Revision of the Total Fund Policy - First Reading.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Mr. Chair, members of the Committee, We'll give Kit time and Andrew time to move forward.

This is the first reading of the Total Fund Investment Policy, planned for two readings.

Give Kit time to get ready. I think she is ready to present the Total Fund Policy for you.

INVESTMENT DIRECTOR CROCKER: Thank you, Ted.

Kit Crocker, CalPERS staff. Good morning.

Item 6a is a first reading of staff's proposed updates to the Total Fund Investment Policy, arising out of this year's annual review. The annual review is an important part of our effort to maintain an accurate, current, and relevant policy framework. As this is a first reading, our goal today is to receive your feedback.

This year's annual review involved a comprehensive review and analysis of the policy section by section, working with the appropriate program areas. As a result, you'll see proposed changes across the investment fund -- Investment Office. Excuse me.

In addition, because the Governance and Sustainability Principles are housed within the Total Fund Policy, this draft also reflects the work done by staff and this committee over the past several months to identify additional areas of focus for the principles.

Apart from some clean-up changes, the additions to the principles address such key areas as CEO pay ratios, clawback policies, product safety, geopolitical risk, human capital management, corporate culture, and environmental management.

Also based on feedback at the last Investment Committee meeting in April, the principles now explicitly include sexual harassment in the clawback section, as well as a requirement that the Board be informed of action taken in the corporate culture section.

The changes flowing from the general policy review are intended, broadly speaking, to ensure basically three things:

First, that the fund remains in alignment with Board directives;

That it keeps pace with organizational and process changes in the Investment Office; and also, importantly,

That it continues to evolve toward a clear and consistent statement of Board direction, free of duplicative or primarily aspirational language or just business-as-usual content that adds no value to the oversight role played by this Committee.

To highlight just a few of these general review changes, there you'll see changes made to reflect the evolution of the Trust-Level Portfolio Management Team's role, such as the transition of investment risk and performance reporting duties from TLPM to the Investment Risk and Performance Team.

Also you'll note the relocating of the

responsibility for periodic review of the Investment Beliefs appropriately to this committee's responsibilities section. And language to support more meaningful oversight of the use of transition portfolios. We've added language to rationalize the requirements and reporting duties surrounding asset allocation shifts within the approved changes' ranges. And also updating the liquidity reporting language to reflect current practice to routinely report on liquidity risk considerations; in other words, not just at times of market stress.

Finally, just to note there are reference in today's agenda item to an Item 6b. That item was originally contemplated for this meeting today, pertaining to some proposed changes to the Private Equity Program policy. Please note staff plans to return to the Committee at a later date with those proposed changes. And we may or may not want to defer to that meeting any discussion of the related changes in today's Total Fund Policy discussion.

Again this is a first reading. We're looking for your feedback. And with that, I'll pause for questions and also invite PCA, Meketa, and Wilshire to comment.

CHAIRPERSON JONES: Okay. Ms. Mathur.

COMMITTEE MEMBER MATHUR: I think Mr. Junkin had a comment.

CHAIRPERSON JONES: Oh. Okay.

COMMITTEE MEMBER MATHUR: I'm happy to have him go before me.

MR. JUNKIN: Andrew Junkin with Wilshire. I just sort of had a stage-setting comment from our point of view, which is, despite the fact that our opinion letter is two pages, this is probably the agenda item we spent far and away the most amount of time on today. And I really actually want to take a moment just to commend staff for their approach in terms of a spreadsheet that they sent that listed every single change in the rationale. It really made the process very easy. There was a lot of back-and-forth follow up. So despite the brevity of our opinion letter, this has been thoroughly vetted by Wilshire. So I just wanted to note that at the beginning.

CHAIRPERSON JONES: Okay. So since we started with the consultants, I'm going to go down and have PCA and then Meketa.

MR. GLICKMAN: Thank you. David Glickman from PCA.

We echo Wilshire's overview. Our memo wanted to specifically point to one item that was included as new language and clarifying language. That spoke on page 36 of 102 to the responsibility of the Investment Committee to continue to reinforce and restate the Investment Beliefs. We think this is something that really belongs at the Investment Committee level and should be owned, those Investment Beliefs, by the Investment Committee. And this update to the policy underlines that and underscores that and makes it explicit, and we think that's a positive change.

Thank you.

CHAIRPERSON JONES: Thank you for that comment.

Meketa.

MR. McCOURT: Steve McCourt, Meketa Investment Group. We reviewed the policy changes in the context of our role as the Board Private Equity consultant and Infrastructure consultant.

The only item I wanted to highlight and we highlighted in our memo was that there are some inconsistencies in the required use of prudent person opinions between the Real Assets program and the Private Equity program. There's no issue with those being different necessarily, but it might be a topic that the Board would like to address with staff as you go through this policy -- these policy changes. I think, all else equal, having a consistent application of prudent person opinions is clear.

CHAIRPERSON JONES: Mr. Eliopoulos, on that recommendation, what is your feedback?

CHIEF INVESTMENT OFFICER ELIOPOULOS: Yeah, I think -- I think the point is well taken by Meketa. I think the area that really bears the most work is on the Private Equity policy in looking at it vis-à-vis the Real Assets program. As Kit mentioned, we'll be taking up the Private Equity policy for review next month; and I think that will be a good occasion for us to think through the truing up of both and the rationale for differences really based on risk characteristics. But next month will be a good time for us to follow through on that recommendation.

CHAIRPERSON JONES: Okay. Thank you. We'll look forward to that discussion.

Ms. Mathur.

COMMITTEE MEMBER MATHUR: Thank you.

So my question was with respect to the Investment Beliefs. Because as I remember the process, it was such a very thorough -- of developing them was such a very thorough process. It was really developed in partnership between the staff, the Investment Office, and the Investment Committee. And I thought that was a very productive process that led to a very strong set of beliefs.

So I guess I'm a little bit confused about just moving it to -- obviously, with policy, the Board adopts -- always adopts the policy ultimately. But it does seem to me that it should reflect better the partnership between the Investment Office and the Investment Committee in developing and perhaps refining and facilitating this process as requested. I guess I'm wondering if some periodicity is more -- is prudent. And so it's not quite where I think it ought to be. And I guess I would be open to further thoughts on why it was exactly done this way, but...

CHIEF INVESTMENT OFFICER ELIOPOULOS: Why don't I start, and then...

No, you're -- I think why we moved it was to be clear about the primacy of the policy aspects of the beliefs to -- you know, to reside with the Investment Committee, with no intent of lessening the spirit of partnership and the actual partnership; because, I agree, that was one of the hallmarks of putting this project together.

I think we should think a little bit. I think it's appropriate to have the Committee have the primacy of responsibility for -- you know, for the setting of the beliefs and the review of it. Why don't we think about some period of review that either the staff would affirm or, you know, bring it back or raise our hand that we think that it's timely for review. And I think mostly --

COMMITTEE MEMBER MATHUR: I mean, if you look --

CHIEF INVESTMENT OFFICER ELIOPOULOS: -- we'd want to time it towards our -- I think the right cycle is in conjunction with our ALM process, and making sure we do it that way.

COMMITTEE MEMBER MATHUR: Sure.

I mean, just looking at the way Total Fund is handled, it is both under the Investment Committee responsibilities and the Investment Office staff. And it seems to me the Investment Beliefs should be similar in that regard.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Yeah.

COMMITTEE MEMBER MATHUR: Thank you.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Kit, any other thoughts on that?

COMMITTEE MEMBER MATHUR: Sorry.

INVESTMENT DIRECTOR CROCKER: Oh, yes, yes.

I would only add, I think that reflecting the connection to the ALM process is appropriate. It is -- the Investment Beliefs are even a step higher up than, I'd say, the Total Fund Policy --

COMMITTEE MEMBER MATHUR: Sure.

INVESTMENT DIRECTOR CROCKER: -- which is fairly high up, and more like constitutional principles that you --

COMMITTEE MEMBER MATHUR: Sure.

INVESTMENT DIRECTOR CROCKER: -- I think we don't want to be re-examining and trying to change too often.

But I totally agree with Ted, and we will work on some language for the next reading.

COMMITTEE MEMBER MATHUR: Yeah. I'm not suggesting that it needs frequent changes. It's more just that to me it's a joint ownership. Of course the Board adopts it. But I think -- I guess I really want to preserve this view that it is -- it's a collaborative product of the Investment Office team and the Investment Committee, and that that should continue ongoing.

Anyway, I'll stop there.

INVESTMENT DIRECTOR CROCKER: Well, and totally understood. And I can see that I think in our efforts to be deferential, we may look like we stepped too far back. But not the intent.

CHAIRPERSON JONES: Yeah, but I have a little slightly different view of that. Because when we embarked upon our Investment Beliefs, if you may recall, it started out as a staff ownership project, and then we took a step back and we said the Board had to be involved, and so the Board took the ownership. But that did not eliminate the involvement of staff, because it was a group effort.

Because I chaired that committee and I remember staff being part of that, and three of us or four of us from the Investment Committee worked with staff and the consultants. So it was a cooperative effort.

But I think we also need to -- as we go forward in many of these projects, we need to have who is the owner of this project, because sometimes the lines get blurred. And so I for one would support designating who is the owner of all of the projects that -- even among your staff, you know, someone has to take ownership.

So that's my comment.

Okay. Thank you.

Any other -- no.

Seeing no further questions.

We now have -- that's -- I think we have -- that's an information item.

We do have a request to speak on this item.

Mr. Ben Vernazza.

And you will have up to four minutes, as I mentioned earlier, because we granted the previous speaker an additional minute.

MR. VERNAZZA: Good morning.

In April last year I presented a letter to CalPERS Governance which said: "By omitting a plan to manage uncompensated risks, this investment policy statement causes every fiduciary responsible for risk management, including Board members, to be in breach of their fiduciary duties."

My purpose today is to reaffirm in even stronger terms that the currently revision of the Total Fund Policy puts you further into your breach.

You, as trustees, face dire circumstances as is outlined in our recent article in the American Institute of CPAs June 2017 Tax Advisor: "Uncompensated Risk, the Orphan of Modern Portfolio Theory."

In June of 2015, and again in September of 2016, I made a presentation to this Board showing that if all California public pension plans, collectively with three quarters of a trillion dollars, were to reduce uncompensated risk to gain one basis points - one one-hundredth of one percent - additional return every year, the yearly benefit would be 75 million each year, which over 12 years at a target rate at that time of 7 and a half percent would accumulate to one and a half billion dollars.

I said a procedural process to prudently and reasonably reduce uncompensated risk needed to be in place.

During the fall of 2016, through the winter of 2017, we did a detailed study of five county public pension plans and found that all five were in breach of their duty to prudently and reasonably reduce uncompensated risk.

They left behind between 19 basis points to as much as 44 basis points on the table - left the money on the table - for not reducing uncompensated risk.

We then did a comparison with CalPERS, and found that during the same time period CalPERS left 40 basis points on the table compared to a reasonable uncompensated-risk-reduced portfolio. For CalPERS, that meant leaving 1.2 billion each year, which over 12 years at a target rate of 7 and a half percent could accumulate to $19 billion.

Significant circumstances are outlined in our recent presentation to the Professional Fiduciary Association of California made up of licensed and regulated fiduciaries by the State of California. Three things stand out:

The statute of limitations does not start to run until a breach is cured. That was a Supreme Court case three years ago.

Two, retirement plan fiduciaries are exposed to joint and several liability. E and O insurance policies -error and omissions - usually don't cover breach of fiduciary duties.

I've got a link at the bottom of the page you have that goes into 11 pages and the third restatement of trust, which is the basis for all uniform acts and the basis for the State of California Constitution regarding investments. You need to read that. It's highlighted where it demands that uncompensated risk be treated differently than compensated risk.

I've also attached just for your information comments that we made to the American Institute of CPAs draft expose --

CHAIRPERSON JONES: Sir, your time is up.

Your time is up.

MR. VERNAZZA: Fine. Thank you.

You can read that later.

CHAIRPERSON JONES: Yes. Okay. Thank you.

MR. VERNAZZA: Any questions?

CHAIRPERSON JONES: No.

Okay. We'll move on to the next item.

And you may return to your seat please.

MR. VERNAZZA: Thank you.

CHAIRPERSON JONES: We now move to Item 7, Summary of Committee Direction.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Yes, Mr. Chair. I'll take, as I believe directed, with respect to the Private Equity policy to bring back with the first reading of the Private Equity policy to look at the treatment of PPO opinions in the Private Asset classes.

And secondly, with respect to the Total Fund, to bring back at the second reading language with respect to the -- use the term "ownership" of the Investment Beliefs and the time periods for review.

I think those were...

CHAIRPERSON JONES: Ms. Yee had a request dealing with the discount rate.

Oh, your mic.

Hit your button.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Oh, for the LRS.

Okay. So -- yes, I see it now. So the impact of a discount rate -- of the discount rate on contributions for the LRS.

COMMITTEE MEMBER YEE: Yes, right.

Thank you.

CHIEF INVESTMENT OFFICER ELIOPOULOS: We'll look at that information.

CHAIRPERSON JONES: Okay. Thanks. So we're on the same page.

Okay. So that concludes the summary of committee direction.

Now we'll go to public comment. And we have two requests to speak. And as I've indicated earlier, you will have four minutes, consistent with my earlier decision.

And so Mr. George Linn and Mr. Dane Hutchings.

Go ahead, Dane.

MR. HUTCHINGS: Good morning, Chair, members. Dane Hutchings with the League of California Cities. Thank you for giving me the time today.

Despite the recent solid foundation report that was released by CalPERS, cities want to make it very clear that our foundation is rocky at best. According to the quarterly agency health report released by the Actuarial Office, out of the 449 cities in the CalPERS PERF, 180 of those cities are in the 60 to 70 percent funded status range. And this is based on the 2016 valuations before the amortization policy full discount rate reductions are being accounted for. We believe that a significant number of those 180 agencies are likely going to be falling within the 50 to 60 percent range once those new evaluations are made public in August.

Quite frankly, with no relief in sight for any sort of legislative relief, any judicial relief, it is incumbent upon this Board to try and maximize returns. It is the only lever that can be increased, and it is what local employers need to ensure that they can meet their monthly or annual contribution rates.

The Board must explore all options to maximize investment returns: assessing alternative, you know, private equity investment strategies; following the direction of other successful pension funds across the country and across the world; you know, looking at ESG in corporate governance and divestment policies. I firmly believe that there is a significant difference between ESG and straight divestments. You know, your staff has done a really good job of being able to explain the merits between both.

However, for us it's crunch time and, quite frankly, we simply cannot stand another market slowdown, substandard returns. We need as much money as possible to ensure that we can take care of our public employees, and continue to hire and retain public employees at the local level.

So, you know, my comments are very general. But in short, I think it is time to think outside of the box. We've got to think of other ways to try and figure out ways to outperform the projected 7 percent discount rate, especially within the next decade.

We all know that PEPRA is something that our members are looking for to seeing that cost savings come in. But it's going to be another 30 years before that really kicks in for our local governments.

It's how we get there. That's the issue. And thus far it's simply been the employer pays more. That's how we get there. The solid foundation in that report is predicated on local employers being able to make their monthly return -- their monthly payments. That simply just isn't going to be the case if we continue down this road.

And so I would encourage this Board to please for the sake of your members, your employees, and your employers to look at other alternative vehicles that can try and maximize returns while staying within of course the confines of your fiduciary responsibility.

And with that, I'll yield my time. Thank you.

CHAIRPERSON JONES: Thank you.

MR. LINN: Good morning, Board members. My name is George Linn. I'm president of the Retired Public Employees Association.

My comments are a little piggybacking on the couple that you've heard from members of the public, but they have a little slight change or direction.

The recent survey of stakeholders resulted in a confidence level dealing with the PERF tumbling from 70 percent to 50 percent. That's the confidence level that the stakeholders have in the fact that their pensions are safe.

It seems to me that the beliefs, which I don't disagree with, but the beliefs don't seem to resonate with these stakeholders. They don't understand how those actually come into play in the actual investment of the PERF.

I am concerned, because the press is not always our friend. And we need to find a way for this Investment Committee and the Investment Department and the Public Relations Department to do better to convince our stakeholders that the PERF is safe. This is a very important feature for any organization to be able to prove that they're safe. And when you tumble from 70 percent to a 50 percent confidence level, there's something wrong, whether it's in application, communication or some other feature.

Thank you.

CHAIRPERSON JONES: Okay. Thank you, Mr. Linn.

So that completes the requests to speak from the public. And so that means we are at the end of the agenda.

So this meeting is adjourned. And we will convene closed session in about 10 minutes maybe?

Okay. In 10 minutes.

(Thereupon California Public Employees'

Retirement System, Investment Committee meeting open session adjourned at 10:42 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 May, 2018.

JAMES F. PETERS, CSR
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