MEETING

STATE OF CALIFORNIA

PUBLIC EMPLOYEES' RETIREMENT SYSTEM

BOARD OF ADMINISTRATION

INVESTMENT COMMITTEE

OPEN SESSION

ROBERT F. CARLSON AUDITORIUM

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SACRAMENTO, CALIFORNIA

MONDAY, AUGUST 17, 2015 9:30 A.M.

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

APPEARANCES

COMMITTEE MEMBERS:

- Mr. Henry Jones, Chairperson
- Mr. Bill Slaton, Vice Chairperson
- Mr. Michael Bilbrey
- Mr. John Chiang, also represented by Mr. Frank Moore
- Mr. Richard Costigan
- Mr. Rob Feckner
- Mr. Richard Gillihan, represented by Mr. Ralph Cobb
- Ms. Dana Hollinger
- Mr. J.J. Jelincic
- Mr. Ron Lind
- Ms. Priya Mathur
- Ms. Theresa Taylor
- Ms. Betty Yee

STAFF:

- Ms. Anne Stausboll, Chief Executive Officer
- Ms. Ann Boynton, Deputy Executive Officer
- Ms. Cheryl Eason, Chief Financial Officer
- Mr. Ted Eliopoulos, Chief Investment Officer
- Mr. Matthew Jacobs, General Counsel
- Mr. Eric Baggesen, Managing Investment Director
- Mr. Scot Blackledge, Assistant Chief, Legislative Affairs Division

APPEARANCES CONTINUED

STAFF:

- Mr. Réal Desrochers, Managing Investment Director
- Ms. Cheryl Edwards, Committee Secretary
- Ms. Christie Gogan, Investment Director
- Mr. John Rothfield, Investment Director
- Mr. Wylie Tollette, Chief Operating Investment Officer

ALSO PRESENT:

- Ms. Julia Bonafede, Wilshire Consulting
- Mr. Andrew Bratt, Pension Consulting Alliance
- Mr. Dan Crowley, K&L Gates(via teleconference)
- Ms. Christy Fields, Pension Consulting Alliance
- Mr. David Glickman, Pension Consulting Alliance
- Mr. Andrew Junkin, Wilshire Consulting
- Mr. Tom Keck, StepStone
- Mr. Mike Moy, Pension Consulting Alliance
- Mr. Michael Ring, Service Employees International Union

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1 PROCEEDINGS 2 CHAIRPERSON JONES: I would like to call the 3 Investment Committee meeting to order. The first order of 4 business is roll call, please. COMMITTEE SECRETARY EDWARDS: Henry Jones? 5 CHAIRPERSON JONES: 6 Here. 7 COMMITTEE SECRETARY EDWARDS: Bill Slaton? 8 VICE CHAIRPERSON SLATON: Here. 9 COMMITTEE SECRETARY EDWARDS: Michael Bilbrey? 10 COMMITTEE MEMBER BILBREY: Good morning. COMMITTEE SECRETARY EDWARDS: John Chiang 11 represented by Frank Moore? 12 13 COMMITTEE MEMBER CHIANG: Good morning. 14 COMMITTEE SECRETARY EDWARDS: Richard Costigan? 15 COMMITTEE MEMBER HOLLINGER: John Chiang is here. 16 COMMITTEE MEMBER EDWARDS: Oh, I'm sorry. 17 (Laughter.) COMMITTEE SECRETARY EDWARDS: Richard Costigan? 18 19 CHAIRPERSON JONES: Excused. 20 COMMITTEE SECRETARY EDWARDS: Rob Feckner? COMMITTEE MEMBER FECKNER: Good morning. 21 COMMITTEE SECRETARY EDWARDS: Richard Gillihan 22 23 represented by Katie Hagen? Not --2.4 THE COURT REPORTER: Ralph Cobb. 25 COMMITTEE SECRETARY EDWARDS: I'm sorry?

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             THE COURT REPORTER: Ralph Cobb.
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             COMMITTEE SECRETARY EDWARDS: By Ralph Cobb, I'm
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    sorry?
             ACTING COMMITTEE MEMBER COBB: Here.
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             COMMITTEE SECRETARY EDWARDS: Dana Hollinger?
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             COMMITTEE MEMBER HOLLINGER: Here.
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             COMMITTEE SECRETARY EDWARDS: J.J. Jelincic?
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             COMMITTEE MEMBER JELINCIC: Here representing
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   myself.
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             COMMITTEE SECRETARY EDWARDS: Ron Lind?
             COMMITTEE MEMBER LIND: Here.
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             COMMITTEE SECRETARY EDWARDS: Priya Mathur?
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             COMMITTEE MEMBER MATHUR: Good morning.
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             COMMITTEE SECRETARY EDWARDS:
                                           Theresa Taylor?
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             COMMITTEE MEMBER TAYLOR: Here.
             COMMITTEE SECRETARY EDWARDS: Betty Yee?
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             COMMITTEE MEMBER YEE:
                                    Here.
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             CHAIRPERSON JONES: Okay. Thank you very much.
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   The next item on the agenda is the Executive Report, Chief
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    Investment Officer briefing. Mr. Ted Eliopoulos.
             CHIEF INVESTMENT OFFICER ELIOPOULOS: Good
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   morning, Mr. Chairman.
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             CHAIRPERSON JONES: Good morning.
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             CHIEF INVESTMENT OFFICER ELIOPOULOS:
   morning, Investment Committee members. I'm going to focus
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my comments today -- this morning on a subject that has definitely been well covered in the media over the course of the last few months and that's private equity industry, in general, and, in particular, private equity fees and carried interest.

I will cover -- as I usually do, I'll start from our Investment Beliefs, then talk about our PEARS Project, talk a little bit about the complexities of private equity for CalPERS and then end with a discussion of the alignment of Board and staff around the private equity portfolio.

So with that, I'll start with Investment Beliefs. And as was highlighted in last December's Private Equity Program review, private equity does have, and clearly has, some characteristics that are clearly aligned with CalPERS Investment Beliefs, such as our long-term time horizon, and our willingness to take risk where we expect to be adequately rewarded.

Over the long term, our Private Equity Program has generated absolute returns in line with our expectations. Currently, private equity is the only asset class in our portfolio that is expected to exceed our seven and a half percent target rate of return on a net basis. As such, private equity remains an important component of our portfolio and the overall sustainability

of the CalPERS system.

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You may also recall, however, that in that same program review, and from other conversations we've had in this Committee, there are elements of private equity that are not as well aligned with our Investment Beliefs. In fact, it was the only asset class during last year's program reviews that had a red component in the program review in December.

By its very nature, as a private investment class, this asset class challenges CalPERS commitment to transparency, and clear alignment of interests and accountability between ourselves and our managers. It is also our most expensive asset class, both in terms of the base management fees, as well as the profits that we share with our managers in the form of carried interest.

Turning to our PEARS Project, I want to emphasize that staff recognized these challenges and has been seeking to address them in a very deliberate and thoughtful manner to help move the ball in some of these areas of focus. For over the past three years, staff has been working on a comprehensive accounting and reporting package to improve transparency and alignment in our private equity investments.

Starting in 2012, the Investment Committee -this Investment Committee has been apprised regularly on

the PEARS Project effort, our progress, and the status of its implementation. We are pleased to report that earlier this year we went into live parallel testing on the system, and we have been successful in collecting the requisite information from our managers to ensure improved transparency and more accurate accounting of costs and of profit sharing.

This is a significant milestone and positions
CalPERS to more fully report on private equity fees and
total profit sharing later this year. A key component of
the PEARS Project was receiving the information from our
general partners in a consistent, usable form. CalPERS
has partnered with the Institutional Limited Partners
Association, otherwise known as ILPA, since 2012 on the
development, use, and widespread adoption of a data
template to capture this information at the partner level.

This effort has born fruit, where we now have excellent best practices provision of the information by approximately 94 percent of the general partners in our portfolio. More recently, CalPERS has been working with other limited partners and the I-L-P-A, ILPA, to expand the types of fee information provided on our private equity investments. We plan to provide an update on this effort later this year during the program review for private equity.

The goal of all these efforts is to move some of the red zones I mentioned in last year's program review to yellows and even greens in the future. And that brings me to some of the complexities of private equity for limited partners and for CalPERS. And in that regard, one outstanding question that has been raised, I believe, and our entire staff believes requires attention. That is why we have not provided estimates of carried interest or profit sharing in the past.

In fact, a question was raised about this in the media about whether staff was actually hiding this information around this topic. I can assure you that that is not the case. In large part, the direct answer to that question was exactly why we identified the problem back in 2012 and initiated the PEARS Project.

To offer some context, the calculation of carried interest paid on a portfolio of CalPERS size, its age, and complexity is a massive undertaking. And given the size of our private equity portfolio, the expected error in any estimation could be even larger than some entire pension plans.

Later in open session, Réal will present an information item that will provide an example and some examples of private equity cash flow that we hope will help illustrate some of these complexities, hence our

hesitancy to provide estimates. Our goal around this since 2012 has consistently been to produce and disclose an accurate figure based on reliably complied information, and we are pleased to be around the corner from doing just that.

And in this regard, with respect to private equity as an asset class, alignment amongst Board and staff is crucial. Given that private equity has elements that CalPERS likes and elements that make it a challenge, given our Investment Beliefs, continued investment in private equity requires continued alignment by our institution.

In closing, I'm very proud of the work we have done so far and recognize that there is still much to do. But the fact that we are here today spending part of our day talking about private equity cash flow is a good thing. CalPERS is leading in this conversation. We have a long history of fighting for the best possible terms and conditions in our private equity transactions. We will continue to do that.

This conversation and the attention it is generating in addition may result in greater introspection by the private equity industry, by its array of limited partners throughout the globe, and regulators on the topic of fees. What is an appropriate management fee? What

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level of profit sharing adequately recognizes a manager's skill and expertise, and also fairly compensates the limited partner for assuming the risk?
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These are questions that deserve renewed attention and consideration, and we look forward to being part of that conversation. In the meantime, we remain focused on providing the most accurate and open look at our investments as possible. We'll continue working to complete our initial report of private equity carried interest, and look forward to presenting you with the final results later this year.

Mr. Chair, thank you for the time.

CHAIRPERSON JONES: Okay. Thank you for the presentation and comments.

Next item on the agenda is we have one consent action item, approval of the June 15, 2015 meeting minutes.

Do we have a motion?

COMMITTEE MEMBER MATHUR: Move approval.

VICE CHAIRPERSON SLATON: Second.

21 CHAIRPERSON JONES: Moved by Mrs. Mathur, second

22 by Mr. Slaton.

All those in favor, aye please?

24 (Ayes.)

25 CHAIRPERSON JONES: Opposed?

1 Hearing none.

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The item passes.

The next item consent information items. No one has requested additional information on any of those items, but just a second.

Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: I had a number of questions about C, but the deal with performance, and we're going to review that later, so I'm perfectly willing to put those off, if that's the --

CHAIRPERSON JONES: Okay. Please do.

COMMITTEE MEMBER JELINCIC: But on D, the compliance, I did have one relatively short question that I'd like to ask.

CHAIRPERSON JONES: Okay. Go ahead.

COMMITTEE MEMBER JELINCIC: And this is on attachment 2, page 10 of 17. And I've given you the heads up it was coming.

The third one from the bottom is a contract PEARS - change manager to create and implement change management plans and -- you know, changing the manager this late kind of struck me as kind of strange. So can you -- and then -- can you clarify what that actually was intended to mean?

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Wylie Tollette, CalPERS staff.

Yes, I can clarify. Occasionally, staff will hire what is known as a change manager to help develop new procedures when we implement a new investment system. Basically, it allows us to sort of change our workflow and our process. So this doesn't actually refer to -- it's rather inelegant wording in the document, but this doesn't refer to changing any manager within the plan. It refers to actually a discipline within the System's implementation of change management.

COMMITTEE MEMBER JELINCIC: And there's been no resistance by staff to this change?

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: No, not at all. In fact, staff is enthusiastic about the PEARS program coming on board.

COMMITTEE MEMBER JELINCIC: Thank you.

CHAIRPERSON JONES: Okay. Thank you.

The next item on the agenda is the Global Governance Policy Ad Hoc Subcommittee Report. And for that, I call on the Vice Chair of the Global Governance Policy Ad Hoc Subcommittee report, Mr. Bill Slaton.

VICE CHAIRPERSON SLATON: Thank you, Mr. Chair.

The Global Governance Policy Ad Hoc Subcommittee did meet on June 17th of this year. The Subcommittee approved the plan to revise the Global Governance

principles incorporating the CalPERS Investment Beliefs and the Global Governance Program's core issues.

There is no meeting this month. The Subcommittee will meet in September to review the -- to review the revised draft of the Global Governance principles.

CHAIRPERSON JONES: Thank you, Mr. Slaton.

Next item on the agenda is Item 6, Asset

Allocation, Performance, and Risk, CalPERS Trust Level

Review.

Mr. Eliopoulos.

(Thereupon an overhead presentation was presented as follows.)

CHIEF INVESTMENT OFFICER ELIOPOULOS: Thank you, Mr. Chair. If you may, we're going to give a minute for your CalPERS staff to assemble, as well as our consultants are going to make their way up to -- yeah, make their way up to the bar here. I think we have enough seats.

(Laughter.)

trying a new choreography to our biennial trust level review here. We will have -- rather than bringing each consultant up individually as the time comes, it was, we thought, better to have everyone seated, so the Committee can ask questions. And the presentation after this minute or two at the beginning we think will go better by not

having such a flurry of activity as we turn to each consultant.

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We're going to begin here with Agenda Item 6A.

And as is our custom in reviewing every six months the performance and risk positioning and general market conditions prevailing in the global economy, the first --

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CHIEF INVESTMENT OFFICER ELIOPOULOS: -- the staff and the consultants switch who will present to you first. So for August, it's your Investment staff's turn to go first with our presentation. And that will be covered here by myself, Wylie Tollette, Eric Baggesen, who are relatively frequent fliers before this Committee for sure. And then you will remember John Rothfield our Investment Director, within fixed income, which is his day job. And he also provides and is the CalPERS economist for the total fund. And John presents much of this information that you'll be seeing today as part of our senior investment review meetings monthly within our program. So welcome, John, thank you for being here again with the Committee.

I'm going to -- actually, before I turn it over to you here, John --

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CHIEF INVESTMENT OFFICER ELIOPOULOS: -- I'm just

going to -- hopefully, I won't -- we've divided the presentation today, so that you'll be hearing, first, from John on the macroeconomic environment prevailing. And given the volatility in the markets and the interesting developments throughout the globe, we're going to present with -- start presenting with that first. And then we'll be returning to myself to look at the return for the total fund and our affiliate funds for the fiscal year. And then we'll be turning to look at the risk positioning of the fund, both first by Wylie Tollette, and then we'll be looking -- Eric will lead a rather detailed look into our risk attachment that is presented to the Committee during this review. So I wanted to give a brief highlight of what to expect for the Committee.

After that, during questions and answer period, once we've concluded the staff presentation, then we'll turn it over to the array of consultants that are here. First, Wilshire, then PCA, and then StepStone will be presenting information on the total fund on real estate and on infrastructure. So that gives you a sense of the flow of the day.

Of course, for particular questions, the Committee, feel free to ask any questions directed to either the staff or consultants during the pendency of this review.

Before I turn it over to John, I really wanted to --

CHAIRPERSON JONES: Ted, before you get started,
Mr. Jelincic has a --

COMMITTEE MEMBER JELINCIC: Yeah. Ted, I would actually like to back up one slide. As you know, we've changed some classifications and the -- many of the people looking at this will not know what a Managing Investment Director is versus what it used to be. And so I was wondering if you can describe those titles and compare them to the old classes so people have a context in which to look at this.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Sure.

COMMITTEE MEMBER JELINCIC: Thank you.

CHIEF INVESTMENT OFFICER ELIOPOULOS: We're still getting used to the new classifications ourselves. So as the Committee is aware and I think the public is aware, we have a new classification system that was approved by Calhr and put into use both by Calpers and Calstrs at the beginning of this fiscal year beginning in July.

The Managing Investment Director title, Mr. Baggesen holds here --

(Laughter.)

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CHIEF INVESTMENT OFFICER ELIOPOULOS: -- is the title formerly known as the Senior Investment Officer. So

we've converted now the SIO, or Senior Investment to the title Managing Investment Director.

Investment Director is the title now, classification now, for what was the Senior Portfolio Manager, or SPM. And then for the Portfolio Manager position, it's now Investment Manager.

Thank you. So that's the classification summary. CHAIRPERSON JONES: Thank you.

COMMITTEE MEMBER JELINCIC: Thank you.

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CHIEF INVESTMENT OFFICER ELIOPOULOS: I was wondering, I said I don't think there was a page before this, but you're right there was.

(Laughter.)

CHIEF INVESTMENT OFFICER ELIOPOULOS: So for here, just as the preamble going into John's macroeconomic review, which I think is important, because I think one of the questions the Investment Committee always has in its mind and we have in our mind is why does all that matter? What does it mean?

And looking at this incredibly executive summarized summary, it's important for you to look at the big points. The total return for the fund moderated this year, as we've been talking about. Boy, last February and March I was before the Committee and said expect

moderating returns in the coming years coming off what was then a six-year bull market. And certainly a 2.4 percent return for the total fund reflects that environment, at least for this past fiscal year.

We'll take a look at the economic and market conditions now going into year seven of that bull market. And we'll spend quite a bit of time discussing that. But what I wanted to highlight is something I think the Committee knows well, but it's important as we both consider the macroeconomic environment, but also look at the positioning of the portfolio from a risk perspective.

And in that regard, the total fund from a strategic asset allocation side has a heavy emphasis on growth assets. We have a -- you know, a dominant positioning in global equity and private equity. And that will continue and has continued and is a dominant feature of the risk positioning of the portfolio.

In addition to that, that's on a strategic basis, from a tactical perspective for the course of this last fiscal year, and certainly for the last five years, we've had an overweight position to this equity exposure, which generally, you know, reflected our view of the bull market and prevailing market conditions that are now moderating. And much of our discussion now, looking and now turning to John, as you see his slides, you can see on his summary

page --

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CHIEF INVESTMENT OFFICER ELIOPOULOS: -- which I promised to get back to before -- when we started, you see a more balanced positioning of both positive and negative news. And if you look back at these slides over the course of the last six years, we had a much more positively weighted slide presentation, which reflected -- which reflected that conditioning.

So with that, I will turn it over to John to lead this next part of the discussion.

INVESTMENT DIRECTOR ROTHFIELD: Thank you, Ted, and good morning to everyone. I appreciate the opportunity to be able to give some color on the macroeconomic back-drop. And obviously, my role here, as part of this trust level review, is to highlight elements of the business cycle and maybe the policy cycles here and abroad that may be relevant to fund and asset class performance.

And I think Ted made a key point that when we've presented this table that I think the Board knows pretty well every month for maybe the last six years, there have been more things in the positive column than the negative column. We're now more evenly balanced. And we are into the seventh year of an economic expansion. The last

expansion only lasted exactly six years, according to the National Bureau of Economic Research, which has a business cycle dating committee. So that expansion was six years.

The prior one to that was 10 years. But again, we're starting into the seventh year of an economic expansion. And this time in the last expansion, the -- basically the business cycle flamed out and asset markets began to rapidly underperform.

The overall theme though is still that some of the imbalances that derail the last expansion that lasted from 2001 to 2007 are not with us in the current cycle. And I'll elaborate that on one of the other slides that I cover in a minute, but we are entering a point of the expansion where macro fundamentals are perhaps saying that the returns on financial assets and housing assets may not be as aggressive as we've seen in the first part of the cycle when the Feds had very easy monetary policy and expanding the monetary base.

So again, turning directly to slide five, which is the positives versus the negatives in the economy and going through a few of these. Firstly, the economy is doing better than the aggregate data suggests. The data for the first half of the year showed that the economy only grew by a little over one percent. That's actually going to be revised up a little bit with the data that's

came out since we produced this table a few weeks ago.

And then we've had a pretty good start to the economy in the third quarter.

So I would say overall, for the first three quarters of the year, we're just in the third quarter now, the economy has grown in the high ones. One of the other factors which me and other economists thought would be a positive for the economy is that benchmark revisions which happen every year and revise five years of economic data for the economy were expected to be revised up, because we've had such strong employment growth in the last couple of years. In fact, the bench mark revision showed a small downward revision to GDP.

And I think it's very relevant that following on that downward revision the Congressional Budget Office announced new estimates of what's the potential growth of the economy. So not what's the actual growth, but how quickly can the economy grow given what's happening to the labor force, what's happening to productivity, which is essentially the growth we're getting per unit of labor that's added to the economy.

And in this expansion, again the six-year expansion, the potential growth of the economy has only been 1.35 percent per year. A very, very low number. To put that in context, in the last expansion, the potential

growth of the economy was 2% percent. So we essentially got half of the potential growth. This is why in an expansion, which we've only had 2% percent growth per year, we've managed to get a significant reduction in the unemployment rate.

It's essentially saying that we've got low growth of the labor force. We have -- we're in a low productivity world, and therefore, you know, the bar on getting a decline in the unemployment rate is much lower than it used to be.

So it is a positive for the economy that it's doing better than perhaps some of the aggregate data would suggest. But we're also in an environment where one has to recognize that we're just in a slow growth environment overall. We could get a more sustained and extended expansion, but it's going to be a low growth one.

A second significant positive for the economy is a strong housing market. In the year to the June quarter, there were 1.6 million households formed in the U.S. That's people going into vacant and newly built houses, and creating households. That creates a lot of expenditure on related items like furniture and other things.

In that year to the June quarter, there were 1.6 million households formed. In the prior two years, there

were only 800,000 a year. So we're finally at the point now where folks are starting to form households. The economic expansion is extending a little bit into younger and lower income earners, and they're managing to get out and form households. And also, there's been a supply response to the demand for housing.

U.S., rather than single-family homes, is very, very strong now. And we're finally getting the market satisfying the demand for rental properties. Again, that's causing people to move out of large households into new households and creating a new form of spending in the economy.

And also, if you read consumer sentiment, despite the fact that house prices are rather high right now, mortgage rates are still low, plans to buy a house in the populous still remain quite strong. Another positive is strong household balance sheets. The household sector is not spending its new found improvement in wealth or its gradual improvement in income.

Again, that's kind of a double-edged sword, because it means that top-line revenue growth is not as aggressive -- aggressively strong as would otherwise be the case, but it's good for the longevity of the economic expansion.

We have well-supplied commodity markets. So I think last year there was something like one million barrels per day excess supply over demand in the energy market. That's gone up to two this year, and could easily be two and change next year.

Now, weak energy markets have some problems globally with creating some financial instability for sellers of energy. But the U.S. is still a net importer of energy to the tune of about 15 percent of its demand. And therefore, ultimately the U.S. is a net beneficiary from lower energy prices, even though it causes some problems in the U.S. with lower CapEx in the energy sector.

It's also the case that pre the El Niño event that's likely to hit the U.S. in the year ahead, food stuff prices have come way down, so wheat, corn, things like that, which again is interesting in itself for both dis-inflation in the economy, but it's also helpful to the consumer sector who's facing lower gasoline prices, and lower prices for the food stuffs that it consumes, which overall, if you take those two together, it's about a ¼ of the household budget.

And then finally, we continue to have supportive public policy. So the European Central Bank and the Bank of Japan continue to purchase bonds in those countries.

And that's creating a demand for assets, both risk assets both within Japan and Europe, and also outside. And so some of that demand for securities has come to the U.S., and that's helping to suppress bond yields and keep our stock market going higher.

The People's Bank of China is also doing the same thing by cutting interest rates and reducing its reserve requirements. Of course, the latest move by the Bank of China, which is to allow currency to move into a more managed float, and devalue its currency again is not as supportive of growth around the rest of the world, as some of their other policy changes, but it's all part of the effort by China to start to stabilize their economy.

Moving across quickly to discuss some of the negatives in the economy. Yes, it was a very soft half -- first half of the year for economic growth. It's a little under one percent on the first reading. That's going to be revised up. But again, you have to put that in the context of these very low numbers for potential growth of the economy.

Another issue in the economy right now is CapEx and investment intention. So capital spending by businesses, which actually did quite well in the first six years of the recovery, in a two percent growth economy, CapEx was growing about five percent a year. So CapEx was

growing kind of consistent with a slow growth economy.

But in the first half of this year and looking forward, capital investment intentions by businesses and their orders for capital equipment have come down. A lot of that has again been in the energy sector, where some of these new suppliers of energy in the U.S. are facing issues around low oil prices and cash flow related to the production of this new form of energy, but also CapEx in other sectors like aircraft has also slowed down a bit.

Another factor which is highlighted is weak spending by State and local governments, and also the federal government. So if you took out federal and State and local government, growth in the economy over this last six years would have actually been quite a healthy three percent. So federal and State and local government spending have actually taken almost a percent off growth over that period of time.

Now, actually one could argue that the weaker the public sector spending has been, that's allowed, what they call, crowding in, which is more private sector spending. It's help keep interest rates low. It's allowed private sector growth to be higher than expected. But overall, that's been a key feature of the recovery so far.

There are some encouraging signs that State and local spending on both CapEx and labor hiring has started

to improve. So we may actually see an improvement in that element in the economy going forward.

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A key negative in the economy right now is tight labor markets. So the government produces a report each month, which is how many job openings there are in the economy, which is a little over five million. The number of persons available to fill those jobs has fallen to a very low level. That's the number of people who are actually unemployed and those who aren't even looking for a job that would like a job. That number has fallen very low. So again, in this low growth environment, we've already reached the point where we may not have enough labor, given current immigration policies, and given current willingness to participate in the labor force to keep growth going at a pretty good rate. So the unemployment rate in the economy has come down to only $5\frac{1}{4}$ percent.

Corporate debt is another thing that we're watching, because corporate debt is growing at about a six percent rate right now. That has picked up. It doesn't seem to be excessive against company valuations of -- both in the stock market and government estimates of what corporates are worth, but it is something to watch out for.

And then the tail-risks. Greece -- I think when

we spoke here last time, Greece was a significant tail-risk. They have a third program now with the international community. I still think Greece is going to be an issue, because ultimately they need to create some exports to go along to help pay for the future of their debt repayment, and their exports growth has been very weak.

They're also being required to run a very onerous budget surplus. So ultimately, I think Greece will come back onto the radar screen of global risk assets, but it's not going to be for now. And as I've already mentioned, I think China and Asia has become more of an issue for global growth. China is slowing down. They're deregulating, but having to do a managed deregulation. And the Asian currency, called the ADXY is down about eight percent. That's forcing up the value of the U.S. dollar.

So I just wanted to quickly go on to page seven --

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INVESTMENT DIRECTOR ROTHFIELD: -- which is looking at the -- this theme that the expansion can go on for longer, because we haven't had any leverage and imbalances, which derailed the last expansion in 2007, but we are getting into an environment where we're -- it may

be a little bit more challenging for market returns.

So going through a couple of these elements of the table. In the last expansion, household debt rose from 102 to 135 percent of disposable income. In this expansion, we've actually come down from 128 to 106 percent. The only growth of the -- the only leverage going on in the household sector is student debt and auto credit.

Corporate debt as I mentioned is growing at six percent, but at the end of the last cycle, it was growing at 12 percent. Foreign trade. In the last expansion, our trade deficit blew out to six points of GDP, which typically an unstable situation. Right now, our foreign trade deficit with the rest of the world is only 2½ points of GDP.

There are three reasons for that. One is the responsible household sector is creating a domestic pool of savings, so we don't have to borrow from abroad. The government has been much smaller in this expansion, so we're not having to borrow to fund government. And then the third element is that we have this energy boom, which has taken about a point off the foreign trade deficit. So it's very good for the longevity of the expansion.

The federal budget, the deficits come down to a third of what it had been. So all of those things suggest

that the imbalances, which typically derail an economic cycle -- the last few economic cycles have been longer than back in the seventies and eighties. We're not at that point anywhere near it.

And if you look at the chart on the top right, you can see that total leverage in the economy, which is all non-financial debt to GDP has just been very stable since the recovery started in 2009, very much like the leverage free expansion -- the 10-year expansion that we had in the nineties.

In the two different expansions in the 1980s and the 2000s, we saw a rapid rise in leverage in the economy, which ultimately derailed the expansion.

So -- and then the final point I guess is that why are we in a more challenging environment overall for asset markets than we have been before?

One is, as I mentioned before, the unemployment rate has gotten very low. So at some point, you start to get a worsening tradeoff between growth, hiring and growth, and inflation as companies have to bid up wages to start to attract workers. That's typically not particularly good, because the fed has to start to react to inflation and raise interest rates, which could well happen as early as September.

The other thing is a measure that a lot of

economists look at, which is net worth to income, so that's the chart on the bottom of that page, which shows that the valuation of household net worth, which is the value of all stocks and houses that the household sector owns, X liabilities, which is essentially mortgages, that's got up to 6.4 times one year's income.

And you can see that in 2000 and 2006, those valuations proved to be roughly the top in terms of how high valuations on financial assets and houses had gotten relative to household disposable income. The good news is that the U.S. valuation, which is 6.4 times one year's income is lower than most other countries. In Canada, I think it's 7.7 times. Japan it's eight. The UK it's eight. But in the U.S. every time we've got to these levels, you start to get financial assets in house -- prices growing only about the same pace as income, not faster than income

So to summarize, we are in a point now, six years into the economic expansion, where we're seeing more even positives and negatives that are affecting fund and asset class performance. The good news is we're not seeing the imbalances that typically derail an expansion. So overall, it looks to be still a pretty good environment for risk. However, market returns become probably more challenging at these elevated valuations.

1 Thank you

CHAIRPERSON JONES: Thank you very much. We have a couple of questions.

Mrs. Mathur.

COMMITTEE MEMBER MATHUR: Thank you, Mr. Chair, and thank for your report, Mr. Rothfield.

My question is really about some of the longer term issues that could impact the economy over not just the next one, two, three years, but over the longer term, issues such as climate change, the drought here in California, which is -- you know, even with the upcoming El Niño that's projected, could still be a long-term problem for California. Dislocations in the labor market, where people have permanently dropped out of the labor market, which you've mentioned labor tightening, but I think some significant component of that is that people have completely dropped out of the labor market as opposed to just there not being people.

So could you talk about some of those longer term issues. Income inequality is also another factor I think that could impact our economy over the long term.

INVESTMENT DIRECTOR ROTHFIELD: Yeah. I think a key element, of course, is the aging of the population too, if you throw that in there as well. So the proportion of folks 55 and older in the population has

started to rise. Currently, those folks are all staying employed for longer. In fact, most of the job growth in this expansion, including the past year, has actually come from people 55 and older.

But as their worth gets restored, and as they start to get 65 -- you know, the proportion of 55 and older -- that 65 and older is starting to rise as well, those folks are going to drop out of the labor force. So there's been quite a bit of discussion about given the aging of the population, given income inequality, and climate change, things like that, are we ever going to see the improvement in productivity that we've had in past cycles.

I guess another factor probably is the fact that we're more of a service-based economy than we had been in previous expansions. Another one is that where the growth measures a -- fail to capture technology as well. So the Congressional Budget Office essentially, as I mentioned it, has 1.35 percent potential growth for the expansion. They see the economy eventually getting to a running rate of about 2 to 2% percent. But that's well below kind of the four percent potential growth that we used to have in the old economy, which was based on manufacturing. We had the Baby Boomers and all that kind of stuff adding to the labor force.

So it clearly -- you know, I think that even the Congressional Budget Office, and those in government see this as a longer term issue.

Another issue related to that, of course, is that the calls on the budget as people get older and start to take out medical and social starts to become very high. So the government has got to tighten up in other areas, and that becomes a burden again on the younger parts of society. So, yeah, I think that it's fair to say that the next few decades are going to result in significantly lower potential growth. And so far, it's been a -- it's even been a more negative surprise than the Governor had originally projected. I think people would have been very surprised that potential growth had gotten as low as it has in the economy, but I think it is going to continue to be an issue going forward.

COMMITTEE MEMBER MATHUR: And some of the climate change drought issues.

INVESTMENT DIRECTOR ROTHFIELD: I mean, things like, you know, emission controls and things like that on the economy, I'm not quite sure of what overall impact that's having on actual and potential growth, but, you know, the Kyoto targets and things like that, I think, is generally considered that globally growth will have to be a bit lower than would otherwise be the case. So that has

impacts on both us and the international.

COMMITTEE MEMBER MATHUR: And have you looked at sort of the up -- what's coming up at the Paris talks and the UN, and sort of what the two degree economy and what that -- how that might impact --

INVESTMENT DIRECTOR ROTHFIELD: No, but I think that probably is a good area for -- to look at. Again, we've been just focused on how low productivity growth has become in the economy potential growth, but I think that's a good area that maybe we could bring back to the Board next time.

COMMITTEE MEMBER MATHUR: Terrific. Thank you.

CHAIRPERSON JONES: Thank you.

Mr. Chiang.

COMMITTEE MEMBER CHIANG: John, in regards to the net worth to income ratios, do you know the deviation, right, because we talk about this most recent recovery and the wealthy have gotten wealthier, those in the bottom strata have not recovered as well. And then secondly, I don't know if you ever -- if you look at these numbers and additional numbers, not only net worth to income, but retirement savings to income. And then we've been referencing the Baby Boom generation or older generations. Do we know what those numbers look like?

INVESTMENT DIRECTOR ROTHFIELD: Yes. The

government does a survey every three years. The last one was 2013, so we won't get new data till 2016. The 2013 survey was kind of based on -- you know, 2010 survey was based upon the collapse of everything after the financial crisis. 2013 was a slight recovery. 2016 will probably give us a better idea about where net worth and retirement savings stands for different income and age groups.

But clearly, the point that you're making is very important, which is that most of this improvement in net worth has come for the top 20 percentile of income earners. So those who are renters and those who don't have -- didn't have many financial assets to start with just haven't participated in this recovery. This is part of the reason that the national savings rate is five percent.

In the previous recovery, it got down to one to two percent. A lot of folks had a huge increase in their worth and just haven't spent it. Whereas, the low income earners pretty much spending still everything that they get. So that is an issue.

And the retirement savings issue is an interesting one as well, trying to break that household net worth down into income groups. Again, that's something I could try and break down for you.

COMMITTEE MEMBER CHIANG: And then energy prices.

So the energy prices have dropped, and so there is that immediate benefit to consumers or households. But as you pointed out, the -- and some people have done the tie, you did -- that you had less CapEx investments. Do you have a specific breakdown for California as to -- right, because you talk about a bump -- a small bump up with increased consumer spending, but a long term -- a longer term drag, because less CapEx spending. How did that impact California, if you have those numbers?

INVESTMENT DIRECTOR ROTHFIELD: I can -- we can get those numbers for you.

Overall, the initial impact on CapEx has been much more aggressive than the uplift in consumer spending. And that's partly because we've had a very strong driving season in the U.S. The latest decline in energy prices we've seen in the first couple of months of our fiscal year hasn't translated into lower gasoline prices. It will by the end of the year, but, yeah, we can get those numbers on the impact on CapEx nationally and in California.

COMMITTEE MEMBER CHIANG: Thank you.

INVESTMENT DIRECTOR ROTHFIELD: Sure.

CHAIRPERSON JONES: Okay. Mrs. Yee.

COMMITTEE MEMBER YEE: Thank you, Mr. Chairman.

A couple of thoughts. And I just wanted to also

echo, particularly as we look at long-term decisions, the aging of our population, longer life expectancy, and obviously all of the attendant issues associated with that. And I don't know that we've done that in any kind of systematic way, but it just seems to me that whether we're looking at risks with respect to, you know, health care needs, and -- I know there's a lot of attention now focused on alzheimer's disease and the lack of any kind of response in terms of, you know, getting out ahead of, you know, some of these types of things that are going to happen with an older population.

So I'd just like to see us maybe kind of look at that whole kind of area with a little bit more of a systematic examination as we go forward.

With respect to the energy markets - and I really appreciate this economic overview - it seems to me that aside from the long-term types of issues or maybe even long term and short term that Ms. Mathur had identified, given the state of the energy markets, I'm wondering if it would not be appropriate to revisit, given that it is a buyer's market, where California currently is with coal. And a lot of attention focused on that. But I would like to, Mr. Chairman, if possible, to just kind of have a focused conversation on that at our next meeting and agendize that, particularly since the United States seems

to be a place where we've got other alternatives. And I think the -- I mean, the way we've been managing this has been appropriate, although, I don't want to miss any opportunities in terms of just not having the lines cross where we're going to end up spending more just with respect to our engagement process and not really taking the opportunity to -- I don't know, I'll say divest that I think coal is unique, in terms of where else we may be able to put our assets.

CHAIRPERSON JONES: Okay.

COMMITTEE MEMBER YEE: So if we could agendize an item specifically on that, I would really appreciate that.

CHAIRPERSON JONES: Okay. Ms. Taylor.

COMMITTEE MEMBER TAYLOR: Yes. Thank you, Mr. Chairman. I just wanted to comment on I think you did a great job of giving us an idea of what our short-term investments and trust level review is, but I wanted to echo what Ms. Mathur was saying and say that we kind of need to look more into the long term. You know, we have some income inequality issues. And you had mentioned I think on that, that you had savings figures that are coming up, like five percent savings.

And I was just -- what concerns me, is that a short-term savings figure? Where is that coming from and who's that -- and you also said that because there's an

increase in income. So how is that being figured?

INVESTMENT DIRECTOR ROTHFIELD: In the last expansion, we got gradual improvements in income growth, more employment, wage growth started to pick up. But folks in that last expansion started to take equity out of their home loans. They started to take out mortgages, et cetera. So if they were owning \$100, they were spending 99 of those dollars.

In the current environment, they're spending only 95 out of \$100 that they earn. And that's actually good for the economy, because essentially it's creating a pool of savings that enables, you know, borrowing costs to be held down in the economy. It means we're not relying on foreign savings. So it's a number that actually comes out each month. It shows how much income is growing in the economy, and how much spending is growing and it's the residual between the two.

COMMITTEE MEMBER TAYLOR: What's that inclusive of? So you're talking about mortgage equity. So is that part of that? So you're saying that mortgage equity is part of our savings, Americans in general overall?

INVESTMENT DIRECTOR ROTHFIELD: How much of our income is being spent on servicing a mortgage, that part of it, goes into the spending that's happening in the economy.

COMMITTEE MEMBER TAYLOR: Okay. And there -- but are there other factors involved in that -- in the savings that you were talking about or is it just mortgages?

INVESTMENT DIRECTOR ROTHFIELD: No. It's really residual. It's just the difference between what people are spending and saving. So actually the mortgages is actually part of their spending, right. The savings is what's left over after that. So they're putting that in brokerage accounts, checking accounts, things like that. So this is a different kind of expansion where we're not seeing -- we're not seeing households as a unit, as an aggregate, drawing -- you know, spending all of their income. And again, I think --

COMMITTEE MEMBER TAYLOR: I'm just curious as an American myself how do you get that information, like how do you know what I'm spending and not spending, you know what I mean?

INVESTMENT DIRECTOR ROTHFIELD: Yeah. The government data on this might not necessarily be good. And the saving's rate is actually residual. They observe from survey what the income in the economy is, whether it's wages, dividend income, transfer payments that people receive. They make an estimate of that. They make an estimate of savings across all different consumer spending categories. And they say the difference is the savings

rate.

COMMITTEE MEMBER TAYLOR: Right. So that could actually be a misnomer, because --

INVESTMENT DIRECTOR ROTHFIELD: They could be wrong. I mean, they revise it -- they revise it quite often, but I still think the point remains that even if the errors between different periods consistent with each other, we're saving about four percent of income more than we had previously. And again, I think that's partly because most of the income gains and the wealth gains have gone to the rich, who are already spending about as much as they can. So I think that's why we probably -- that's part of the reason that we haven't had the savings rate come down.

COMMITTEE MEMBER TAYLOR: Right. Okay. That makes sense. Thank you.

CHAIRPERSON JONES: Okay. Mr. Chiang.

COMMITTEE MEMBER CHIANG: Yeah. I want to probe deeper on Theresa's line of questioning. So in that data that the -- you reference that the government collects, do they segment that data as to long-term savings or short-term savings? Because right, there's a lot of research that's being done, St. Louis Fed, New York University, professors. And so the poor now are saving, but it's not long-term savings, because they are more

subject to the vacillation of their daily lives and what's happening with the economy. So do we have a better sense of that?

And then my second question actually was towards, Henry, Betty in regards to looking at coal. So we were referencing California, but are we looking at coal as an investment from a general perspective or are we just looking at it from California, because China has -- as you cited -- referenced, right, they under -- they're becoming more environmentally sensitive. They understand -- you just look at -- go to Beijing and have a hard time breathing for many. And so they understand and reduced impacts.

So I don't know what that line of -- how extensive that line of discussion for the next hearing on coal would incorporate. So, John, on that data in regards to savings do we have a sense of a period of time?

INVESTMENT DIRECTOR ROTHFIELD: Again, that kind of breakdown happens in the triennial survey. And again, I think it is fair to say that that lower income cohort, or the younger cohort, is putting in shorter term shavings rather than longer term savings. The other thing to note is that many people think that with the fed having zero interests rates for such a long period of time, as people are getting older, they're not getting any return on their

more stable fixed Income investment, so they're having to increase their investments in riskier assets, and have a higher savings anyway, because they don't have a guaranteed form of return on their income through interest rate -- you know, interest income. So I think that's another element there as well.

But again, I can do a deeper dive into that data that came out of the last survey and get you the numbers.

COMMITTEE MEMBER CHIANG: Yeah. So I'm just seeking clarification. So they do try to measure how long those dollars are being saved for. Do they segregate it by --

INVESTMENT DIRECTOR ROTHFIELD: Not the longevity, but the type of financial product that the savings is being distributed to.

COMMITTEE MEMBER CHIANG: The -- then I would encourage you to look at JPMorgan Chase. They started a think tank as they're using data analytics --

INVESTMENT DIRECTOR ROTHFIELD: Okay.

and I'm not sure if Wells Fargo or the other big institutions are doing the same. We certainly ought to encourage them so that we have a better sense of how we lift people out of poverty, and how they're spending, how they're saving, automatic timing of payments, because

the -- I understand our charge, but the more we better understand, the better we can help our beneficiaries.

INVESTMENT DIRECTOR ROTHFIELD: Sure. And I realize every time I've been before the Board that income distribution and different spending patterns by different levels of income has always been a very important factor, so I'll, you know, do some more work into that.

COMMITTEE MEMBER CHIANG: And then the -- I'm sorry, the last line, if we could look at the volatility of people's wage hours and the productivity, right, because the productivity doesn't get fully reflected with what's happening with technology, so a lot of those numbers are off. So I know we have productivity discussions, but the -- I'm not going to speak for the other Board members, where those misses are and the gaps with the increased productivity, technology, and how it impacts the workforce and hours. That discussion would help me.

INVESTMENT DIRECTOR ROTHFIELD: Okay. Sure. Will do.

COMMITTEE MEMBER CHIANG: Thank you.

CHAIRPERSON JONES: Okay. Before I call on the next Board member, Ted did you want to make a comment.

CHIEF INVESTMENT OFFICER ELIOPOULOS: With respect to coal, as I think the Committee knows, there is

pending legislation with respect to divestment of coal by CalSTRS and CalPERS. As part of our engagement with the legislature on that pending legislation, we have not planned on bringing an item to this Committee until the law has become enacted, and that -- we're expecting that once that happens, that will trigger a whole series of evaluations, evaluations for this Committee, divesting of coal or not, a whole series of engagements that staff would undertake with coal companies.

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That legislation is not targeted just to coal companies in California. It's a revenue based definition of divestment of certain coal companies. So we would start and use that definition as part of the presentation we'd be bringing to the Committee later this year early next year.

In addition to that, timed with that review of potential divestment of coal, we are also planning to bring to the Committee in October and November reviews of the current divestments within the portfolio, so that the Committee would have full information before it with respect to the current customizations within the portfolio.

Okay. Thank you, Ted for the COMMITTEE MEMBER YEE: I guess I don't want the legislation to kind of update.

Yeah.

Ms. Yee.

CHAIRPERSON JONES:

drive our timeline on how we look at this issue. I think given the presentation we had this morning, and what's happening in the energy markets, I would like to see us, independently from the legislation, take a look at what our options are. And I would -- and I think part of that presentation would be about our engagement with coal companies.

But I just feel like we're going to miss opportunities here. It's a dynamic field. There's global impacts. I think as we're getting this presentation this morning, I'm convinced that the short term and the long term are kind of really interrelated, and that we just really can't separate the discussion. And so I would like to see a discussion on where we are with coal, separate and apart from the legislation.

There's a lot of pressure, obviously, on divestment. I want to be sure that we're making good decisions around how we handle our coal holdings. I certainly hope that we're not increasing our coal holdings at this point in time, given the pressure, and -- but those are all things that I think would be worthy of a public discussion as the legislation continues.

CHAIRPERSON JONES: Okay. I'm going to comment in a, but Mrs. Hollinger, do you want to --

COMMITTEE MEMBER HOLLINGER: Thank you. Thank

you FOR the report.

I just wanted to clarify regarding Theresa and John. I wasn't clear whether the increase in savings is a result of equity in the home, if that's being factored in. And the other thing I think I'd like you to add in that, which just initially seems a little bit counterintuitive to me on the lower end when we have had no real wage growth, how that impacts savings? I don't.

INVESTMENT DIRECTOR ROTHFIELD: Yeah. So on the home equity loans. I mean, the data that the New York Fed and then the Federal Reserve Board puts out every quarter shows that in the last economic expansion, we had a big buildup in home equity loans. We actually haven't seen that. We've seen a drawdown in home equity loans. So as they runoff, people have just been paying them off and there's been no regeneration of a new around of home equity loans. So people aren't taking out those home equity loans.

So what that obviously means is that if people are taking out a home equity loan, they would have better cash flow and they would spend more. And that would show up in spending in the economy and bring down the savings rate. So that -- again, we just haven't seen that in this cycle.

With regard to --

COMMITTEE MEMBER HOLLINGER: But then theoretically they wouldn't qualify for increased home equity loans, because their wages have remained flat.

INVESTMENT DIRECTOR ROTHFIELD: Yeah, I think part of the reason we've had very low interest rates, there have been some regulatory factors that have, you know, raised credit scores to be able to get any, whether -- a mortgage loan or a line of credit. I think there's been both a supply and demand issue. Financial institutions have been less inclined to lend for home equity, given what happened in the recent memory in the housing cycle, but also demand for those loans has come down as well.

People have just been more cautious. They saw volatility in their net asset position and they're being more cautious. And they want to retain that equity in their home as a form of, you know, cushion and future consumption rather than consuming now, which is what we did in the 2000s.

With regard to your other element of about, you know, employment growth and wages, we actually have recently seen a little bit of pick up in employment 16 to 24 year olds, and also folks who just have a high school degree, and also, of course, there's been an increase in minimum wage in many states as well, which is starting to

show up a little bit in the wages data. Again, the aggregate wages data on the economy doesn't really bifurcate between high and low income earners. But just by looking at where the jobs growth is coming and the improvement in the minimum wage, we are starting to see a little bit of an uplift in that group.

The other piece of evidence there is that household formation has increased. So this is a lot of young people who now feel more confident. Maybe they've gone from part-time to full-time work, which is another way to increase your income. That group has become more emboldened to get out of a larger family, maybe leaving their parents into particularly rental properties.

So we are starting to see that bubble up in the economy, but in no way is this kind of reducing the disparity in income and wealth growth that's occurred in this the expansion.

COMMITTEE MEMBER HOLLINGER: Thank you.

CHAIRPERSON JONES: Okay. Thank you. Yes, a number of requests have been made, and in some you -- or in the affirmative said that you can get that information and bring it back, and I've been jotting down notes. And so I think we need to look at our agenda going forward and see which one of these is information based, that is relatively easy to provide to the Committee.

On the divestment, you mentioned that's already scheduled to come to the Committee, the divestment report. And that perhaps is where the discussion of coal can be addressed from an informational point of view, as opposed to a policy decision, because as you mentioned, that legislation is pending, and we don't want to try to have a position on legislation that we don't know what the outcome may be. So what is your response to that approach, Mr. Eliopoulos.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Well, I think we'll we look -- we can look at the calendar to see when might be a good point in time to bring back a discussion on coal. It's a relatively small portion of the overall equity portfolio. The reason I'm hesitating is the global equity review is set to begin next month. I don't know that we can put together a presentation that quickly on the coal assets, but we'll look to see whether there's a logical spot to put it in the current agenda, and then consult with the Chair to see whether there's a time period that we can bring it forward, prior to when we were expecting to do it some time in early next year.

CHAIRPERSON JONES: Okay. Thank you. And then on the other items that you've indicated an affirmative, that -- such as the net wealth to income, the income inequality issues, where there's research data that may be

available, then that can be provided to the Committee going forward. So we appreciate and look forward to getting that kind of information.

We have a couple more questions. I had a question on the -- to John on the comments about the 1.6 million new households. We have is it BlackRock is becoming the largest mortgage holder in the U.S.?

INVESTMENT DIRECTOR ROTHFIELD: Yeah, I think one of the reasons that the outstanding mortgages to the household sector haven't been rising, yet we've had a lot of household formations, is essentially BlockRock and other institutional investors have been, you know, pooling resources, buying dwellings, and renting them out to people.

The home ownership rate has come down to a level we haven't seen since the fifties and sixties. A lot more -- a lot higher percentage of the population is representing, and usually the landlord is somebody like BlackRock.

CHAIRPERSON JONES: And some economists have indicated that this approach that BlackRock is using could lead to another mortgage disaster. And so what are your views? I mean, this is -- various economists are making comments about this may lead to another disaster. What are your views in this area?

INVESTMENT DIRECTOR ROTHFIELD: Well, I think one of the issues is that we formed a lot of households in the 2000s. There were a lot of subprime borrowers. Number one, the household ownership rate went up very aggressively; secondly, you know, folks who typically would be renting or owning; and, then the number of households formed each year became very, very elevated.

What we've done over the last six years is we've drown all those numbers down. So if you look at the typical household formation pattern over the long term, and I know that slowed down because of lower population growth, et cetera, we still have -- we still have a way to catch up in terms of household formation to get back to where we were before the recession.

So, yeah, I mean, if you add some of the borrowing that some of the investors in housing have been doing and put it on top of the outstanding mortgages, maybe that's growing faster, but nothing is growing as fast as it was during the subprime crisis. And we just haven't had the household formation or the change in status from rental to ownership that would suggest that we're going to have a repeat of what happened in the late 2000s.

In fact, now we have a very low home ownership rate, and we have relatively low rate of household

formation over the last six years. So if anything, I think there's still a potential upside for housing, rather than the cycle that we've -- the financial cycle that we went through in the 2000s.

CHAIRPERSON JONES: Okay. Thank you.

Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: In a couple of the slides you're talking about corporate growth. But one of the things you said was there was modest CapEx improvement is consistent with the slow growth economy, but then investment in -- to GDP is high. If you're going to comment on that later, I'll hold off that question. If not, let me ask it.

And the other thing is you've talked a lot about the current status. Do you think these trends are going to continue, since, you know, investments is forward looking? You know, when you look at five, I mean, is that -- that's a snapshot of where we are. Do you see a change coming forward?

INVESTMENT DIRECTOR ROTHFIELD: Well, with regard to CapEx, I think that, you know, we've -- in the six-year expansion, CapEx has grown at a five to six percent rate in an economy that's only been growing at about two percent. So CapEx went from a relatively low contribution to the economy to be a driver of growth. And we're at the

point now where it's contribution to the economy is about where we typically reach at a peak.

So I think naturally you're going to start seeing a little bit of a lower rate of growth in CapEx. So, you know, I don't think CapEx is a problem, and I think a lot of this borrowing that corporates is doing is switching between debt and equity. And if you look at some of the debt valuations in the corporate sector relative to the valuation of those companies, it's -- we're still not at excessive debt levels for corporate.

So the corporate sector has become a little bit more of a borrower and spender. But against valuations of companies, it doesn't look to be too excessive at this point.

With regard to the future of the economy, I think the key issue is, you know, we're in a six-year expansion, which was how far we got last time before it flamed out. But again, I think the prognosis is that we're probably more likely to be two-thirds of the way through a low leverage expansion, which is what we had last time.

I think one of the key issues, which gets back to Ms. Mathur's point was, you know, what kind of potential growth can we have in that environment where we're not getting any growth in the labor force?

So, you know, I think that probably the most

likely thing to happen over the next few years is fairly similar growth rates than we've had in the early part of the expansion, numbers in the low 2s, if you like.

Ultimately, we'll hit a very unemployment rate, which will

curtail the expansion of that point, but we still have a way to go. The unemployment rate can still come down another point and a half.

More people can go from part-time work to full-time work to keep the expansion going. So, you know, my guess is we're kind of two-thirds of the way through this expansion. Some of the drivers of growth may change a little bit. I think residential construction, other forms of construction could become a little stronger. Once we start to get some wage growth and lower income growth, consumer spending could do a little bit better. And government should go from being a negative in the economy to be at least neutral, maybe positive, if State and local revenue starts to improve.

So State and local government has been underinvesting in a lot of their social -- you know, some of their spending obligations as a highlight on one page of that report. I think maybe State and local government will start to become a little bit more of a driver of growth as well.

So, again, I think, you know, on balance, we are

going to the next two, three, four years continue to see the economy going upward, but it will continue to be a slow growth grind in the economy, rather than, you know, taking off in a major way. And probably it will continue to be a recovery and expansion that doesn't have much leverage in it.

COMMITTEE MEMBER JELINCIC: Thank you.

CHAIRPERSON JONES: Ms. Taylor.

COMMITTEE MEMBER TAYLOR: Thank you, Mr. Chair.

I just wanted to echo Ms. Yee and Mr. Chiang's -Mr. Chiang's request, and thank you for asking that we go
ahead and move forward with looking at coal and having a
discussion on coal. I understand that we don't want to
derail the legislation that's occurring, but I also think
that we may be looking at an asset that's not good for us
to have anymore, because it's gotten so low.

So I just -- I would like -- I know you guys have a lot on your plate, and I hate to ask for more, but I would really like to see that discussion coming up soon, if we could. And so I appreciate it.

CHAIRPERSON JONES: Mr. Chiang.

COMMITTEE MEMBER CHIANG: I'm sorry, I wasn't making a request.

CHAIRPERSON JONES: Okay. Well, it appears that there are no further questions at this time. And John, we

appreciate -- we always appreciate your insights and your views of the world economy, and so -- your thoughtfulness and straightforwardness. So we appreciate your comments.

INVESTMENT DIRECTOR ROTHFIELD: Appreciate that. Thank you.

CHAIRPERSON JONES: Ted.

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CHIEF INVESTMENT OFFICER ELIOPOULOS: Thank you. So now we'll continue on to the next portion of the review, the trust level review. And here, I'll try and maybe pick up a little time as we go forward.

Here, just underscore something that we've seen and know, and it's key. The broad diversification of our assets across all asset classes, and then even within the individual securities. So while we'll -- as we take up and look at the entirety of the portfolio, and asset class by asset class in the coming months, the topic and notion of diversification and broad diversification of assets is important.

And in that regard, divestment will be, you know, a very -- as always, a very interesting discussion and topic. But certainly selling out of assets at times when their prices are low is a difficult decision and risky decision to make in looking at long-term performance over the time.

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CHIEF INVESTMENT OFFICER ELIOPOULOS: Moving forward to our current benchmarks, I'll just underscore the point again. And now that you've heard from Mr. Rothfield and our macroeconomic look, you can see why we underscored at the beginning, we have a very heavy strategic allocation to growth assets, our global equity and private equity portfolios, and offset by hopefully the diversification benefits that we receive from our income and real assets portfolios, most strategically.

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CHIEF INVESTMENT OFFICER ELIOPOULOS: I'll skip over our investment organization pieces that you've seen many times before.

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CHIEF INVESTMENT OFFICER ELIOPOULOS: This is important. We talk about the PERF total size of, you know, 300 billion, 301.9, and talk separately about the, you know, affiliate or other funds that we're responsible for, which add another \$10 billion of assets under management. And we think in this total trust level review, we try our level best to include information about all the assets that we have under management.

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CHIEF INVESTMENT OFFICER ELIOPOULOS: I'll skip

over the trending of the various asset classes and their size and scaling over time. You've seen this slide many times before --

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CHIEF INVESTMENT OFFICER ELIOPOULOS: -- turn really into the investment review and want to stop and land on this page. It's something that we look at last year. And this is a three-year look at the risk and return of the total PERF, as well as the individual asset classes. And for this three-year period, which includes this last one fiscal year return, which is a fairly moderate return, what we still look at on the three-year return is that the PERF, as a whole, in many of the asset classes, not all, but many or most, are in this -- still in this three-year look Goldilocks type era, where the actual returns of the asset classes and the total fund are above our expected rate of return, and the levels of risk that, at least expressed by volatility, are lower than what we forecast in our asset allocation.

As we said last year and continuing into this year and building on the really terrific conversation that just concluded on the macroeconomic conditions, that kind of Goldilocks environment, you know, can't last forever.

And I think what we're seeing now in this year's fiscal returns and going into this next run -- few-year run, we

expect moderating returns from the portfolio as a whole and from the individual asset classes.

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CHIEF INVESTMENT OFFICER ELIOPOULOS: Here is the snapshot look at the PERF performance summary. I think we gave, in our bullet points on this page, a bit of short shrift to some important things to underscore, which is our three- and five-year returns, both on an absolute basis, but also the relative return versus our benchmark. We had passed, for the past few years, positive relative return on a three-year basis was a milestone we noted. This is the first time since 2007 that the fund total PERF on a five-year basis has outperformed our benchmark. Important markers in our overall effort to realign and reform the investment portfolio over time.

I think the bullet points do a good job of noting both the one-year muted return as well as noting for the first time in a few years a slight underperformance versus the benchmark nine basis points for the fiscal year, and while continuing our three- and five-year performance. It's something that we have our eye on for sure.

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CHIEF INVESTMENT OFFICER ELIOPOULOS: Now turning to the affiliate fund performance summary. Lots of green numbers here, which is a nice chart to look at. The one,

three, five, and 10 year numbers of the affiliate funds all boasting terrific relative returns versus their individual benchmarks, as well as comparatively good and strong total returns on the three- and five-year -- three- and five-year time periods, and a similar story on the one year and the 10 year as the total fund.

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CHIEF INVESTMENT OFFICER ELIOPOULOS: I think with that, Mr. Tollette, I think I'll turn now to the risk portion of the presentation. First Wylie --

CHAIRPERSON JONES: Okay. Before we go forward, we have some -- a couple questions.

CHIEF INVESTMENT OFFICER ELIOPOULOS: -- and then Baggesen will be covering that.

CHAIRPERSON JONES: I have Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: Yeah, I -- looking back at slide 26, the three-year net return. And that actually gets to the question I had back in 4C, the performance. In here, and then on page three of four in 4C, attachment 3, we have a net return -- a three year net return of 10.9 percent. On page four of four, back in 4C, we have a gross return for three years of 12.5. That would suggest that our costs of the portfolio is about 1.6 percent, which would be roughly \$4.8 billion.

And where I got confused was, at Finance, we were

being told that our costs are about 1.1 billion a year. When you look at the CEM report, it says we were about 60 basis points, even though that year was inflated because of the catch-up in the real estate. So I'm kind of curious where did this -- you know, where did the \$3.7 billion in costs go?

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CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Thank you for the question. I honestly think we're going to have to come back to you with the details on that. I'm not -- to be honest with you, I'm not exactly sure which pages you're referring to. So if you'll allow us, we'll come back with something.

COMMITTEE MEMBER JELINCIC: Okay. Well, let me give you the pages, so that you can look. It's in -- this is 26 of 36 in this presentation. The other one is in item 4C. It's attachment 3, which is part of the performance. It's pages three of four, which shows a net cost of 10.9, and a four of four of Attachment C that shows 12.5 as the gross. And the difference between the gross and the net should be our costs. And that's inconsistent with what we've been told at both Finance and in the CEM report. So obviously something somewhere is missing, and I'm confused.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: We'll come back with some answers.

1 COMMITTEE MEMBER JELINCIC: Okay.

CHAIRPERSON JONES: Okay. Mrs. Hollinger.

COMMITTEE MEMBER HOLLINGER: No.

CHAIRPERSON JONES: Okay. Continue.

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CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Thank you, Mr. Chairman. Thank you, Ted. This slide works to decompose the one-year returns overall, which was 2.4 percent, as Ted mentioned earlier. You can see that on the bottom of the table.

I think it's -- before I attempt to do that, I think it's probably important to note that one-year returns are important to look at, because over the long term, a lot of short-term returns combine to become the long term. But it's also important to not spend too much time or attach to much weight to a one-year return, particularly in longer term markets. Our Investment Belief number 2 indicates that Calpers is a long-term investor. Long-term investment requires some comfort with volatility, and in a variety of asset classes in returns. And so let's talk about that.

So starting at the top with public equity that's our largest asset class at more than 53 percent of the plan. You can see that for the one-year returns were quite muted with one percent total return for the year.

That was impacted primarily by exposure to non-U.S. markets, and emerging markets in particular. Those were challenged both on a local basis, local equity returns, as well as the strength of the U.S. dollar. So when we translate foreign stocks, non-U.S. stocks back to the U.S., we have to do that to -- in the context of the exchange rates that are in existence at the time. And the U.S. dollar appreciated strongly during the year versus most currencies. So that really kept our equity market returns subdued. We have a large non-U.S. allocation within our index and within our global equity portfolio.

The next line, private equity, at around 10 percent of the plan had a comparatively strong year at 8.9 percent return. And as you can see, I think we generally count on something like a 300-basis point liquidity premium to private equity. And this year, we roughly achieved that.

Fixed income also had a restrained year in terms of total return at 1.3 percent for the year, as the market, particularly in the late spring, began anticipating an increase in interest rates in the near future.

So adding up -- if you add up our public equity and income asset classes, it roughly means that over 70 percent of the portfolio returns just over one percent for

the year. So with 70 percent of your portfolio returning just over one percent for the year, it's difficult to really achieve significant or double digit returns.

Real assets, however, delivered solid returns for the year, as you can see from the table. The asset class continues to recover from the difficult 2008/2009 period.

And finally, I'll highlight the inflation asset class. There's a significant commodity component of inflation. And that was negatively impacted this year by the weakness in the price of many commodities, oil in particular.

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CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: The next slide highlights the long-term actuarial return, as well as the cumulative return of the policy and the cumulative return of the portfolio. As you can see, there's a gap between the actual returns and the policy returns.

I think this chart highlights really how difficult it can be. And this was a subject that came up at the July off-site how difficult it can be. You need exemplary returns for a number of years to recover from a financial crisis. And I think you see that sort of illustrated graphically here on this.

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CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: On the next slide, you'll see again a highlight of the fact that the long term is really composed of a series of short terms. You've got a one-year return where we very slightly underperform the policy benchmark by nine basis points. However, as Ted mentioned, over the three year, our three year rolling return is now over the policy benchmark. And that continues to outperform. So every year that that occurs, we continue to try to make up that gap that I mentioned on the previous slide.

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CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

This chart highlights the sort of one year and 10 year, so short term and long term. Unfortunately, the three and the five, where we actually outperformed, are not on this chart. If you look on the left side, absolute returns, what you can see -- a couple of interesting points. You can see global equity at over half the plan returned 6.6 percent for the 10 years. That's almost exactly in line with the capital -- long-term capital market assumptions that I believe Wilshire will be covering in their deck. So interesting that the 10-year returns for global equity are very closely lined up with where the long-term return expectations are.

The other thing that I'll highlight on that chart

is that private equity over the 10-year cycle has returned 11.9. So solid returns for that asset class.

On the right-hand side, you can see excess returns. And what pops off the page there is the real assets return for 10 years. And that is the continuing impact of a very, very difficult time period for the Real Estate Program from 2008 through 2010.

The current year outperformance of 90 basis points for that program is chipping away at that long term underperformance, but it has a ways to go.

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CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Finally, talking about risk very briefly, the total fund forecast risk is 9.11. That's significantly lower than the long-term volatility assumptions that are built into the asset liability management program. Those are closer to 12. This is lower because for the last few years, many markets have actually been -- have had lower levels of volatility than they normally do. And that has embedded itself into our risk modeling tools, and is now reflected in our expected predicted risk. That can very, very quickly change.

On the bar -- or the bell graph that's below, I think it's important to highlight that that is the potential probability distribution of returns. However,

it implies a symmetry to those returns that doesn't actually exist in the markets. We know for a fact that that symmetry -- that bar chart does not actually look like that. It has, what are called, fatter tails, where we can be subject to more frequent and larger downside risks. And I think that's just important. And Eric will be covering risk in much more detail when he gets to Attachment 3.

And my last slide here is contribution to risk. --000--

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: I think the Committee has seen this slide before, but it echoes something that Ted mentioned in his opening comments relative to the contribution to risk. And as you can see, the vast majority of the risk in the plan, close to 90 percent, is really coming from public equity and private equity. And when I'm speaking of risk there, I was speaking specifically about volatility. There are many other types of risks that are -- other than volatility that our plan is subject to.

Risk -- volatility happens to be the one that we can measure most easily and quantifiably, so that's why we're presenting it. We obviously are focused on other risks. And as I said, Eric will be covering some of those when we get to Attachment 3. So with that, I think I'm

1 turning it back to Ted.

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CHAIRPERSON JONES: Okay. Before you do, we have a couple questions.

Mrs. Mathur.

COMMITTEE MEMBER MATHUR: Thank you. And Wylie actually your -- or Mr. Tollette, your last comment sort of addressed my issue and that is that we continue to sort of use risk and volatility interchangeably, but they're actually not the same thing. And the risks facing our fund are much more diverse and varied and some are easier to measure and some are more difficult to measure.

So to the extent that we can in future presentations sort of be a little bit more precise in our language, I think that would be helpful to the discussion.

Thank you.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Yeah, I concur. I think that's true.

CHAIRPERSON JONES: Mr. Lind.

COMMITTEE MEMBER LIND: I didn't push that

20 button.

(Laughter.)

COMMITTEE MEMBER JELINCIC: My mistake. I pushed the one next to it.

COMMITTEE MEMBER LIND: He likes to talk so much

25 he wants to push two buttons.

(Laughter.)

CHAIRPERSON JONES: Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: Yeah, I covered my button and pushed Ron's. Sorry about that.

Back on 32, where we have the bell curve, have we tried to have a curve that's more reflective of what we think it actually is, rather than a normal distribution?

And if we have, why don't we use that more often than we --

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Well, I can talk to that and I would ask Eric as well to add his comments. The risk modeling tool we use, the BarraOne software, that estimates some of these figures, it does what's called a Monte Carlo simulation, where it goes through thousands of potential market scenarios and tries to basically estimate the size of that risk.

And the picture doesn't reflect it, but the numbers actually do reflect the impact of that Monte Carlo simulation. That does a better job of modeling fat tails and non-normal distributions, but it's still a statistical model. And invariably a statistical model is sampling from the history that it has. One can very easily gain too much comfort from that type of prediction. I tend to believe that these are helpful pieces of information to

understand the risk and -- excuse me, the volatility in the portfolio, but they're incomplete. There's a lot of -- there's a lot to be gained from a qualitative assessment of risk in the portfolio that is beyond volatility and beyond statistical modeling.

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But the numbers here do reflect the impact of a Monte Carlo simulation, so that has a better -- it does a better job of estimating fat tails, for example, than just a straight normal distribution does, but it's still highly imperfect.

COMMITTEE MEMBER JELINCIC: Well, I have said numerous times the market will do what it has to to make most people wrong.

But in terms of the diagram, why don't we use -if we have a diagram that we think is better, and
particularly since we use those numbers from what we think
is better, wouldn't it make sense to show the better
diagram?

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Yeah, that's something that we can work to incorporate into future diagrams. In fact, I actually believe another sort of potential improvement to this slide is this presents a snapshot of risk, just a point in time.

COMMITTEE MEMBER JELINCIC: A snapshot of

volatility.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Excuse me, a snapshot of volatility. There I go.

I actually think the trend of risk over time is both

actual and realized would be more helpful. So that's a

change that you'll be seeing in this presentation going

forward, which is a trend line of the risk -- excuse me,

the volatility, in the portfolio. There I go again.

COMMITTEE MEMBER JELINCIC: We do get that in one of the presentations.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: You do. And you're going to see that in Eric's presentation as well.

COMMITTEE MEMBER JELINCIC: Thank you.

CHAIRPERSON JONES: Okay. Thank you.

Yeah. Before we move on Mr. Tollette, on one of the charts I think it -- well I don't need to refer to it, but it -- you refer to inception date. And my question is when you refer to inception date, not just in here, but other reports we get, is it always based on when the Committee has adopted our given authority to use that asset class or to use that policy or differences in terms of when staff made a decision on inception versus a Committee made a decision on inception?

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: The

inception date, as it relates to the returns, actually start with the first dollar invested in that asset class.

CHAIRPERSON JONES: Okay. But so then does it go back to the policy, because like on the chart that I was referring to is inflation. So was that when the Board adopted that asset class or --

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: I think I understand you question, and I think I'll have to come back with a precise answer.

CHAIRPERSON JONES: Okay.

think a precise answer is always good for sure. So I was pausing whether to add to it. But typically, and what I expect will have happened is, the Board approves a policy to invest. With staff there's sometimes steps to be taken in between the adoption and the actual implementation of a program or an asset class. And then the actual measurements are as Mr. Tollette was saying are from the first dollar invested. So there is a lag between the time of the policy adoption and the first dollar, but we'll clarify that and make sure.

CHAIRPERSON JONES: Okay. Thank you.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

That's right. And one thing I will add to is when an asset class is added or changed and the motion is

approved by the Board, the asset class is added to the policy benchmark based on the Board's action. So the policy benchmark will reflect that based on the Board's decision, not the dollar invested.

Staff's performance is based on the timing of our dollar investment. So as an example of that, in the liquidity asset class, the Board recently approved a change from two percent to one percent. That change was reflected in the policy benchmark effective July 1, because that's the date the policy became effective.

CHAIRPERSON JONES: Okay. Thank you. Okay. Proceed.

CHIEF INVESTMENT OFFICER ELIOPOULOS: We're going to now turn directly to Mr. Baggesen to go through the risk report. Will continue the risk theme here, which he's trying I think mightily to get to Attachment 3.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Okay We'll try to get the audio/visual material together.

Good morning. I'm Eric Baggesen. I'm the Managing Investment Director, in contrast to the Senior Investment Officer, for Asset Allocation and Risk.

Basically, the material that we're going to go through hopefully fairly briefly today is the risk attachment, which is Attachment 3 under Agenda Item 6A. So if you can follow that along in the iPad material.

As Wylie noted in his discussion, we tend to use this construct of volatility as being the proxy for risk. And obviously, that is not the only dimension of risk. And this report gets into some of the other dimensions that do attach to risk.

One of the implications, if you recall a couple of months ago, we had a discussion about VAR, or value at risk. And VAR, in essence, is a recasting of those volatility measures into actual dollars and cents. And I think that that's one of the elements that is important is to think of this in terms of dollars and cents. And that was noted on the prior risk page that Wylie had on the screen.

Just briefly in relation to that normal probability distribution, the standard bell curve, what that bell curve is really trying to illustrate is a -- it's the expectational set around a single point in time, the periodic return that could accrue, given again that normal probability distribution.

So it doesn't say anything necessarily about the long-term returns. It's simply what could be reasonably expected on an individual period. So maybe a year, for example, is the individual period since all of the volatility statistics and the return expectations tend to be annualized to a year's interval, if you will.

To get to the point I think that Mr. Jelincic was making, one of the things that -- the greatest asymmetry that happens around that isn't necessarily in the shape of the distribution, even though there is a higher incidence of left-hand side or negative risk occurrences.

Statistically, that's a very small probability, if you will.

What tends to happen is the magnitude of those returns. So you would never be able to see it in a chart just exactly how far left that could go. It would be a very, very tiny thin line, but it would stretch out fairly significantly on the left-hand side of the chart. So I'm not sure that changing the chart representation would really change the interpretation of that data.

I think what is more relevant to the thinking about what does it mean for the fund is the asymmetry that was identified at the July off-site, where a negative return requires us to have a much higher rate of return going forward to recoup from that loss. That's obviously one of the things that have caused that gap between the benchmark return and the realized return back in the material that Wylie covered.

We've had a hard time in closing that gap once it opened up because of the very negative returns that happened in the real asset area, and in not just the real

assets, it happened in a number of segments of the fund in the 2008/2009 time period. It is very difficult to reclose that gap once it opens up. And I think that it's that sort of -- it's the impact of those negative returns that I think is potentially more illustrative of what this stuff actually means for the fund. Although we can certainly look at whether or not a different picture of a chart. I'm not sure that that would really convey the real negative impact that happens when you have a shortfall.

Anyway, to go through this material, the first page of the risk report gets into some of the VAR metrics. And these VAR metrics are very sensitive to the volatilities. And if you recall from the material that Wylie put up in front of the Board, our volatility numbers have been drifting lower. And you'll see that as I flip over to the next page in just a moment. But right now, these VAR numbers are predicated off of -- and these numbers are generated as of May 31st. The number that Wylie just put up, the 9.11 volatility number, is a June 30th number. So there's a little bit of a calendar mismatch between some of the reports and that calendar mismatch, Mr. Jelincic, is also one of the elements in the observation that you made about gross versus net returns. We have a June period and a May period, so that will --

that's partly -- potentially one of the explainers in that. Although, we'll ultimately identify what that is.

Anyway, you can see this -- the kind of VAR metrics that are attached to this. We still, with a 10-day VAR measure, we have the expectation that we could easily lose anywhere from 9 to 11 billion dollars in a 10-day period, and that's with the volatility in the 9 percent range. So you can imagine if volatility spiked back up again to something like the 20 percent range, what -- which is equivalent to what we were seeing in the kind of 2008/2009 time period, these VAR numbers would explode if the volatility is increased as well.

And this is just a statistical model again. And we use statistical models, not because they tell us what is going to happen, but at least they give us a framework for having a discussion about it.

Also, as Wylie pointed out, approximately 90 percent of the risk of the fund still comes from the growth related assets. So we have made some changes in the last allocation effort. We will potentially make more changes. We are not likely to have a material movement away from this growth related risk in anything like the near-term time frame. There simply are no other sources of return that we've been able to identify in order to expose this capital in the effort to try to make a 7½

percent long-term rate of return with the fund.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Page two of the attachment gets into the trend series or the time series that Wylie alluded to. If you look in the chart at the upper left-hand side, you see the forecast risk for the fund and the forecast risk for our policy benchmark.

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So these are two forecasts, one for the benchmark, one for the fund. The redline, which is a little bit more volatile, and coming out of the 2008/2009 period, the red line was elevated over the more solid benchmark related line. The main message in this though is you can see how over time the risk levels coming out of the 2008/2009 time period have been coming down pretty significantly.

That's what has related or ultimately results in this nine percent kind of volatility number that we're currently estimating against our actual exposure. You also see in the right-hand chart the tracking error of the fund. The tracking error has come down along with the volatilities and also declining correlations between the assets. As the markets have more normalized coming out of the 2008/2009 time period, correlations have been tending to drift lower, and that creates more effect from diversification of having different types of assets. The

danger in this correlation is though that in a stressed period, correlations tend to increase, and you lose the benefits of diversification, at least in a shorter term time construct.

And this comment is exactly why I believe that one of our greatest risk management efforts has got to be that we are able to retain our risk position through almost any market environment, because in a given stressed and market environment, we may be -- the fund may be getting hurt greatly in that time period in the valuation of its assets. But if you're able to hold that risk position, if correlations and volatilities then drift back into a more normal environment, you start to regain and recoup the damage to the valuation that was done.

And ultimately, I think that that's one of the aspects of taking a risk in an investment portfolio. We should never take a risk that we would be afraid that we would not be able to maintain in an adverse environment. And I cannot emphasize that strongly enough from my own personal point of view. And I believe that it's shared by the rest of the Investment Office.

We do not want to recommend risks to be taken by this organization, unless they can be maintained in almost any market environment. And I just think that's a highly important construct.

On the bottom of this page, you see the realized versus forecast risk, both at a total risk level, those are the top two lines, the dashed line and the solid line. And then also on a tracking error forecast versus realized, those are the two bottom lines that almost lay in on top of one another at the bottom of the chart.

One the things I would note to you is that if you look back in the 2008/2009 time period, where this graph -- it's the left-hand side of the graph in the origin, you'll notice that the realized risk was higher than the forecast. And this is a reflection of the long-term nature of this risk model, where it's estimating volatilities and correlations over a very long term time period, in trying to, in essence, generate what is the normal - whatever that means - market environment.

Now, you see, for example, that the realized risk is significantly less than the total risk forecast by the risk model, the BarraOne model. So our realized risk is coming in significantly less. And that's the residual effect of the 2008/2009 both volatility measures and correlation measures that are still carrying forward in that risk model.

So until that stuff rolls off -- and this risk model is kind of like a nuclear half-life, it takes a long time for it to decay. So until that happens, we're not

surprised by this picture. But you can obviously see you get some radical shifts that happen in the kind of 2009 time frame with these numbers both bounced up and the lines crossed each other. So we need to be a little bit cautious about the interpretation of that data.

And note also that there's a significant difference between the volatilities that we're estimated within the asset allocation and asset liability management exercise versus the actual realized volatilities. A part of that difference is the presence of the private assets.

So you have the private assets. One, they have calendar differences in their pricing, so you have this tend to -- private equity, for example, and real estate tend to be priced in arrears, at least ¼, in some cases even longer time periods than that, and you also have the effects of appraisal pricing, rather than actual market value pricing.

The Barra risk system attempts to take all of our private assets and proxy those exposures into things that it can actually observe price change. So the Barra risk system is overstating the degree of volatility that we will see in the actual pricing, unless something very, very strange were to happen within the actual operation of those private asset exposures.

So it's important to recognize that, and it's

also important to recognize that the volatilities we use in the ALM process, which give us our kind of 12-ish percent risk expectation, those include volatilities, for example, to private equity. And this was illustrated on the scatter chart that Ted put up, the difference between the realized risk between private equity and the forecast that went into the ALM process.

The private equity risk forecast, for example, comes in with a volatility expectation of over 20 percent. And that risk expectation is driven by the leverage attached to private equity, and the proxying process of moving that into the public market exposures.

So you need to recognize when we talk about volatilities and all this, we have two, three, four different constructs where these numbers are assimilated from. And these things are virtually never exactly identical between the different constructs, but we'll try to point out, as we go through the different activities, where -- which construct we're talking about in an effort to hopefully help you make sense of all of this information, because in some cases, this data could be -- it can lead to the point you can get very conflicted or very confused as to exactly what it is that we're talking about.

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MANAGING INVESTMENT DIRECTOR BAGGESEN: To speed along here, we have our liquidity analysis and liquidity snapshot. The one thing I would point out in relation to this data is that we assume that in a market -- a normal market environment that we could liquidate almost half of the CalPERS asset portfolio in the space of a month. That is a tremendous degree of actual excess exposure to very liquid assets. So the liquidity profile we should not run into problems in managing our cash flow exercise, as long as we have this kind of a profile, but it is without a doubt that the fund maintains a tremendous exposure to assets that are very, very liquid.

For example, this chart tells us that approximately 90 percent of the public equity portfolio could be liquidated in the space of a month, but heaven forbid if we were actually doing that, because we would have a tremendous impact on the actual pricing of that activity.

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MANAGING INVESTMENT DIRECTOR BAGGESEN: On the next couple of pages, we get into some of the other elements of risk. This is where it's not just volatility. So we have counterparty risk. This is a keen topic that is ricocheting around in the Investment Office.

Certainly, this is a topic that's currently being affected

also by the activities of counterparties in the markets and in relation to the regulators. So we're changing our perspectives.

But our main counterparty risk assessment though relates to credit default swaps, and the credit default pricing. And that's what the chart in the upper left-hand side of the upper center of this page represents. And what you see for the last couple of years is the credit default pricing has been very muted, which is indicative that these entities are not having a tremendous amount of credit stress, so they're not having a problem, in essence, financing their activities. And that's sort of, in essence, our primary indicator so far is credit worthiness of counterparties that we deal with.

The other comment in relation to this is that our counterparty risk has been coming down because we've been moving to a daily mark to market processes on collateralization with many of our counterparties, and we're pushing that really through all of the structure of counterparty risk that we have. So our counterparty risk has really diminished significantly over the last couple of years.

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MANAGING INVESTMENT DIRECTOR BAGGESEN: The next page is leverage, which is another element of risk, not

necessarily measured by volatility. The main point I would make here is that if you look at the two columns related to it says policy leverage and policy limit, they're kind of along though about two-thirds over to the right-hand side of this chart, you'll note that all the leverage levels are actually below the limits, so there's no leverage area that is in excess of the limit. And this is a report that will need to change in order to accommodate the borrowed liquidity concept that we talked about in relation to the liquidity asset class.

So before we can actually utilize that borrowed liquidity, we'll bring back a modified version of this report, so you'll see how that would be reflected.

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MANAGING INVESTMENT DIRECTOR BAGGESEN: And I think the very last thing I would just comment on the next couple of -- the next couple charts and couple of pages relate to concentrations. And these are -- I'm sorry. Before concentrations, we have risk scenarios. And scenario analysis is another dimension of risk situation.

I think the only comment I would make in relation to this is if you look at particularly the tables of numbers, the far right-hand column denote the impact on excess return. And what you see is the negative impacts are greater than the positive impacts. So this again gets

back to that asymmetry that exists when you have a risk-seeking portfolio, such as CalPERS does, on the damage that can happen to those risky assets in an adverse environment.

And then when you get into the scenario analysis down below, if you look, the most positive scenario that was identified -- and these are all historic time periods. And this is actually really important to recognize that the actual outcomes to different kinds of events will probably never be exactly the same. The most positive scenario we had in this situation was the 1997 through 1999 oil price decline. Now, we've just had a tremendous oil price decline for the last year, and we certainly have not seen that coincident with a explosion in asset prices.

So just a point of reference, this scenario analysis always tends to be historically driven, and the actual causality of different things happening typically is something radically different than existed in the historical time periods.

But again, you see the asymmetry, where we have more identifiable negative effects than we have positive effects. And that is again indicative of that sort of downside risk that I think is really important to be aware of.

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MANAGING INVESTMENT DIRECTOR BAGGESEN: And then the next couple pages are the concentration reports, which get into issuer, industry level, and regional The one thing I would point out is that concentrations. our largest corporate exposure is Apple, which represents just under one percent of the fund. That's a pretty big exposure. And the other thing I would point your attention to related to the whole coal and fossil fuel discussion is that outside of banks, the energy industry, oil and gas, is basically the biggest industry exposure that we have. And you are not going to radically modify the exposure to that industry without having a significant effect on the portfolio, whether that's positive, negative, or whatever it is. It's going to have an effect. And I think with that, I would ask if you have any questions

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CHAIRPERSON JONES: Yeah, we have Mrs. Mathur.

COMMITTEE MEMBER MATHUR: Thank you.

I do have a couple questions. One is you made what I think is a very important point about retaining -- making -- taking risk positions that we can sustain in down markets, and in any market environment. What you -- I just want to make sure that it's understood what you mean by that. You mean that we shouldn't make investment decision that we would have to unwind in a difficult

period, is that right?

MANAGING INVESTMENT DIRECTOR BAGGESEN: That's exactly right. And, in essence, to the extent that we had an effect, for example, in the 2008/2009 outcome, part of that effect was the fact that we were not able to maintain our growth asset related exposure, and we basically had to raise liquidity out of those growth assets. That probably had the biggest effect, irrespective of the pricing of any of that kind of activity.

So if our target allocation to equity - let's just say public equities - is 50 percent, if that allocation drops down to 35 percent, we're in a very much risk-off relative position. So I would suggest that we always want to be able to maintain something that approximates that 50 percent. Albeit, you may drift up or down. You know, a range around that is a seven percent, plus or minus. Our actual equity exposure dropped below that.

So it is -- it's somewhat -- you have to be able to manage and understand the actual liquidity profile of the fund and where demands of liquidity come. And this gets into the whole treasury management exercise. So there's been a tremendous amount of work done, so that we're not stuck in that same kind of a scenario again.

And I think we're all pretty confident that that's

something we could avoid. But that's really what maintaining the risk profile would really entail.

COMMITTEE MEMBER MATHUR: Thank you. Now, the other -- another piece of this report obviously focuses on volatile. You spent quite a bit of time on volatility. It is an area that we can measure. And then you also talked later about industry exposure. And it seems to me that, you know, some of our biggest industry exposure are in -- is in a very volatile sector. And one of the things you talked about is that volatility hurts us -- tends to hurt us more on the downside than it helps us on the upside.

So I'm wondering how that -- how that influences any overall sort of active risk taking on the portfolio-wide level? I mean, I know we are significantly indexed, but should we think about what that means for us over the long term in terms of our exposure to certain industries that do tend to drive volatility.

MANAGING INVESTMENT DIRECTOR BAGGESEN: You know, that's a great point. And I think that -- I think the opportunity outside of active risk, you know, and whether people are making in essence an idiosyncratic bed on any specific company or industry group, I think that the real place that this will come up in the discussions that we'll be having with you in the near future is in relation to

the whole portfolio priority discussion.

And to the extent that we identify, as a priority, potentially trying to mitigate some of the downside risk, because of the negative effect and the asymmetry attached to that, that may be a place where you start seeing the potential of changing some of this in the construct of our benchmarks, because the benchmarks themselves and the absolute level of risk that we're taking is far more important than any individual active bed around that -- that benchmark, but I think that would be a place that you -- we'll see how that discussion evolves. But that might be one of the elements that we really try to understand that. But also be careful, in some instances some of -- it's very hard to forecast --

COMMITTEE MEMBER MATHUR: Sure.

MANAGING INVESTMENT DIRECTOR BAGGESEN: -- going forward what elements are going to be accretive or harmful to the returns of the fund. If we knew that with any certainty, I mean we would have no problems obviously in meeting the rate of return expectation. But unfortunately, the ability to actually forecast that happening is -- we need to be very, very cautious about assuming that we have that ability.

COMMITTEE MEMBER MATHUR: Thank you. You mentioned the benchmarks. And, you know, clearly, we do

spend a lot of time looking at our relative performance, active risk, et cetera, excess return, tracking error, and -- but over the long term what really matters to us is whether we hit our target rate of return.

And I'm wondering if there's some to -- and we are talking about this obviously in our funding risk mitigate work. But if there's someway to incorporate some of that into this risk report, you know, what is our risk of actually hitting our target over the long term? And so I'll just leave you with that question, but I would like us to start thinking -- you know, these are great reports. They do tend to be a little bit on the shorter term view. And so to the extent that we can start incorporating more of our long-term view, given that that is a drive in Investment Beliefs, I think we should incorporate that.

Thank you.

CHAIRPERSON JONES: Okay. You're welcome.

Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: You mentioned, you know, our equity exposure getting real low and the crisis. My recollection is that that really was a function of liquidity rather than a affirmative choice to reduce exposure. We reduced exposure because we sold stocks because those were the only thing we could sell and we had bills to pay. Is my recollection accurate?

MANAGING INVESTMENT DIRECTOR BAGGESEN: That's exactly right. That's right. And the one comment I'd make in relation to that though, Mr. Jelincic, is that the issues that were causing the liquidity stress are not existent within the program today. There's been a complete restructuring of things like the collateral portfolios and whatnot. So we don't anticipate, unless there's -- there's always the opportunity for something else to come up and create that kind of stress, but nonetheless we don't expect the next crisis will mirror the last.

COMMITTEE MEMBER JELINCIC: So we expect that it really is different this time.

(Laughter.)

MANAGING INVESTMENT DIRECTOR BAGGESEN: It's always a dangerous statement.

COMMITTEE MEMBER JELINCIC: Yeah. On six of nine, your crises, one of the things I thought was interesting is the oil crisis, both top and bottom, had very similar performances in terms of portfolio return, and yet very different excess returns. And I don't know what you make of that, but I just thought it was kind of an interesting thing.

And then the other observation is on two of nine, your active versus total risk. When I look at the 08/09

period, the realized risk went down, the forecast risk was going up, and I'm -- intuitively that doesn't make a lot of sense to me. But if it's -- so if you could explain why the realized risk went down, it would be helpful. And if -- and the other thing I will say is we see this chart every six months or so. And if it's really a complicated answer, maybe I will leave the question out there and you can address six months from now when you show us this chart again.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Sure. We can try to bring more clarity to that. But in reality the realized risk levels during the period when the market was falling in the fall of 2008, and prior to March of 2009, that is an environment where one correlations had dramatically spiked, and the prices of securities were declining rapidly.

Over that entire time period, the equity valuation fell more than 50 percent, so there was a tremendous negative effect that was happening. Following that, when the markets started to recover, basically the volatilities realized within the pricing of the assets dropped away pretty dramatically, but you can see that it was still building in the risk system, as that information was being assimilated, if you will, into the Barra system. So the Barra risk didn't peak until at least a year later

basically, in contrast to what was actually being experienced within the portfolio.

So there's just -- there's that -- it's just the actual outcomes versus the -- basically, the system that is used to estimate these values and the paradigms that go into the calculation of that system.

But I think the realized experiences can change very rapidly, Mr. Jelincic, in particular once a crisis or once a whatever has gone by, the situation actually tends to change fairly rapidly at that point as to what is realized.

COMMITTEE MEMBER JELINCIC: But during the crisis, I would expect volatility to be going up, and this is telling me it went down.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Yeah. If you noticed, I think the peak on this -- and again, I'd have to get the actual data, but I suspect the peak number in what was realized would probably have equated to something around August or September of 2009. And the market bottomed in March of 2009, at least the equity market.

COMMITTEE MEMBER JELINCIC: Okay.

MANAGING INVESTMENT DIRECTOR BAGGESEN: So I think it was literally it just took that amount of time basically for it to roll through into the sort of actual

pricing that the fund was experiencing.

COMMITTEE MEMBER JELINCIC: Okay. That would explain it. Thank you.

CHAIRPERSON JONES: Yeah, thank you.

Eric, you had mentioned that our risk expectations during the crisis was not realized, because of the correlations were increasing. And as they increased, we lost the diversity that we had hoped to acquire from our asset allocation. And so I know this is all based on current and past information, but just a question for going forward, and we talked about instituting a factor based allocation approach to help deal with some of that -- that correlation -- those correlation issues when we had the financial crisis. So just from a viewpoint, how much -- how different would some of this look, if we were dealing with the factor-based allocation?

MANAGING INVESTMENT DIRECTOR BAGGESEN: With the factors, just moving to a factor construct, if our actual asset exposures are similar to what they are now, the factor construct isn't going to change the outcomes. In other words, you would still be basically seeing the same kind of losses, same kind of volatilities. And it's not clear that going from construct A to construct B automatically results in a radically different allocation

of the assets.

As I think Ted pointed out and Wylie pointed out, we very much have a growth oriented portfolio, because that's the part of the marketplace that has the potential of return that can be generated.

The only way that we would have a significantly different outcome is if we basically started down the path of, I'm going to use the term risk parity, which in essence tries to more balance the actual risks attached to the portfolio.

And if you think about it in probably its most fundamental construct, you have risk attached to economic growth, and then you have interest rate risk. And interest rate risk tends to be negatively correlated, particularly in a stressed environment, relative to the growth risk. And that is largely due to the actions of central banks trying to reignite economic growth. So they tend to drive interest rates down, which tend to result in a increase in fixed income prices.

So those are the most fundamental diversification elements that we're aware of. And a risk parity kind of a strategy tries to increase that interest rate sensitivity. Albeit to do that at the current low levels of interest rate basically brings down the expected return on the fund.

So the only way to build in a lot of risk diversification currently is if you're using a significant amount of leverage. And then that brings in yet another form of risk onto the fund at that point. But that is one of the challenges, just going to a risk-factor construct is not going to radically change it as long as our assets are still highly concentrated in economic growth sensitivity. Regardless of how we label that, we're going to experience a similar outcome.

CHAIRPERSON JONES: Okay. And you mentioned leverage -- the leverage that you list here, is that all the leverage? In other words, there are no off-balance sheet leverage?

MANAGING INVESTMENT DIRECTOR BAGGESEN: The leverage that you see listed is the -- let me think about how to describe this. This is the leverage that is identifiable given the definitions that we're using. I would suggest to you that there's a significantly higher degree of leverage attached to many of the assets of the fund that we do not account for directly and is not directly recoursed to Calpers.

But, for example, when you invest in publicly traded companies, the global equity portfolio, those companies, in large measure, use debt as part of their financial structure. So CalPERS, let's say, is an equity

holder. We own a share of Apple stock. And Apple is probably a bad example, because, well, they've been increasing their debt a little bit. But nonetheless, it's not a highly levered company. But typically, those companies have exposure to more assets than just the equity value of the financial structure.

So that is a form of leverage attached to those company exposures as well. So if you really start to dig through and actually measure all of this, you'll find that there's a significant exposure to assets beyond just the value of the fund. In some cases, we have accountability and we buy those assets directly, or our managers buy those assets on our behalf. In other cases, that is endemic to the financial structure that these enterprises use in basically building their businesses.

So I would suggest that there's -- economically, there's a significantly higher degree of leverage than is attached to the table that you see on page five.

CHAIRPERSON JONES: And so leverage doesn't come into play when we have a commitment of as -- resources versus allocated resources?

MANAGING INVESTMENT DIRECTOR BAGGESEN: A commitment of resources versus allocated?

CHAIRPERSON JONES: Yeah. You know, we have private equity and we have a commitment, but we don't

have -- we haven't allocated to that total commitment. So what about -- how does that play in this leverage question?

MANAGING INVESTMENT DIRECTOR BAGGESEN: Yeah. Those capital commitments do not create leverage in and of themselves, because basically we have -- the capital that we believe we're going to satisfy a capital call with is invested currently either in equities or fixed income. So we would basically be reducing those asset exposures and redeploying it into, let's say, a private equity or real estate portfolio.

CHAIRPERSON JONES: Okay. Thank you.

Ms. Hollinger.

COMMITTEE MEMBER HOLLINGER: Yeah. Thank you, Eric. Great report. I just wanted to clarify something, because you were talking about a negative return and, you know, our ability to catch up regarding that our payouts are increasing and the maturing of our population.

Wouldn't it really be any gap between the realized return and the benchmark doesn't have to be negative.

MANAGING INVESTMENT DIRECTOR BAGGESEN:

Certainly -- so our actuarial --

COMMITTEE MEMBER HOLLINGER: Like, if we add two percent and our benchmark is 7½, that still requires us,

you know, the same thing to catch up, based --

MANAGING INVESTMENT DIRECTOR BAGGESEN: That's exactly right. When we look at the actuarial value, when this was shown on the -- in the other attachment, it was Attachment 1, and --

COMMITTEE MEMBER HOLLINGER: I just wanted people to understand that it's not limited to a negative return.

MANAGING INVESTMENT DIRECTOR BAGGESEN: No, that's right. If you -- it was on page 29 of 36 in Attachment 1. And I don't think I can flip back to that on the screen.

COMMITTEE MEMBER HOLLINGER: That's okay.

MANAGING INVESTMENT DIRECTOR BAGGESEN: But anyway, you see the very, very -- it's not quite exactly straight, but you see the line that almost looks straight, that's the actuarial assumed rate of return. And you see that that number happens to lie almost exactly on the benchmark. So our conversion of a 7½ percent return expectation into the benchmarks that underlie the total fund policy benchmark, the asset allocation, over the period of this chart you've basically had an asset allocation that gave you something that approximated that 7½, which I think gets back to Ms. Mathur's point that she made before as to how -- what's our risk around that 7½.

Right.

COMMITTEE MEMBER HOLLINGER:

MANAGING INVESTMENT DIRECTOR BAGGESEN: What you see though is the actual realized line has fallen below that. That falling below happened in the sort of -- it says fiscal year 2009 is when it really dropped below it, which is when a lot of the problems were happening in the real assets area, and other parts of the portfolio. And that gap started opening up.

Now, we've gone -- since then, we've had a number of years where we've actually had positive returns, but you see that the gap is still sitting there.

COMMITTEE MEMBER HOLLINGER: Right.

MANAGING INVESTMENT DIRECTOR BAGGESEN: So it's very, very difficult to make that back up again once it opens. But you're right, we have a gap from that almost straight line, that gap opens up when we earn less than 7½ percent.

COMMITTEE MEMBER HOLLINGER: Correct.

MANAGING INVESTMENT DIRECTOR BAGGESEN: And relative to the more volatile benchmark line, that's when the relative return. So, for example, in this current year, our relative return was nine basis points below, so that gap opened up a little tiny bit even more on the relative line, and opened up significantly more in relation to the 7½ percent line. But you're absolutely right. There's many different ways to have shortfall.

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             COMMITTEE MEMBER HOLLINGER:
                                          Okay.
             CHAIRPERSON JONES: Okay. I think -- we are
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    going to take a break, 10 minute break. Not I think, we
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    are. And let's reconvene at 11:55.
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             Thank you.
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             (Off record: 11:45 AM)
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             (Thereupon a recess was taken.)
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             (On record: 11:55 AM)
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             CHAIRPERSON JONES: We're reconvening the
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    Committee meeting. And Mr. Eliopoulos.
             CHIEF INVESTMENT OFFICER ELIOPOULOS: Sure.
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    Well, I think we had a terrific discussion on the Item 6A.
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    So I think with no further ado, I think it would be a good
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    time for you to hear from your consultants.
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             CHAIRPERSON JONES: Okay. Let's move to the next
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    item then.
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             MR. JUNKIN: Great. I think I'm going to lead
   off.
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             (Thereupon an overhead presentation was
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             presented as follows.)
             MR. JUNKIN: Andrew Junkin with Wilshire
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    Consulting. And thank you, I will try to not repeat
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    staff, since that was a thorough discussion. But I did
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    want to provide just Wilshire's perspective on a few
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    things as your consultant. And we've kind of got four
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broad topics on a few of the pages I'm going to hit.

We've got, you know, 120 pages. I'm going to touch eight of them.

So the four broad topics that -- you know, a couple of the pages are going to talk -- talk to sort of intermediate-term, long-term themes that we see. A couple of pages on risk, one on just decomposing the return, which I think has already been done pretty well, just a different look at it. And then one kind of a challenging environment, which I think investors are facing.

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MR. JUNKIN: Page two. So without further ado, page two. So John Rothfield really I thought did a great job covering the economic overview. Our view is really not that different, that this is a pretty moderate growth environment, and that future returns are going to be impacted by the current elevated valuations of lots of assets right now. And that's what you're seeing in our asset class assumptions here.

You can see the change from December of '14 to the second quarter. And there's been an uptick in expected returns. Really, if you look at sort of the bottom third here, returns minus inflation. Our real expected returns are really about the same. So the push forward in expected returns has really been driven by a

slightly revised upward view on inflation.

In terms of risk, we've had a number of conversations about risks. There doesn't seem to be anything structural to us. I think John made a similar comment. There's not a 2008 kind of lurking in any of the data that we have seen. So, you know, a lot of times the risks that are the surprise risks are the important risks, the unforecastable risks.

But if you look at what the global economy has gone through in terms of macro surprises already, you know, oil falling from 105 to 45, a massively strong dollar, China, Greece. You know, we survived a lot of the macro risks that could have been disruptive. At this point, I think the next one that we're going to face is obviously how does the market react to the federal reserve beginning to raise rates?

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MR. JUNKIN: And so from there, let's go to page five. So we can -- we don't know how they're going to react. We can see how the market reacted to easening(sic) -- easening? I think I just made up a word easing. So, you know, here this is fed policy versus equity values in the U.S., and you can see when the fed really kind of hit the gas in terms of adding liquidity to the system. That's -- the equity market really responded

to that.

You know, the question I think that's outstanding at this point is what happens as the fed tightens? If you go to page six -- or I'll take you to page six -- this is the same chart, but now we're looking at the ECB, and we've added the forecast for what's likely to happen to the European Central Bank balance sheets as they truly embark on quantitative easing at this point.

Is it going to be an echo of what we saw in the U.S.? I think really the same question that I ended the lasts page on applies here, which is what happens when the fed tightens? Is the fed going to sort of override the impact of the ECB, because a lot of the juice has already been squeezed out of that? So that's something that bears watching.

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MR. JUNKIN: Page eight, this is a new page for our report. And it really is kind of aligned with some of the discussions that we've had on risk mitigation. I would change the title of this page to expected return and volatility estimates based on some of the conversation that we've had right now. Our forecast using our expected return assumptions, which I showed you earlier, for volatility over a 10-year time period is about 12½. So that's baked into the top part of this chart.

So you can see the expected return. If you kind of start on the left, 6.61. That's based on our current assumptions. What does that turn into? That's about a \$20 billion annual increase, you know, both from depreciation, interest, dividends, things like that.

So if you move one column to the right, what happens if we come in one standard deviation below, one standard deviation above, the return goes from 661 to 19.2. And the gain goes from 20 billion to 58 billion. That's great news, right? You can carry that out one more standard deviation up, a 32 percent return and a \$96 billion gain. That's great news, right? Well, risk mitigation conversations take on a whole different tone if we've gotten a \$86 billion gain.

The flip side of that though is really I think at the heart of the risk mitigation workshops that we've done. One standard deviation below the expected return and you lose \$18 billion, two below, and you lose \$56 billion. And we're back to the path of returns having a pretty significant impact, particularly when you're cash flow negative. So that's the current state.

So the bottom states that well just what would happen if we had reduced risk, if we kept the same Sharpe ratio, but we moved to a 10 percent risk level. So expected return naturally comes down. I would submit

maybe it doesn't come down quite this much, but I wasn't going to play that game.

So the expected return goes to 5.6. Your \$20 billion expected gain goes to about \$17 billion. So in the expected state of the world, your \$3 billion less well off. But really, the significant difference is on the bottom part of this page. You know, the \$18 billion potential loss goes to 13, the \$56 billion potential loss goes to 43. Those are holes that you don't have to climb out of on the way back. So just a different way of presenting risk and volatility that we talk about.

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MR. JUNKIN: Page 11. So this now I think hits on something that a couple of Investment Committee members discussed. In the long term, if we do have volatility, if we do have financial risks inherent in the system, what can we do? One of the themes that Ted talked about is broad diversification. And that helps in most normal environments. In truly stressed environments, sometimes that's not enough.

So I'm going to start on the upper right on this page. These are months where the global equity market was down one percent or more. And when that happens, it's about a third of the time. You can see 31 percent over the last 24% half years, because the index didn't go back

that extra six months.

The average return is actually much worse than just down one. It's down 4 in those months. And really there are three asset classes that you might think of as diversifying that help a portfolio. And the most significant one is long treasuries with a positive return. That goes to what Eric said is the fed tries to reignite stability and growth. And, you know, that's generally the mechanism that works there.

REITs just kind of is a broad proxy real estate. The diversification doesn't work when the equity markets tend to be falling. Commodities, not all that reliable in falling equity markets. Moving to the lower left, this is the same chart, but now it's months where the market is down three percent or more, then you can see their average return goes down to minus 6½.

Again, long treasuries tend to be a pretty good tail-risk hedge. You know, tail-risk hedging in general for CalPERS at \$300 billion is absurdly expensive and probably, in most cases, ineffective. Long treasuries, those are pretty widely available. Something just as a consideration.

The last part is if things are down five percent or more, and that's pretty depressing, so we're not going to cover that.

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MR. JUNKIN: Mike is already elbowing me telling me my time is up.

(Laughter.)

MR. JUNKIN: Page 15 is just the full year, fiscal year attribution, so you can see what drove the relative returns. And if we kind of focus in the box on the right, really the sum total of the actual allocation versus the target allocation detracted about 10 basis points. That's kind of a non-event. That's kind of what you would expect.

Within that, you can see the underweight to real assets was kind of a big penalty, and was offset in some ways by the underweight to inflation assets, because they underperform. So being underweight in underperforming asset is a good thing.

And then active management again, in sum total, didn't amount to much, but in public equity and private equity acted as a bit of a drag. The same with income.

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MR. JUNKIN: And now I'm going to jump way ahead. And, in fact, I'm going to sort of be Ed McMahon for Mike here and help set him up for his conversation. I think one of the risks that we see -- and I'm using risk here

intentionally instead of volatility -- is the current private equity environment. And I know that Mike is going to get to this, but I just wanted to call out the fact that private equity pricing at this point is at the highest levels that we've seen in the last 10 years.

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MR. JUNKIN: Typically, that tends to be challenging for future returns. And if you look at the private equity overhang, it really hasn't changed much in the last eight years or so. It's still about half a trillion dollars, which is both an opportunity and a challenge. I think that this kind of overhang is likely to provide a little bit of technical support, if there's just a little bit of weakness in the private equity market. If there's a lot of weakness, it's probably not going to do much by way of support. But if we see prices dip down to, you know, nine times, I think some of this capital will get deployed.

So I'm going to stop there. Those are all the comments that I had prepared on the 120 pages that we presented, and see if there are any questions. And if not, I'll hand it over to Mike.

CHAIRPERSON JONES: Yeah, there is.

Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: And I'm not going to

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ask my question, because I forget to note what page it was
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    on, but I will tell you what the issue was. You showed
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    expected returns one standard deviation up, down.
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    numbers were clearly asymmetrical. They were much higher
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    on the upside than the downside. And I just didn't
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    understand the math. But since I don't remember the page,
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    I'll let it go.
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             MR. JUNKIN: We vetted that about three different
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    ways, so I'm pretty confident in it, but I'm not -- I
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    won't say I'm ever 100 percent confident in anything.
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    know, when you've got a $20 billion gain as your starting
   point, two up from that is a really big number, two down
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   has that $20 billion cushion. That's the expected return.
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             COMMITTEE MEMBER JELINCIC: Okay.
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             MR. JUNKIN: The gain and the loss shouldn't be
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    equal.
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             COMMITTEE MEMBER JELINCIC: Okay.
                                                 That will
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    explain it.
                 Thank you.
             MR. JUNKIN: Thank you.
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             CHAIRPERSON JONES: You're welcome.
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             Mike.
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             MR. MOY: Mike Moy from PCA. To correct the
    record, I did not elbow him.
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2.4
             (Laughter.)
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             MR. MOY: But he did use more than eight pages, I
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think.

2 (Laughter.)

MR. MOY: I lost count.

So I'm just going to add a couple of observations, because I thought that Ted's synopsis of what's gone on in the private equity space was excellent. We see, as you can see, on page four of 17 in the exhibits, it's not on the slides, that the absolute performance of private equity has been higher than the actuarial rate, and higher than your peer groups have been doing. It hasn't been higher than your benchmarks, but Andrew is going to talk a little bit about that.

The expectation that those rates of return will continue is very high. The fear that Andrew referred to with respect to the pricing right now in the private markets is at the highest it's ever been. We have observed very high level of discipline among the managers. They're not running out making investments, because they realize that buying in at a high multiple is not where it should be.

As it relates to what's going on in the industry, there's been a tremendous amount of publicity over the last six months. We authored a paper about a month ago that was quoted in one of the magazines, one of the newspapers that follows the industry and accused us of

shilling for the private equity managers.

We looked at the paper again to read it for content, and concluded, well, what we were really doing was telling everybody what the industry has been doing, and we encouraged our clients in that paper to collaborate and work together to apply as much pressure as they can to the managers to improve transparency and to lower costs.

So we felt that that was a misreading by the author of the article of what the paper was intended to do, but it coincides with what Ted had mentioned during his opening remarks in terms of the direction you're going.

The last comment I want to make is we encourage, and you are already doing this, working with the Institute of Limited Partners Association because that is the only way you're going to be able to level the playing field with managers.

You have, because of your size, a real advantage in dealing with them one on one, but that only helps you. If you want to get more help, if you drive the industry expectations down, it's going to aid you in your negotiations with the general partners. So we encourage that and we think it's a good move and please keep doing it.

With that, I'll turn it over to Andrew.

MR. BRATT: Good afternoon. Andrew Bratt, PCA.

Very briefly -- I'm cognizant of the time -- I want to

talk quickly about the benchmark issue. As you know, your

current benchmark is a custom public market index plus a

premium, which is common amongst your peers, but it also

the problematic, in that the public markets are generally

more volatile than the private markets, especially over a

short period of time, such as one year.

In our report, we also include the State Street
Private Equity Index, which is a peer-based index. And as
you'll see in our report, CalPERS has consistently
outperformed that index.

The second point I was trying to make here is that the Private Equity Program is cash flow positive. Has been so since 2011. Distributions from private equity investments have exceeded capital contributions made to fund new investments to the tune of \$17.5 billion just over the last three years. We are not confident that this will continue indefinitely into the future.

Once the ongoing seller's market subsides, I think that the program -- combined with additional contributions made for new investments, we think that the program will ultimately turn back into cash flow negative status in time.

With that, we'd be happy to answer any questions.

CHAIRPERSON JONES: Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: Yeah. I want to talk a little bit about benchmarks, which probably surprises you. I've never mentioned them before. I understand the problem with comparing it to public markets, but on the other hand it is essentially an equity product. And if we can't get a higher return out of it than we can out of the public market, why should we accept those additional risks in illiquidity and fees. And so that's one question.

The other question is peers, I -- you know, yes, we tend to compare ourselves to our peers, but our liabilities are very different, our size is very different, our leverage with the GMs is very different. I see some real weaknesses in a peer comparison as well.

So I'd kind of like you to comment on both the peer and the public plus, both strengths and weaknesses.

MR. MOY: The benchmark issue, as we understand it for private equity, is going to be addressed more completely as part of the asset allocation study that's sort of in process.

But in terms of background as to, you know, what's happened, a public market benchmark plus a premium for illiquidity worked pretty well up until the financial crisis. Since the financial crisis, the volatility of the markets has been much greater than it was before the

financial crisis. And it's the volatility that's causing the mismatch. If the volatility were to become more, let's call it, standardized or normalized --

COMMITTEE MEMBER JELINCIC: The volatility of the public markets?

MR. MOY: Yes. If the volatility of the public markets were to become more normalized, that probably would be a preferable benchmark. The industry struggles with it. I don't have a good answer for you. I think that the answer that I've always turned to is an absolute return exceeds your expected rate of return, which is designed to compensate the system so that it can ultimately pay benefits. And that to me is really where the future is, paying benefits.

COMMITTEE MEMBER JELINCIC: Does that suggest that it ought to be the actuarial assumption of the fund plus something as the benchmark, rather than necessarily public markets?

MR. MOY: It could suggest that. I don't know whether that's feasible, because I'm not a quant, so that is a possibility.

COMMITTEE MEMBER JELINCIC: Okay. Thank you. And the peer, the strength and weaknesses of comparing to peers.

MR. MOY: I think if I were in your shoes having

a peer benchmark on a continuing basis would give you an idea as to how well your staff was doing versus the other staffs -- other investors. Longer term, I think using a public market benchmark plus a premium is really where it should be looked at, but 10 years is when I would be using that as a frame of reference.

In the interim, because you need to compensate your people, comparing them to what other investors are doing to me is a more equitable approach to it.

COMMITTEE MEMBER JELINCIC: Thank you.

CHAIRPERSON JONES: Ms. Mathur.

COMMITTEE MEMBER MATHUR: Yeah, I think J.J.'s questions just sort of got to my questions, so I don't want to belabor the point, but I think there are challenges with the existing benchmarks in terms of survivor bias and sort of the ability to go back and add your data if you perform well or not to -- and to exclude it if you didn't. So I think there are some challenges with existing market benchmarks.

So to the extent that there's a way to smooth the public markets volatility, I don't know what that would look like. I think 10 years probably helps, if you look at the very long term. And I'm sure you guys are already thinking -- all of you are already thinking about this.

But I think, you know, that's something we should think

about.

2 MR. MOY: Thank you.

CHAIRPERSON JONES: Okay. Next.

MR. GLICKMAN: Good afternoon, David Glickman and Christy Fields from PCA.

Christy and I are going to share with you three observations in the next couple of minutes. The first is about the real estate markets, the second is about your portfolio, and the third is about the real estate unit. To echo what's been said and to be as succinct as possible, for the kinds of real estate investments that CalPERS seeks, nothing is cheap. And as a result, the amount available for new investments has not been fully deployed.

PCA's observation is that we're very glad to see that both staff and the managers are exerting extremely good discipline, and are not stretching to do deals which are marginal or outside of what would be the acceptable and appropriate kinds of real estate investments for the system in the way that the role of real estate is now defined and constructed in the overall portfolio.

The second comment we would make about the existing real estate portfolio is that it continues to approach the target of being a diversifier and an income generator for the overall portfolio, as it becomes more

and more invested in existing and income-producing commercial assets.

There's currently part of the execution of that strategy is to sell the commingled fund interests in which CalPERS doesn't have control, and in which the investment strategy is different than the current real estate investment strategy.

And once that process has been completed, that will display the portfolio that remains even more closely to the goals that have been set for the portfolio.

MS. FIELDS: I think the last point we wanted to make was about the leadership of the real assets unit.

Paul Mouchakkaa has been around -- or in place for roughly five months at this point, and he has done some significant work in assessing and fine-tuning the business practices of the unit, and the analytics that are used to make the investment decisions. He's also made some adjustments in terms of human resources and the roles and responsibilities of each of the staff members in the unit, that we believe are constructive and that will enhance the investment process and improve portfolio construction and reduce risks over the long term. Morals is much better, by the way, also.

24 CHAIRPERSON JONES: Okay. Thank you. Mr. 25 Jelincic has a question.

that we are not throwing money at this market. But my question is, is there a segment of the market that perhaps we should be looking at that's opportunistic. And, I mean, opportunistic in the broadest sense, not necessarily just higher risk? Are there mispriced segments of the market that we ought to be at least considering?

MR. GLICKMAN: Hard to answer quickly and narrowly, but we don't see that there are very many opportunities out there that are mispriced in favor of the buyers.

COMMITTEE MEMBER JELINCIC: Okay. Thank you.

CHAIRPERSON JONES: Okay. Thank you. Then next.

MR. KECK: Hi. Tom Keck with StepStone. And since I'm talking about one percent of the portfolio, I'll try to be as brief as I can.

(Laughter.)

MR. KECK: The good news is the portfolio has actually been performing quite well. So in Attachment 5, we've got a brief letter just kind of laying out the high points are that over one-, three- and five-year periods you've exceed the benchmark by about 1,000 basis points on average. So things are going very well in the existing portfolio.

As you've heard from some of the other asset

classes the outlook going forward. I'd want to moderate those expectations that outperformance is not going to continue. Pricing is certainly very high, but we think that there are some very interesting opportunities in the market, whether it's the energy dislocation, the need for investment in roads, in other transportation infrastructure, as well as infrastructure in economies that are emerging and becoming developed economies.

So we think there are a lot of great opportunities out there. And the other good news is that I think CalPERS has positioned itself to take advantage of those opportunities when they arise. You have a number of advantages as an infrastructure investor. The long-term orientation being a dollar based investor is certainly helpful as to infrastructure here in the U.S. And I think CalPERS is known around the world as a sophisticated and kind of leading investor.

So shifting from a strategy that focuses on commingled funds to one that focuses more on partnerships with specific managers where they can leverage the CalPERS name and position in the market I think is going to be a very good strategy to take advantage of the market opportunities going forward. So those -- that's basically my remarks. I'll be happy to entertain any questions.

CHAIRPERSON JONES: Yes. I have a question. The

public-private partnerships domain, what's the status of that, because there doesn't appear to be much traction in terms of agreements coming forward? And while, at the same time, the backlog, the need is so great, but yet instilled. What is your views about -- number one, what are the impediments, and number two, what steps could be taken to try to bridge some of those gaps?

MR. KECK: Public-private partnerships have been extremely helpful overseas, but have been a long time coming here in the states. And I think it's primarily been political barriers to get over. There's certainly a lot of interest on both the public side as well as the private investor side.

But I think there's also a lot of concern amongst policymakers about setting up partnerships where investors are seeming to be able to earn high returns at the expense of institutions, so they're concerned about making bad deals in these types of situations. I think there's also concern about privatization of public sector jobs or potentially having those jobs go away.

So we've seen a lot of people, a lot of talk, and a lot of energy around public-private partnerships. And as you say, there's a lot of need for that -- those investment dollars. But I think until policymakers and investors are able to find ways to bridge the gaps on some

of these issues, it's probably going to continue to be slower than we'd like to see.

CHAIRPERSON JONES: Okay. Thank you.

Mrs. Mathur.

COMMITTEE MEMBER MATHUR: Thank you.

You noted the exceptional performance of this program, which is certainly a wonderful thing to see.

And, you know, we've been fairly slow in deploying capital in this space. And so I'm wondering -- I mean, I think -- I know our staff has been remarkably disciplined about adhering both to the policy, but also to their own internally developed investment parameters. I'm wondering if you think there are anythings that we ought to change?

Maybe, now is not the time to talk about them, but maybe we're setting too high a bar. Maybe somewhere -- there's somewhere in between that we should be. And I guess I would just ask you to comment on that, to the extent that that's appropriate for public session.

MR. KECK: I think you have made some significant changes in terms of shifting toward this partnering approach. And I think to echo Mr. Jelincic's earlier point, there's no point in being in this asset class if you're going to throw money at assets that are not going to provide some sort of excess return above your benchmark.

So I think the discipline that you've shown is part of the reason why you're enjoying the benefits that you are today. And I think the structure that you have in place will allow you to take advantage of what will probably be limited opportunities, even -- there are a lot of capital searching for these infrastructure opportunities. And so I think you do still want to continue to be disciplined as you look for places to invest.

COMMITTEE MEMBER MATHUR: Yeah, and I guess I'm not trying to argue for a lack of discipline --

12 (Laughter.)

whether the parameters are at the right place. And I guess my question really is to the -- you know, what is the appropriate risk premium for these types of investments, and -- and is -- you know, there's somewhere -- I mean, 13 percent for one year, 17.8 percent for five years, that is great, and accretive to our overall -- reaching our overall target, but our target is 7½ percent. So to -- so where -- is there -- is there somewhere that we could be that would allow us to deploy more capital at perhaps an overall lower rate of return that would be even more accretive to the bottom line?

MR. KECK: So your target for infrastructure is

CPI plus a margin.

COMMITTEE MEMBER MATHUR: Yeah.

MR. KECK: So I think that is very appropriate, and I think allows you to pursue the kinds of assets that should allow you to get the money to work. If you were expecting a 13 percent return from infrastructure, then I would say, you don't -- you aren't going to get very much put to work.

COMMITTEE MEMBER MATHUR: Okay. Thank you.

CHAIRPERSON JONES: Okay. That concludes -- no further question son this. Thank you all for your presentation, and very informative.

And we will move to next item on the agenda, which Project Updates Regarding Investment Policy Revisions.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Thank you, Mr. Chairman. Wylie Tollette, CalPERS staff. And I'll introduce Kit Crocker, Investment Director for our ICOR team, who is responsible for maintaining the investment policies for the office.

This agenda item intends to provide an update on our ongoing project to simplify and improve our investment policies. There are two key remaining elements to this project to continue the clean-up of the policy documents as we go through the individual asset classes for the

remainder of the calendar year, and to move the risk constraints and limits that currently exist within the Investment Office delegations over to the investment policy documents.

There are several reasons we're moving this project forward. The first, it's very helpful for staff to have all the risk parameters and limits in one document, so that no detective work is required to identify the appropriate limits around a particular investment, and that detective work is occasionally required today.

This also allows the Investment Committee to oversee and improve a holistic policy document that has all of the risk limits within it, and is clearly within the oversight responsibility of the Investment Committee.

And then finally, this provides an opportunity for the Board to take up review and approval of simplified delegations at a later date.

So with that, we're happy to take questions from the Committee.

CHAIRPERSON JONES: Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: I just want to reiterate what I said in the briefing. We, as a Board, occasionally lose track of the limits and the delegations that we've done. And so I'm just requesting that as you

1 bring these things forward, you always remind us what 2 delegations and limits we have placed. You remember a few 3 months ago we got a whole table of them, and a number of Board members were kind of surprised at what we had 4 5 delegated away. So I just want to make sure that we don't 6 lose track of that. And so I just want to reiterate what 7 I had said on the briefing. 8 CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: 9 Understood. 10 COMMITTEE MEMBER JELINCIC: Thank you. CHAIRPERSON JONES: Okay. No further questions 11 12 on that. 13 CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: 14 Thank you. 15 CHAIRPERSON JONES: Thank you very much. 16 going to take a break for lunch and we will convene at 17 1:30. 18 (Thereupon a lunch break was taken.) 19 20 21 22 23 24 25

AFTERNOON SESSION

(On record: 1:31 PM)

CHAIRPERSON JONES: Okay. We'd like to reconvene the Investment Committee meeting. And we will start with Item 8, the Federal Investment Policy Representative Update.

Mr. Eliopoulos.

CHIEF INVESTMENT OFFICER ELIOPOULOS: I believe we have --

DEPUTY EXECUTIVE OFFICER BOYNTON: Good afternoon, Ann Boynton, Calpers staff. We have our federal representative Dan Crowley from K&L Gates on the phone. And I believe Dan is ready to go to give you a very brief update. In addition, you have materials in your packet. I know he's ready to answer any questions you might have about that.

CHAIRPERSON JONES: Okay. Thank you very much.

MR. CROWLEY: Hi, Mr. Chairman. This is Dan Crowley here in Washington. I'm with my -- two of my colleagues, my partner Bill Kirk and Eric Love who joined us from the Treasury Department last month.

I know time is short, so I will just hit the high points, and then, of course, be happy to take any questions you might have. The first thing to point out, of course, we just passed the five-year anniversary of

Dodd-Frank. There are -- there continue to be a number of legislative efforts on the Hill. None terribly significant in terms of repealing any of the major provisions in Dodd-Frank, but there are a bunch of proposals, some bipartisan, some not, that I would say mostly fall in the category of technical corrections with some exceptions.

There are, for example, efforts to increase the threshold for designation of non-banks systemically important financial institutions from the current 50 billion. It would go up to 500 billion, but the F stock would retain its discretion to designate and institution below that threshold.

Another provision that is in both the House discussion materials and Senator Shelby's reform package is exempting community banks from the Volcker Rule. And we can -- if anybody has any questions about any of those legislative efforts, I'd be happy to respond to them.

Let me talk a little bit about some recent successes at the SEC relating to executive compensation. And then I'll talk just for a minute about derivatives, housing finance reform, and the status of various appointments to the SEC and the CFTC.

On executive compensation, the SEC finally finalized the clawback rule. This would require national

securities exchanges to establish listing standards that would allow for recovery of compensation of the senior executive in the event of an accounting restatement. And I know -- I'm sorry, this was a proposal, which I know that Calpers will comment favorably on that proposal.

The one that has been finalized is the pay ratio rule. On August 5th, that was finalized. It requires disclosure of the ratio of the CEO pay to the average employee pay. That was something that CalPERS has been out front on for a long time, sent a letter of support in 2013. And so we can put that one in the win column.

Of course, the policy process being what it is, there's already discussion of legislation to repeal the pay ratio rule. There are bills in both the House and the Senate, HR 414 in the House Financial Services Committee. Chairman Hensarling has said he intends to pursue Senator Mike Rounds has a bill, S-1722 that would also repeal the pay ratio rule.

However, at this point, it is unclear whether either of those bills have much prospect. Chairman Shelby has not indicated whether he will be bringing up either bill, but we will be monitoring that and keep you posted.

On derivatives, there continues to be most focus on harmonization of cross-border regulatory regimes. The European Commission has been moving forward as has the

CFTC and the SEC. But again continued focus on cross-border issues, particularly in the context of reauthorization of the CFTC.

On the SEC side, Patrick McHenry has introduced a bill, HR 1834 to allow for private resale of restricted securities. The intent here is to create a robust secondary market for restricted securities. That one may very well move forward. He has indicated that it's a working draft, and he intends to work with ranking member Waters who supports the effort. So we should expect that one to go forward. Obviously, the devil will be in the details and we will keep you posted on that.

The SEC on August 5th finally finalized their regulatory regime for security-based swap dealers and major swap participants. That one is also one that we're watching carefully to make sure that there's harmonization between the SEC and CFTC. And as I said, global harmonization remains top of mind on all of the derivatives implementation issues.

Turning to housing finance reform, several provisions in the Shelby Bill deal with GSE reform in one form or another. There's an effort to give financial institutions safe harbor protections for liability for all qualified mortgages that they keep on balance sheet. There's a discussion of a similar proposal in the House.

And there also is a lot of discussion about requiring the GSEs to transfer risk to the private sector, so-called credit risk transfer proposals.

We expect there to be some form of housing finance reform legislation in the fall, primarily in response to the FHFA director's decision to allow the GSE CEO's to increase their compensation from what had been a cap of \$600,000, he moved that up to \$3 million. And that has provoked a bipartisan reaction, which may very well be the driver for some sort of reform legislation in the fall. If so, we should expect both the QM release and credit risk transfer pieces to be a part of that package.

There's also ongoing discussion about using G fees as pay-fors, most recently in the Highway Trust Fund. But again, we can get into specifics on any of these legislative issues, if members of the Committee would like to pursue those.

Just let me mention that last week

Commissioner -- CFTC Commissioner Mark Wetjen announced
his intention to resign. Scott O'Malia, the Republican,
had resigned a year ago. There was no activity or no
expectation that the President would nominate only a

Republican commissioner, but now that there is a

Democratic vacancy as well, we expect him to nominate
Commissioners to be determined for those two CFTC slots.

And, of course, there continue to be two openings at the SEC to replace Commissioners Luis Aguilar and Dan Gallagher, who has announced his resignation.

So we are monitoring those developments. There have been some discussion of candidates for the SEC. The CFTC nominees there really hasn't been much discussion, but we will monitor both sets of developments and keep you posed. So in the interests of time, I will stop there and answer any questions.

CHAIRPERSON JONES: Okay. Thank you. We do have a question from Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: On housing, you talked about the GSE's engaging in more up-front and first-loss transfers. What does that mean and what does it mean to us?

MR. CROWLEY: Well, that's a good question. I think what it means remains to be determined. There's a lot of discussion. Generally speaking, there's, you know, the idea of securitizing risks, sort of spreading it through into the capital markets. There's also another form of up-front risk sharing would be private mortgage insurance. I was listening to the discussion earlier about the decline in home purchases, home ownership. And, you know, traditionally, first time and low income home buyers have either relied on the FHA, if they qualify, or

on private mortgage insurance, if they have less than 20 percent down. So private mortgage insurance has a track record -- to demonstrate a track record of risk transfer, so that's one possibility.

The second set of questions is whether there's going to be pool insurance. I'm sorry, risk transfer with respect to pool. So there's two different types, right, there's -- on the front end of a mortgage origination, either having home buyer equity or private mortgage insurance or FHA insurance on the one hand, and then once the pools of mortgages are securitized by the GSEs whether there can then be risk transfer. There have been a number of experiments in this area, if you will. There was STACRs proposal, and a couple of other things where essentially the GSEs sold off risk into the marketplace.

They were successful, and so people on the hill are now exploring ways to do that on a more regularized basis. But the answer to your question is the devil will be in the details and those discussions are ongoing. And so we would be happy both to keep you apprised of developments, and if CalPERS chooses to weigh in, we would be happy to help facilitate that as well.

COMMITTEE MEMBER JELINCIC: Okay. And then on the Senate Banking, you talked about them incorporating the, what is it, Federal Regulatory Improvement Act,

what is -- what's in that other than exempting community banks?

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MR. CROWLEY: Well, there's a lot of sort of what I would characterize as nuts and bolts changes. Many of them are not controversial and have bipartisan support. Others are more expansive and attempt to revisit provisions in Dodd-Frank. I mentioned the SIFI threshold exemption and the Volcker Rule exemption. But there are things in there likely evaluation of capital adequacy regimes as they relate to insurance companies. some -- in addition to the two provisions, I mentioned the QM and risk transfer. There's also a prohibition on the GSE's selling preferred shares -- or the government selling the preferred shares, and the GSEs, unless approved by Congress, it would prohibit any increase in guarantee fees charged by the GSEs. There would be a series of sort of technical issues allowing credit unions to become members of the Federal Home Loan Bank system requiring the CFPB to promulgate rules on rural areas with respect to the federal consumer finance laws.

Another provision would create an ombudsman within the Federal Financial Institutions Exam Council.

There are amendments to the SAFE Act to allow the Nationwide Mortgage Licensing System to be used across different states without loss of privilege. There are a

bunch of those sort of nuts and bolts.

But I think the two provisions that sort of go most at Dodd-Frank are the exemption for depository institutions with under \$10 billion in assets that would exempt them from the Volcker Rule.

Now, I note that Dodd-Frank itself exempts small depository institutions from the jurisdiction of the CFTP and that threshold is \$10 billion. So it's consistent with some of the other exemptions for community financial institutions.

So nothing terribly controversial. Although, frankly, not a lot of democratic support for the bill for a couple of reasons. One is that some of it goes beyond what the ranking member, Chair Brown, would agree to support, but also Chairman Shelby has now taken the entire package and inserted it into the appropriations bill, the Senate Financial Services and General Government appropriations bill with an eye towards a possible omnibus spending package.

And that means that it has made it a lot more difficult to have substantive discussion on each of the individual pieces. And so there's likely to be united Democratic opposition on -- first, on procedural grounds, and then probably on some of the substantive issues as well.

Although, I should point out that in addition to the House Financial Services Committee package of bills, there are also Democratic proposals from both the Senate Banking Committee and the House Financial Services Committee. And there's quite a bit of overlap in a number of areas.

And so it is not inconceivable that we see reform legislation moving forward with bipartisan support on probably, oh I'd say, about at least a dozen and a half issues. Things like streamlining privacy act notices under Gramm-Leach-Bliley. I mentioned the allowing credit unions into the federal home loan bank system. Even QM safe harbor protection for loans held in portfolio, that is a proposal that is supported by Democrats as well.

And so two sets of issues. One, substantive, one procedural, but we are monitoring all that and keeping you apprised of developments.

area. CFTC and SEC funding, obviously we have been long advocates of fully funding those organizations, especially now that they've got even more regulatory obligations. In your weekly report, you've talked about the funding, but also some of the restrictions that the legislation is proposing to put on it. So my question is what are you doing on our behalf on this funding issue?

MR. CROWLEY: Well, up to this point, we've been monitoring and reporting. These funding issues for the agencies are caught up in much larger budgetary discussions. And to a certain extent, it's a bit of Kabuki theater, because everyone understands that these agencies have to be funded. And so much of the discussion about de-funding or under-funding is really political posturing.

For example, there's been some comments by the House Ag Committee that the CFTC should not be funded until the Commodity Exchange Act is reauthorized. But, of course, it's going to be funded, and it will almost certainly be funded at last year's levels, if not more.

I think that whole set of issues gets caught up in the federal budget process toward the end of the fiscal year. We do have a fiscal cliff coming up at the end of September. So there will have to be either a continuing resolution, in which case all agencies will continue at the current funding levels, or an omnibus funding bill, which kill continue appropriations for the next year at agreed upon levels.

But we can certainly look for opportunities to weigh in with the appropriators and with the leadership. But at the end of the day, I think it's safe to expect that these agencies will be fully funded.

1 COMMITTEE MEMBER JELINCIC: Thank you.

CHAIRPERSON JONES: Okay. Thank you very much.

I see no further questions. So thank you for the report.

MR. CROWLEY: Thank you.

CHAIRPERSON JONES: Okay. We'll move now to the next item on the agenda, Senate Bill 588 (de León), Wage Theft Recovery. Mr. Blackledge.

LEGISLATIVE AFFAIRS ASSISTANT DIVISION CHIEF BLACKLEDGE: Good afternoon, Chairman Jones and members. Scot Blackledge, Calpers staff.

This agenda item is being presented on Senate
Bill 588. It's authored by Senator Kevin de León,
President Pro Tem of the Senate and is sponsored by SEIU
California, the Wage Justice Center and also the Korean
Immigrant Workers Alliance.

This bill deals with wage theft recovery. It's been an issue that's been before the legislature for several years. Prior to this iteration, the proposals have generally focused on copying mechanic's liens that involve real property. But in this instance, Senator de León is taking a different tack. And what he's doing is he's allowing the State Labor Commissioner -- excuse me -- to file a levy, or in limited cases, a lien on an employer's property to enforce court judgments for unpaid

wages, and other compensation penalties and interests owed to an employee for work performed in the State.

This is a gradually escalating process. And so with the worker's consent, it would allow the Labor Commissioner to file levies on an employer's assets, go on to a bonding process for employers that do not appeal the judgments of the Labor Commissioner, and then eventually to a lien on real property.

There is no formal opposition to the Bill.

However, the Chamber of Commerce has expressed concerns.

And it's our understanding that they're working with

Senator de León's office to resolve those issues.

I'm happy to answer any questions.

CHAIRPERSON JONES: Seeing no questions, thank you for the report.

Next item on the agenda is the Private Equity

Cash Flow Distribution Examples.

Mr. Réal Desrochers.

19 CHIEF INVESTMENT OFFICER ELIOPOULOS: Mr. Chair, 20 Committee

(Thereupon an overhead presentation was Presented as follows.)

CHIEF INVESTMENT OFFICER ELIOPOULOS: Mr. Chair, Committee members, while Réal and Christine Gogan make their way up --

CHAIRPERSON JONES: And while they're coming up, I would just ask Committee members, since there are a number of charts that will be displayed, I would ask that we hold our questions till we get through all of the charts, please. Thank you.

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CHIEF INVESTMENT OFFICER ELIOPOULOS: appreciate that, Mr. Chair. I think you heard my comments earlier this morning on this topic. I won't repeat them This purpose is to give the Committee, you know, as clear a delineation and description of the mechanics of how cash flows work in a typical commingled fund in private equity. Obviously, it's a generalization. The terms vary by partnership, but we've tried to provide the Committee with a description of what's typical in the private equity commingled fund, focusing again -- and I'll turn it over to Réal in a second -- focusing on first the asset management fee, which is a fee paid for services, and as distinct from, and what you'll see in the slides, the profit sharing of the carried interest, which is, as it sounds, a share of the profit -- a share of the profits based on the performance of the fund.

So with that, I will turn it over to Réal.

MANAGING INVESTMENT DIRECTOR DESROCHERS: Thank you very much, Ted. Good afternoon, Board members and Investment Committee. My name is Réal Desrochers,

Managing Investment Director of Private Equity. With me is Christine Gogan, that is an Investment Director in the group also.

So like Ted said was explaining, we discussed a few months ago to bring back to how does a private equity fund is typically structured. And I think to -- also, like I repeat what Ted said was saying, but we want to go over the payment of cash flow, how much get distributed between the general partner, the investment advisor, and the limited partners.

And lastly, I want to show an example of what does it mean for a large investor that has a portfolio of fund of private equity.

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MANAGING INVESTMENT DIRECTOR DESROCHERS: So on slide 3, this is a typical structure of a private equity fund, where you have in the center a commingled fund, you have on the left-hand side limited partners, of which CalPERS would be one. There could be many of them. Typically, the limited partners would provide 97 to 99 percent of the capital. The limited partner, like on top of being a provider of capital, they have limited rights, because this is the structure of the partnership. We cannot have governance -- the limited cannot have governance right, because they want to have limited

responsibilities.

So we relinquish a lot of the governance, right, in the commingled fund to the investment advisor. This is why it's so important and so critique to select the manager that you want to be with.

The limited partners -- a larger limited partner typically would have a representation on the advisory board. But the advisory board is there -- the most common function is really to opine on conflict of interest that might arise between the limited partners and the investment advisor. And I'll repeat, there is a large number of limited partners, Calpers being one.

If you look on the right-hand side, the red box, the investment advisor, they are the promoter of the fund. They are the manager of the fund. They have the governance of the fund. They typically invest between one -- depending on the size of the fund, depending on their asset base - how you say - it's not uncommon to see one percent. And the maximum we will see is typically two, three percent. It varies.

The commingled fund functions -- this is where it's a legal entity with -- from which we receive audited financial. And the commingled fund managed by the advisor is -- this is where the money goes into the portfolio company.

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MANAGING INVESTMENT DIRECTOR DESROCHERS: What I would like to do in the next slide is to take an example -- a typical example and to show how does the money goes in into these portfolio company. And then the next slide, I'm going to -- we're going to go through how does the money come back to the limited partners.

So for ease of illustration, we've taken a very, very simple illustration of a commingled fund with the investment manager, because this is -- there is much more attributed to that than what see in here. But for ease of illustration, we have taken an example of \$120 million fund that would be subscribed, because it's subscribed by the limit partners.

The fund has a -- we assume that the funds has a typical arranged management fee of two percent per year for a 10-year period. This is also -- this is not common. This is on the high side. We wanted to illustrate on the high side what should be a fee.

And the sharing of the profit, or called typically carried interest, would be 20 percent to the general partner, the investment advisor, and 80 percent to the limited partners. So if we take this example, we look at the \$120 million on the left-hand side, you see that we assume that \$120 million would be called to go into the

commingled fund. Twenty million dollars would be used to pay the management fees of the advisor, and \$100 million will go into the, what we say -- would go into the ground, would be invested in companies.

If you look on the right-hand side, we wanted to illustrate also the management fee, which creates so much controversy, as it should probably. Twenty million dollars goes to the investment advisor. So that's important that you keep that in mind, because I'm going to tell you that the \$20 million that goes to the investment advisor is no different than any other asset class. This is the fee paid to manage the asset, and it will stay with them. That's what we're going to see in the other slides.

Question, is it -- that's the situation. So if everyone is okay with that, we go to the next slide.

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MANAGING INVESTMENT DIRECTOR DESROCHERS: How does -- gets the money gets to be distributed to the limited partners, and to the investment advisor?

So we keep the same example, \$120 million commitment by the limited partnership to a commingled fund. Two percent management fee 80/20 -- 80, so -- and we assume here that the realization of the fund would be \$200 million. So that is when all is said and done at the end of the life of the fund, \$200 million of value is

sitting on the table.

Now, what we want to show you is how does that get distributed?

So before the general partner takes any fees, has to reimburse the cost of the investment, has to reimburse the management fee. So that's \$120 million. This is what you see. The arrow, that goes back to the limited partners, of which Calpers is one.

So the Delta between the profit realized by the bucket -- by the commingled fund, 200 -- it's not a profit. I'm sorry, it's the asset that is generated, \$200 million. They have to reimburse the management fee.

Again, it's not a reimbursement. They have to net the management fee and the cost that went into the ground, so 120, has to be netted of the \$200 million.

So the profit to be shared is \$80 million. And this is when the economics start to trigger. We have assume also no preferred return in here. Typically, never in every, there is a preferred return. So you see that the \$80 million get to be shared, \$64 million with the limited partner, of which CalPERS is one, 20 percent goes to the investment managers, \$16 million.

So this is where the 80/20 -- I repeat, the \$20 million management fee paid to the investment advisor. It's part of the -- this is where we go to the next

place -- the next slide.

explained to you.

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MANAGING INVESTMENT DIRECTOR DESROCHERS: of these partnerships, we have -- I don't want to confuse the people, clawback, distribution waterfall. want to go through is how does the flow -- I'm going to repeat what we just said, how does the cash flow to -between the limited partners and general partners? So we will go to the arithmetics of what I just

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MANAGING INVESTMENT DIRECTOR DESROCHERS: T don't. want to go through all of these. The blue side, if we go on the left-hand side of the slide, I will take you strictly to the bottom one, the third one, net investment gain. I'll explain that the pool of \$200 million has to net the management fees return the costs. So this is the \$80 million that is being shared, 80/20. This is what you have, 20 percent of the 80 million, 16 million, 80 percent of the 80, 64.

Now, I think it's interesting to see how does that get reallocated at the end of the life of the fund? So we put total capital return to CalPERS, but it's -- I repeat, we should have put there to limited partners, because CalPERS is one of many. CalPERS is extremely

rarely -- you will remember we discussed one fund where you were the sole LP here, extremely rarely. CalPERS is rarely more than 10 percent of a fund.

So you have the investment cost, 100 million, the management fee recoup, or recapture. So 80 percent of the profit, as we explained, so 64. So the limited partner gets to share \$184 million, and the investment advisor gets \$36 million. This is the management in terms of cash flow. They get to keep their management fee, and then they take their share of the profit, because this -- the investment was -- turns out to return a profit.

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MANAGING INVESTMENT DIRECTOR DESROCHERS: Now if we go on the next slide, I think we wanted to illustrate the same example, the same fund, \$120 million, two percent management fee per year for 10 years, 80/20, no preferred return.

But in that case, the fund does not generate good return. So I take you down also to the net investment gain, left-hand side, blue bar, there is no gain to be shared. It's zero. Twenty percent of zero is zero, 80 percent of zero is zero.

So the fund -- on the right-hand side, the total capital return to the limited partners, in our case here, we assume the 120. So the management fees are being

returned. The principal invested in the company are being returned. And the point to make is the general partners, the investment advisor, will get to keep their \$20 million.

I think I would like to illustrate, as an example, to take the example to an extreme. What if they get to lose all of the money? So all of the limited partners they will have paid the \$20 million and will get nothing in return, no principal.

So again, this is why the importance of really manager selection, understanding who you deal with, understanding their governance. This is why we spend so much time on due diligence, and understanding the people you go with. And you will remember, we mentioned often also manager selection is so critical in terms of getting the performance that you want.

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MANAGING INVESTMENT DIRECTOR DESROCHERS: So the last -- no, you're going too fast -- okay. The last slide that we wanted to show is a portfolio and investors as a portfolio of 100 of these funds. We kept the same example. So imagine the \$12 billion is 100 funds of \$120 million, no preferred return, two percent management fee.

So what we wanted to show here is that these large investors will have 100 times \$80 million to share,

20 percent with the general partners -- 20 percent, yes, with the general partners, 80 percent with the limited partners.

You see the numbers are big. So the 100 managers of the 100 fund, assuming they're all different, they have collected \$2 billion in management fee, successful investment, \$1.6 billion in carried interest or profit sharing. And the limited partners, we got their money netted out, return of their money, and get - this is the important part - the \$6.4 billion of gain on the partnership.

I want to say it's much -- this is really the core. It's like if we are -- if I am an architect. This is really looking at the architecture of the house. But then when we go and negotiate these things, you have to go in every room. There's -- it's complex, and lots of legalese and business point that we need to be very mindful. That completes, I think, my presentation.

We're happy to answer any questions you may have, or at least try to answer.

Thank you.

CHAIRPERSON JONES: Okay. We have a few questions. Mrs. Mathur.

COMMITTEE MEMBER MATHUR: Thank you, Mr. Chair.

25 | Thank you, Mr. Desrochers, for that presentation. I

recognize that you've just used round numbers for illustrative purposes, but if we could go back to page five, in this example, the management fee is actually greater than the carried interest.

MANAGING INVESTMENT DIRECTOR DESROCHERS:

COMMITTEE MEMBER MATHUR: Is that typical? Do we typically see the management fee being -- exceeding the carried interest?

MANAGING INVESTMENT DIRECTOR DESROCHERS: You don't want that. No, it's not typical. This is why I say it's very rich. You don't want that, because in a case like that, it means that the people -- I mean, they're going to get rich no matter what. I mean, not rich, but, I mean, they don't have the incentive to really work the asset.

COMMITTEE MEMBER MATHUR: Yeah.

18 MANAGING INVESTMENT DIRECTOR DESROCHERS: No 19 that's not good.

COMMITTEE MEMBER MATHUR: I mean, in this example, they're getting 36 percent of the total proceeds of the investment of \$100 million in this case.

MANAGING INVESTMENT DIRECTOR DESROCHERS: Right.

COMMITTEE MEMBER MATHUR: And is that typical

25 | that they -- that the --

1 MANAGING INVESTMENT DIRECTOR DESROCHERS: No.

COMMITTEE MEMBER MATHUR: -- the GP would end up with third or more?

MANAGING INVESTMENT DIRECTOR DESROCHERS: No.

The typical, you want the general partner to have, we say, skin in the game. They have to have money at stake.

COMMITTEE MEMBER MATHUR: Yeah.

MANAGING INVESTMENT DIRECTOR DESROCHERS: We verify -- the short answer is no. They should not get rich on the --

COMMITTEE MEMBER MATHUR: On the management fee.

MANAGING INVESTMENT DIRECTOR DESROCHERS: -- on
the management fee. They have to have the incentive to
work and to earn through the profit sharing really. And
to do that -- yeah, that's my comment.

COMMITTEE MEMBER MATHUR: And have we looked at our own portfolio to see how that actually is -- shakes out in our --

MANAGING INVESTMENT DIRECTOR DESROCHERS: We do that all the time. We do that. We do that all the time before we underwrite a new commitment. We do that. We go further. We call the alignment of interests. And every investment recommendation, we look at how much money will be drawn by the advisor. We look also -- we don't want to invest with, what we call, a one-person show. So there

is the carried interest or the profit sharing has to be earned over the lifecycle of the fund.

They have to be shared -- we look at the sharing within the team. This is why I say we don't want to invest with a one-person show.

We want to have team that have proven track record, that have, I would say, entry level people junior people -- not so entry level people, senior people, and have -- we invest in an organization.

COMMITTEE MEMBER MATHUR: And, in your view, is one to three percent the right amount of GP investment to really have skin -- meaningful skin in the game?

MANAGING INVESTMENT DIRECTOR DESROCHERS: It's a difficult judgment call to be made there, because I think there is no magic number. It depends on the lifecycle of which the firm is in. If you have someone -- we tend not to do first-time fund, but people -- we need to look -- there is no question this is a lot of money. People get a lot of money. There's no question about that.

So we look at the -- if it's a firm that -- I think, the most difficult fund to raise for Private Equity Group is the first one and the third one, according to the staff what's happening in the industry. The first one because people will say you need to put -- to have skin in

the game, you want to have one percent.

People, if they are a spin-out of the group, they say we don't have that much money. They're not poor, but they don't have that much money to put in there, because if they want to be successful, they need to put that amount of money, then they need to put in Fund 2. So they have not had any realization, because the typical lifecycle of a fund is five years.

So they will be harvesting in year -- let's say start four to year 10. Then the investor will say, hey, okay, Joe, there is Fund 3. No, we listened to your story for eight, nine years, now show us the money.

So this is why people are very -- it's -- this is difficult the first one and the third one, because of the people, if they're good investors, very often they will spin-off from an existing group, because the industry now has 20 years history, so you saw many people. So that's why. There is no magic answer in there.

If you take a well-established group, very well established, some are -- it's different. So this is a judgment call that will have to be made.

COMMITTEE MEMBER MATHUR: And just one last question. To what extent is the management fee used to seed that GP contribution?

MANAGING INVESTMENT DIRECTOR DESROCHERS: This is

what we call the management fee offset to the IRS. I don't know, Christine, do we have the number? We track that. But I -- do you have the number?

INVESTMENT DIRECTOR GOGAN: Forty-one percent.

CHIEF INVESTMENT OFFICER ELIOPOULOS: I think the question, if I could -- I think you're thinking it's a different question. I think Ms. Mathur was asking about whether or not the -- in this example, the \$20 million of management fees is effectively being used as the one to three percent --

COMMITTEE MEMBER MATHUR: The capital commitment.

CHIEF INVESTMENT OFFICER ELIOPOULOS: -- the

capital contributed by the --

COMMITTEE MEMBER MATHUR: Yeah.

CHIEF INVESTMENT OFFICER ELIOPOULOS: -- by the general partner. So it's -- I want to give Réal definitely a chance to answer it. I think there isn't a legal linkage within the agreement. And some agreements in the past, there actually have been provisions that allow the general partner to use the capital collected, you know, for their asset management fees and apply it to their capital contributions. So that's happened in the past.

I think now, and going forward, those -- that type of direct legal link between the two is more a

disfavored term rather than favored, but it also belies the economic reality that it's a fairly close connection between the amount of capital committed by the general partner and the fees that they take back. So it all goes to this question of alignment of interests that Réal was emphasizing, which is we'd always like to see more capital by the general partner invested in the commingled fund, because it better secures the type of alignment with the limited partners for risk of loss, risk of their capital at loss, just to the same that we have capital at loss.

COMMITTEE MEMBER MATHUR: Exactly.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Some of the difficulties in achieving, you know, greater alignment in this case by greater amount of capital committed by the general partner, one is just the market environment.

We're one of many limited partners negotiating any given agreement. And there's only so much market power that we have in structuring it.

The other though is in terms of talking in terms of one percent or two percent. That also belies the very large numbers that are involved here. And even a one or two percent commitment by a general partner depending on well established or new firm can be quite a significant amount to that firm, even though it sounds like a small number in one or two or three percent.

But that's exactly -- those are exactly the types of questions that the due diligence teams and the private equity team look at in assessing what is the true alignment. Is it really their capital or not, and how much of it is at risk, and how material is that capital to the firm?

COMMITTEE MEMBER MATHUR: I know I said that was going to be my last question, but now that actually spurred a follow-up question, if I might, and that is around how the management fee number is arrived at?

Because clearly as these funds have gotten so much bigger, what's actually required to run an office might not -- if you built it from the bottom up, it might not actually end up being 20 -- I mean, two percent.

So is that -- I mean, do we require -- is it typical to require some defensive accounting of how that number is calculated or --

MANAGING INVESTMENT DIRECTOR DESROCHERS: What you mean is if it's typical to require a budget. How can --

COMMITTEE MEMBER MATHUR: Well, a budget or is that really the right number, given how big these funds have become?

24 MANAGING INVESTMENT DIRECTOR DESROCHERS: Right.

25 | My -- I don't know. Can I ask people? My own personal

opinion this is rich. And this is why the two percent is not the number. I repeat what I said here, the two percent is really on the high side. Typically, what we see, and depending on the size of the fund, today -- in today's environment would be one and a half percent during the investment period.

And then after the investment period, what is typically five years, the fee would be half of the fees on this. So the two percent, I just don't want -- like you said I think right on the nail, I mean, the people they will not have an interest to really work for the limited partners if they're guaranteed to have that pay day.

COMMITTEE MEMBER MATHUR: Yeah. Thank you.

CHAIRPERSON JONES: Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: This presentation is good as far as it goes. It's very high level. But one of the things that it did is it assumed a way the things like offsets and fee waivers and clawbacks and fund costs, and preferred returns, which are all the areas that are creating the controversy.

Those are the areas where the SEC has said limited partners are getting ripped off, where the IRS has said that it looks like taxpayers are getting ripped off. So I want to dig a little deeper, if I may.

Based on public information, one of the funds

we're in, it's a 2005 vintage, was a buyout fund. It's \$4.25 billion, the management fee is 1.5 percent, and we committed 125 million. And as you said, one and a half is fairly typical at this point.

So at that percent if I did my math right, our management fee is 1.875 million per year. Does that sound at least reasonable?

MANAGING INVESTMENT DIRECTOR DESROCHERS: It sounds reasonable.

COMMITTEE MEMBER JELINCIC: But when I looked at the CAFR on this particular fund, one of the things that I see is fees and costs that we report. And I would assume that the fees are the management fee, and the costs are all those costs that go into the fund, the auditing fees, the advisory firm, all that kind of stuff. Is that a reasonable assumption?

MANAGING INVESTMENT DIRECTOR DESROCHERS:

There's -- I don't know. There is three types of -- there's in a fund -- in a commingled fund, you have the management fee that are paid, you have sharing of the profit, and you have all sorts of --

COMMITTEE MEMBER JELINCIC: Sharing of what?

MANAGING INVESTMENT DIRECTOR DESROCHERS: Sharing of the profit, the carried interest.

COMMITTEE MEMBER JELINCIC: Oh, okay.

MANAGING INVESTMENT DIRECTOR DESROCHERS: Then you have fees that are charged to portfolio companies that are to be shared with the limited partners. And then these are market -- market driven. Some -- if you go to the cycle, you say 2005 vintage year, the -- I don't know what the name of the fund, but a fee of seven --

CHAIRPERSON JONES: Excuse me, Mr. Desrochers.

Mr. Jelincic, I'm going to ask that that information be provided to them, because you're going to the CAFR, the annual financial report, and citing numbers that they don't have, and they don't even know the company you're referring to, so --

COMMITTEE MEMBER JELINCIC: The company is problematic when you --

CHAIRPERSON JONES: I'm asking that you provide the information to staff, and staff will be prepared to report back to the whole Committee to answer your question. That's all. With the same information.

COMMITTEE MEMBER JELINCIC: You know, quite frankly, none of the numbers I'm raising are things that they can't verify.

CHAIRPERSON JONES: No, and I'm not suggesting that, J.J. I'm just saying the process that if you want to get a real answer, rather than an estimate, someone needs to be looking at the numbers that you're talking

about and the page number that you're referencing. That's all I'm saying. I support you getting the answer, but I just want them to have the information.

COMMITTEE MEMBER JELINCIC: But the -- knowing the fund and knowing those numbers are accurate or not accurate really is not something they need to know to answer the series of questions, because I'm making some assumptions.

CHAIRPERSON JONES: As I -- I'm going to rule that if --

COMMITTEE MEMBER JELINCIC: Are you going to rule me out of order?

CHAIRPERSON JONES: I haven't done that yet.

COMMITTEE MEMBER JELINCIC: Okay.

CHAIRPERSON JONES: But I'm just saying that if you want to get an accurate answer, I would suggest that we give them the information and let them report the information back to all of the Board members. That's all I'm suggesting.

COMMITTEE MEMBER JELINCIC: And -- okay -- but -- and I'm telling you the questions I have they can answer without needing to do that.

CHAIRPERSON JONES: Well, the response was just made that he doesn't know what company you're referring to. He just made that comment.

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COMMITTEE MEMBER JELINCIC: Okay. He did, and I gave him the name of the company. But quite frankly, for the questions that I have, he really doesn't need to know the name of the company.
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5 CHAIRPERSON JONES: Well, I've indicated the 6 direction, so --

7 COMMITTEE MEMBER JELINCIC: So are you ruling me 8 out of order --

CHAIRPERSON JONES: Yes.

COMMITTEE MEMBER JELINCIC: -- or are you going to let answer -- ask my questions?

12 CHAIRPERSON JONES: No, I'm ruling you out of 13 order.

COMMITTEE MEMBER JELINCIC: I'd like to appeal the decision of the Chair.

CHAIRPERSON JONES: And --

17 COMMITTEE MEMBER JELINCIC: And I'd like a roll 18 call vote on that.

CHAIRPERSON JONES: Okay. So appealing the decision of the Chair. There's roll call vote requested. So we will ask for a roll call.

COMMITTEE MEMBER CHIANG: Just rephrase the question. Just rephrase it.

COMMITTEE MEMBER MATHUR: Use the mic. Use the

25 mic. Use the microphone

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CHAIRPERSON JONES: Wait, wait a minute.

Okay. Wait a minute. Now.

COMMITTEE MEMBER CHIANG: J.J., just rephrase the question at a more theoretical level, so you can get out of the specifics and get to the point that you want to ask.

COMMITTEE MEMBER JELINCIC: Okay. So I'm -- you're reversing your ruling, at least for the time being.

CHAIRPERSON JONES: Well, if you're going down that track, I'm not. But if you're going to go for just the general question, that's fine.

\$125 million commitment, and it's a 1.5 percent management fee, the -- can you explain to me how we could pay costs and fees significantly below that? If I can use a specific example. In '08, we paid 30 million versus 185 million. How would that come about that we would pay such a difference between our contractual obligation and the fees?

MANAGING INVESTMENT DIRECTOR DESROCHERS: I would be happy to provide you a very precise answer on this, if we know the specific name. I'm sorry I have to go back there, because these agreements are specific to each one of the investment advisors. In that case, they might have had management fee of set. I don't know what the

sharing -- I don't remember what the sharing could be. Something it's 50/50, 60/40, 80. So that might be one reason. I don't know.

And I know some other -- I know some of the GP will not call the money at the inception of the fund just to save in that, because that is more money that will go into the ground, that will enhance their share of the carry later on. This is why I say it's -- I'll be happy to provide you a very, very, very specific answer if you give me the name. I have the vintage year. We have the management fee. Happy to provide the whole Investment Committee very specific.

COMMITTEE MEMBER JELINCIC: Is our management -the management fee we pay likely to be less if there are
offsets for charges to the portfolio companies?

MANAGING INVESTMENT DIRECTOR DESROCHERS: Yes.

COMMITTEE MEMBER JELINCIC: Okay. And so that

could be --

MANAGING INVESTMENT DIRECTOR DESROCHERS: I'm sorry. In some cases, depending on the partnership, there is no management fee in some given year. Zero management fee, because the offset -- where they are, they will share 100 percent there. Again, I cannot -- I can't speak really. I would be really happy if you have more than one, also would be happy to provide you the detail.

COMMITTEE MEMBER JELINCIC: Okay. And in this case, the management fee is 1% percent of the committed during the investment period. So if the investment period -- the management fee paid is significantly less than the contractual rate, where is that reduction likely to come from?

MANAGING INVESTMENT DIRECTOR DESROCHERS: The -again, I assume the general partner did not call the
money. And I know some people do that. Like I said, not
a lot of them, but they want to enhance their return at
the end of the -- this is -- the management fee that we
see in here doesn't go into the -- doesn't go to the fund.
It flows through to the general partners. If you assume
the general partner decide not to take the \$20 million,
instead if it's being invested in the portfolio companies,
and if it returns two times the money, it enhanced the
limited partner's share of the profit, enhances the
general partner's share of the profit. This is why I say
I'm happy to provide the detail. I don't know, but happy
to provide the detail.

COMMITTEE MEMBER JELINCIC: Okay. If a manager charges a -- charges fees to the portfolio company, and shares that with the LPs, would that reduce the LPs' management fees?

MANAGING INVESTMENT DIRECTOR DESROCHERS: Again,

it depends on the agreement that you have with the general partners. I'm sorry to repeat the same thing, but it depends of the contractual agreement that we have. In some cases -- in some cases, it reduces the management fee to zero, because the sharing arrangement that we have in the contract, like I said, could be 50/50, 60/40. It depends on the cycle. The last three years -- I can tell you the last three years, most of these contracts were down with 100 percent management fee offset in favor of the limited partners.

If you go to pre-2007, the sharing was -- I'm looking -- actually looking -- Mike Moy, maybe you can -- I would say probably was 60/40, 70 -- it depends on the -- MR. MOY: It could have been 50/50, 60/40. It was nowhere near 100 percent.

COMMITTEE MEMBER JELINCIC: Let me repeat the question. If the manager charges fees to the portfolio company and shares that with the LPs, would the LP's management fee be reduced?

MANAGING INVESTMENT DIRECTOR DESROCHERS: Yes.

COMMITTEE MEMBER JELINCIC: Okay. And the -- because the GP got the same amount of fees, but they got part of it from the portfolio company, and part of it from the LPs, correct?

MANAGING INVESTMENT DIRECTOR DESROCHERS: I'm

sorry. No, repeat that. No, because -- no, it doesn't get the same amount of money.

2.4

COMMITTEE MEMBER JELINCIC: He doesn't get the same amount.

MANAGING INVESTMENT DIRECTOR DESROCHERS: No, because the fee -- the fee collected from the portfolio company in your example would go to reduce the management fee paid by the limited partners.

COMMITTEE MEMBER JELINCIC: Okay. So he -- so the general partner would get that money from the portfolio company rather than the LP?

MANAGING INVESTMENT DIRECTOR DESROCHERS: That's correct in your example. I assume, yes.

COMMITTEE MEMBER JELINCIC: So the money that the GP receives would be the same, but part of it would have come from -- no, why would it be different?

MANAGING INVESTMENT DIRECTOR DESROCHERS: Because like I said, in some cases, you get -- there's new management fee to be paid, because it came out from the offset.

COMMITTEE MEMBER JELINCIC: Because?

MANAGING INVESTMENT DIRECTOR DESROCHERS: It came from the offset.

COMMITTEE MEMBER JELINCIC: Okay. So -- but if there was enough of an offset to take it to zero --

1 | MANAGING INVESTMENT DIRECTOR DESROCHERS: Right.

COMMITTEE MEMBER JELINCIC: -- then would the GP collect less money than they would have in the absence of the offset?

MANAGING INVESTMENT DIRECTOR DESROCHERS:

Correct.

2.4

COMMITTEE MEMBER JELINCIC: So they -- they could reduce the management fee by more than they collected from the portfolio company?

MANAGING INVESTMENT DIRECTOR DESROCHERS: In theory, you're probably -- I mean, possibly right, but you don't want that. I don't think we want that, because when you take money from the companies, this is reducing the value of the company.

COMMITTEE MEMBER JELINCIC: Right.

MANAGING INVESTMENT DIRECTOR DESROCHERS: So you want the company -- you expect to have an exit, I don't know, six, seven, eight times EBITDA. And if you take that away from the company, this is hurting. There's a limit there.

COMMITTEE MEMBER JELINCIC: Yeah. I mean, from an economic viewpoint, the LP pays it whether it's coming from the right pocket or the left pocket.

MANAGING INVESTMENT DIRECTOR DESROCHERS: To an extent, yes. To an extent, yes.

COMMITTEE MEMBER JELINCIC: Okay. And -- but to the -- to the extent that the GP collected money from the portfolio company, and shared it with the LP as an offset, then the total that the GP would have collected would have been the same, because other -- he could have collected 100 from the LPs, instead he collected 50 from the LPs, gave the -- or from the portfolio companies, gave the GP the LP's credit for that 50, and still wound up with his hundred?

INVESTMENT DIRECTOR GOGAN: Just -- if you could, Mr. Jelincic, just boil down the essence of the question again and Réal and I will do our best to try to answer it from a theoretical perspective.

COMMITTEE MEMBER JELINCIC: If the GP collects from the portfolio company and uses that money to offset the LP's management fee, so it takes it from one pocket and credits it to the other pocket, the total fees that the GP collects will be the same, assuming it's 100 percent offset. When you go back -- you don't agree. I mean, if the assumption is wrong, let me --

MANAGING INVESTMENT DIRECTOR DESROCHERS: No, I don't agree.

COMMITTEE MEMBER JELINCIC: Okay. If -- okay.

Let me give a specific -- the management fee is 100. The fees to the portfolio company is 50. There's 100 percent

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offset to the LPs. So what then happens is the GP has collected 50 from the portfolio companies, and he will collect the other 50 from the LPs, because that part has not been offset. So he will have collected the 100, correct?
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2.4

MANAGING INVESTMENT DIRECTOR DESROCHERS: No, he would collect 50.

COMMITTEE MEMBER JELINCIC: So if he -- so if the management fee is 100, he collects 50 from the portfolio companies, that's --

MANAGING INVESTMENT DIRECTOR DESROCHERS: He offset the management fee of 100 by the \$50 million that had been collected from the portfolio company.

COMMITTEE MEMBER JELINCIC: Okay. So he offsets the 50 --

MANAGING INVESTMENT DIRECTOR DESROCHERS: Right.

COMMITTEE MEMBER JELINCIC: -- of the management
fee. What happens to the other 50 of the management fee?

INVESTMENT DIRECTOR GOGAN: It's paid by the
limited partners.

COMMITTEE MEMBER JELINCIC: Okay. So the GP ultimately gets 100, he gets 50 from the portfolio companies, 50 from the LPs, right?

MANAGING INVESTMENT DIRECTOR DESROCHERS: No.

25 COMMITTEE MEMBER JELINCIC: No

CHAIRPERSON JONES: Mr. Jelincic, can I suggest that you sit with them and give them your specific examples, and let them prepare a response and present it back to the Investment Committee at a later date --

COMMITTEE MEMBER JELINCIC: The --

CHAIRPERSON JONES: -- so that therefore there will be no doubt about what the question is. And also, we have other people that are waiting to speak.

OMMITTEE MEMBER JELINCIC: Okay. Let me ask one other question then, and I'll -- if -- you talked about the manage -- the LPs getting credit for all of the management fees. If the manager -- the GP collected part of that management fees from the L -- from the portfolio companies, does it -- do they, in fact, refund that to the LPs ultimately?

MANAGING INVESTMENT DIRECTOR DESROCHERS: This is it where it goes for the management fee offset. This is what we call the management fee offset.

COMMITTEE MEMBER JELINCIC: I'm sorry. It's -MANAGING INVESTMENT DIRECTOR DESROCHERS: This is
what we call the management fee offset.

COMMITTEE MEMBER JELINCIC: Okay. So if -- do the LPs ultimately recover that money that they didn't pay that came out of the portfolio companies?

MANAGING INVESTMENT DIRECTOR DESROCHERS: Yes, in

the waterfall, assuming that the whole bucket would be profitable.

COMMITTEE MEMBER JELINCIC: Okay.

CHAIRPERSON JONES: Okay. I'm going to call on the next requested speaker.

Mr. Costigan.

COMMITTEE MEMBER COSTIGAN: All right. So I'm going to actually get a little more basic, just so I can understand this. Réal, first, thank you for trying to make this understandable. It's difficult, I know, even with your presentation. So I just have some real basic questions just so I can understand it.

In using your chart, just to understand the fees, when there are four companies and they're taking a realization of \$200 million, and you've got the GP costs spinning off, do they spin off other costs? I mean, could the General -- can the GPs receive -- because what we're talking about is compensation between the net profit -- or the profits and the management fees. But do we have any type of agreement, contract that prevents them from sitting or taking any type of cash out of companies 1, 2, 3, and 4 before it rolls off or waterfalls down?

The other is what prevents them, because I'm aware of couple folks that spin off other little entities to do their marketing and stuff, and they're taking a

piece of that. So actually I'll ask my four questions and then I'll listen.

Second is who sets what the profit level is?

I've read cases before, including one of the private equity companies -- or hedge fund companies we exited from that they had raised the profit level to 11 percent before a fee we would roll-out. And so do we get 20 percent of the first dollar or is there a certain amount that they have to make a determination.

Second, where are bonuses accounted for out of the profits, and the management fees. You answered my third one. And then I think back to Priya's question about the 36 percent. I mean, on the front end, the two percent looks interesting, but over the whole term it's considerably more so. Those are my four questions right now. I can repeat them

MANAGING INVESTMENT DIRECTOR DESROCHERS: Could you? I have one --

COMMITTEE MEMBER COSTIGAN: How are bonuses a accounted for?

MANAGING INVESTMENT DIRECTOR DESROCHERS: Like what you have in here, when you have --

COMMITTEE MEMBER COSTIGAN: Well, just where would they -- they're not in the management fee.

MANAGING INVESTMENT DIRECTOR DESROCHERS: No, the

bonus would be at the end of the life when -- assuming the \$200 million. It's the \$80 million profit, that this is where the bonus would be, and they get their 20 percent part of the bonus.

COMMITTEE MEMBER COSTIGAN: Okay. So it's included in that 20 percent?

MANAGING INVESTMENT DIRECTOR DESROCHERS:

Correct. In a real life example, you would have a preferred return.

COMMITTEE MEMBER COSTIGAN: Okay.

MANAGING INVESTMENT DIRECTOR DESROCHERS:

That's -- that's -- I think that's your question.

Number two.

COMMITTEE MEMBER COSTIGAN: Well, question number two is who sets what the return is, because I have read -- I don't want to name which company, but one of the funds I know we've done business with in a REIT had raised it to before they would distribute any profits, it had to earn 11 percent. So who makes that determination?

MANAGING INVESTMENT DIRECTOR DESROCHERS: It's a negotiation between the limited partners and the investment advisor. Some fund has zero. Very rare, but have zero preferred return. The market, I would say, is typically six to eight percent in the private equity.

COMMITTEE MEMBER COSTIGAN: So where is that --

let's assume -- we'll go ratchet down to three percent.

So before dollar -- so that first three percent is

accounted for where, in the 20 --

INVESTMENT DIRECTOR GOGAN: It's in the limited partnership agreement.

COMMITTEE MEMBER COSTIGAN: I'm sorry, the GP.

So where is it in this 20 or management fees? I get it that it's part of the contract, but if they don't distribute a dollar until they've achieved a three percent return, so that's three percent that they make on 100 million, \$3 million, where is that accounted for in here? Because it goes to the GP.

MANAGING INVESTMENT DIRECTOR DESROCHERS: No, no. It's a contract -- when we go -- if you go to the slide in the waterfall at the end, or there is also -- there is -- I don't know if you saw, there is two types of payment there. One is what we call deal by deal, and then we have European waterfall. This is accounting for every year, ever quarter with the a financial statement. We have audited financial statements.

And looking at the partnership agreement at the end of the life of the fund, this is where all of the settlement takes place.

COMMITTEE MEMBER COSTIGAN: Okay. So -- yes,

Ted. Mr. Eliopoulos.

Mr. Costigan, I think this example that you have up here has no preferred return. Okay. If you add a preferred return, whether it's the three percent preferred return or eight percent preferred return or an 11 percent preferred return, if you add that into this example, the amount of that preferred return is a priority payment to the LPs. So 100 percent of the preferred return, whether it's three percent or 11 percent, 100 percent, assuming there are profits, and this is a profit example, 100 percent that goes to the LPs, zero goes to the GP, until that -- until that preferred return target is hit, whether it's three percent or 11 percent. And when that preferred return target is hit, then the sharing of profits would occur at 80/20.

COMMITTEE MEMBER COSTIGAN: Thank you. Thank you, Mr. Jones.

CHAIRPERSON JONES: Thank you.

Mr. Slaton.

VICE CHAIRPERSON SLATON: Thank you, Mr. Chair. Thank you for the discussion that you're bringing to us. What I've gleaned from this, and I'd like to just kind of make some comments at a higher level than where we've down in the weeds. It's very clear to me that the terms and conditions of private equity deals vary by general partner

and by vintage. There's no set process. It's a negotiation. It's also clear to me that there's a large number of investors for GPs to choose from, that CalPERS is not the only investor out there, and so therefore, our ability to get the industry to change is something that I appreciate that we're leading on, but we can't control. But I think we're making progress.

It's clear this is a largely unregulated industry that we're trying now -- that the United States is trying to do a better job regulating. And I'm glad that CalPERS is a participant in that.

I read in the press terms like, you know, hide and cheat and steal. I think those are inappropriate terms. I think we have an industry that probably needs more regulation, but I -- what I want us to focus on is to make sure that we are gleaning as much data as we can, and that we see the progress that's attained, and we start to see the reports.

I have faith in this group in front of us that you're negotiating on behalf of CalPERS, as well as it can be done. So I'm not trying to -- and I don't think we should spend a lot more time trying to find where there's an error or a problem. I think you all are on to this, that you're working hard at it, and I think that there's value in us better understanding what the range of

possibilities are. So bring scenarios back to us and how it works, like you did here, is instructive for us. But I don't think it's productive for us to spend a lot of time trying to play gotcha.

CHAIRPERSON JONES: Thank you, Mr. Slaton.

Mrs. Hollinger.

COMMITTEE MEMBER HOLLINGER: Thank you. I appreciate the report, and along with Mr. Slaton. Where I would like to go to a place moving forward is to take the information we're getting from all this, and I would like insight from you about what have we learned from this, what do we want to potentially contract for in the future?

And while I've heard CalPERS maybe because, you know, we can't control things. But guess what? We can influence things and we can effectuate positive change going forward.

So I'd like to know in terms of contracting going forward, where would you suggest we make changes to increase that transparency? You know, I want to use this as a foundation to take us to the next place a better place.

CHIEF INVESTMENT OFFICER ELIOPOULOS: I would jump in with just two, and I'll let Réal if mention any others. I think, first, on collecting and this coming fall reporting, the total amount of carried interest paid

and accrued, I think that would be beneficial to the marketplace, in general, because there are, you know, plenty of estimates in the marketplace. And you can tell from our examples those estimates rhyme pretty well with the 2 and 20 model.

I think having not just CalPERS collecting that information and tying it to the financial statements so that we can report it publicly, and having other LPs of size doing that as well will have a beneficial impact on the marketplace as a whole as it's brought to a greater level of transparency.

The other area that can be improvement is this discussion that we just had around portfolio company payments being made to the general partner. There is not enough disclosure in transparency to the LPs of those cash flows moving forward. Our private equity team is now requiring disclosure of that information for new partnerships going forward.

COMMITTEE MEMBER HOLLINGER: So we're --

CHIEF INVESTMENT OFFICER ELIOPOULOS: But more importantly, we're collaborating with our other LPs through the ILPA association that I mentioned. And again, having a broad base of institutional investors in the private equity industry, collecting and requiring transparency around those fees will be beneficial, one, to

know the magnitude and amounts of those fees, but also to bring better transparency to the industry. Those are probably the two areas that I would focus are the best areas to make progress on in the next year.

COMMITTEE MEMBER HOLLINGER: In the past have we seen the financials of those underlying companies or no?

CHIEF INVESTMENT OFFICER ELIOPOULOS: Well, I'll turn that question over to Christine.

INVESTMENT DIRECTOR GOGAN: With respect to what's been occurring in the industry is there's definitely been an evolution that's occurred over time. And I would say we are moving towards an environment where we are receiving the much more detailed information with respect to the underlying. But to make a broad statement that we have always had access to the underlying detailed information in the portfolio companies is a stretch. It's definitely improving.

COMMITTEE MEMBER HOLLINGER: And just my last question would be this is I recognize this asset class has given us our outside returns, and has been a necessary component to our portfolio and our reaching our discount rate.

But some of the -- in hearing the trust level review report and just looking at returns going forward, you know, it seems to be the general consensus that going

forward we may be -- I'm not sure it's realistic or not to expect the returns that we've been getting from this asset class or not. In light of that, is this a good time to renegotiate our fees?

CHIEF INVESTMENT OFFICER ELIOPOULOS: Yes.

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COMMITTEE MEMBER HOLLINGER: Okay.

CHAIRPERSON JONES: Okay. Thanks.

Mr. Lind.

COMMITTEE MEMBER LIND: Thank you. Just a couple things. I think it's, you know, become clear, Réal, that I guess what sort of happened is we've been hearing how complex this is and how difficult it is to get the reports to have the transparency. And then in a very well intentioned way you came to us today with a presentation that was very, very simplified on how those things work, which I think we all probably sort of knew.

It might be more illustrative at some point to come back with some examples of more complicated scenarios that include these bonuses and offsets, and the other things that J.J. was talking about, so we could see what some of those actually look like. That might -- because I sort of understood what J.J. was asking about, but then I got a little bit confused.

And so I'm -- when I look at things, it's a lot

easier, because there's just a lot of moving parts here, so I might suggest that for, you know, as soon as we can get it, or the next presentation, or whatever.

But, you know, the other interesting thing here is that, you know, in the big picture, while, you know, J.J. can sound a little prosecutorial at some time, him asking the simple question sometime ago has really led to ripples in this whole thing throughout the industry, right? There's a lot of noise, a lot of news, a lot of things are happening. I think the transparency is going to become a lot greater. And, of course, we've already been doing some of this work on the PEARS, I think it's called, right?

So again, I think it's complex, but the more that we can look at different sort of examples of how these things work. I don't even need to know the names of the companies or the particular contracts that we have with them, but just some better sort of complex examples, so I could sort of follow the charts.

CHAIRPERSON JONES: Okay. Mr. Chiang.

COMMITTEE MEMBER CHIANG: Could we get a sense of the improvement in terms with companies that we've done -- we've invested multiple funds. So years back when I was trying to impress upon Joe and others and asking the question if we are, in fact, paying reduced fees, the

response was yes definitely. But I have no sense of how much we're paying less in fees, what the terms of the contracts are. And so if we can get some type of sense.

And then my staff had communicated, I think with you Ted or perhaps somebody else, after I came back from RFK Center for Justice and Human Rights, I had been approached by the Rhode Island Treasurer Seth Maganizer, who was the impetus for the letter to the SEC. And I said in many cases some of them are difficult. In some cases, some of the firms did not want to continue or engage in business with the State of California, because they didn't want to be subject to the terms of disclosure, Sequoia and others, way back when.

Seth's response was that the funds that deal with Rhode Island are very receptive to. So I don't know if we looked at the funds that deal with Rhode Island and others, but are they funds that we deal with, and the -- are they smaller funds that we don't deal with? Are they terms that we're already asking for?

So I just wanted to get a broader sense of what the general market is for other institutional investors relative to what we're engaged with at CalPERS.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Why don't

I -- I'll start off and then I can hand it off to Réal. I

think -- I don't know offhand the difference between the

portfolio and Rhode Island and ours. So I can't comment on that. And my guess is Réal and Christine won't have a working knowledge of their portfolio, but it's likely to be at a smaller scale than CalPERS for sure.

In terms of progress that we've made in terms of the terms and conditions of funds, particularly follow-on funds, one of the difficulties is, you know, we don't want to play poker with our cards open here, is one of our phrases. So we tend not to want to describe in open session our particular fee arrangements.

I think the farthest that we've gone and have gone, and I'll turn it back to Réal, is the comments that he made, we use the typical 2 and 20 piece here. I think over the course of the last three, four years that Réal has been here working on the portfolio together with -- together with Joe and Janine in those years as well, a real concerted effort to do better than that in the context of the overall market. And I think Réal mentioned 150 basis points or so is maybe more typical.

There are some other things that -- other arrows in our quiver that we can use, which is co-investment and others types of vehicles that we have used, so that's as far as I can go in general. I don't know if, Réal, you want to pick it up from there.

MANAGING INVESTMENT DIRECTOR DESROCHERS: I can

assure you that I don't their portfolio. But I can assure you that if you remember in 2011 when we came here, when I said I'd present a rebalancing plan, I said we should not -- CalPERS should not be buying retail. We should be wholesale investors.

I don't want to -- we have the number. I can assure that we made tremendous progress in there. And we do that. Co-investment is a small part of it. So one part is what we do with Customized investment account. For CalPERS, there's various form that we do there, either side by side with other, or CalPERS being alone in this. I call that a bucket, where we have it alone. We wanted to have more control in the capital.

And I can assure you I'd be happy to share it. I don't know if it's in closed session. I want -- I think we make very good progress, created I think -- I would say lots of value. Lots of value.

We -- if you remember, we said we should be buying wholesale not retail, and we don't do that many transactions. I don't know if you look, we report every month in closed session what we're working for. I would say compared -- I mean, we don't do that many, but we take a lot of time doing due diligence, a lot of time negotiating.

We're working on the core holding. And these

things have been going on for over a year. It doesn't happen fast. It takes time. We need to know what we want. So, I'm sorry. I don't -- I should stop here probably.

CHAIRPERSON JONES: Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: Okay. I won't ask about offsets. Fee waivers. Can you explain to me what fee waivers are, how they're used, and how the GP gets their money back?

INVESTMENT DIRECTOR GOGAN: So by management fee waivers, just to make sure that we're on the same page, what you're talking about is the ability for a general partner to use a management fee waiver in place of a deemed contribution for their one to three percent --

COMMITTEE MEMBER JELINCIC: Yes.

INVESTMENT DIRECTOR GOGAN: -- correct?

And so your question is, to start with, you're trying to get a sense of throughout our portfolio how common that arrangement is?

COMMITTEE MEMBER JELINCIC: That's a question that I had asked earlier. There's some research apparently being done on it.

But this question is just how does it work?

What's the process? What's the economics of it? You

know, quite frankly, I'm sure that the Wall Street hearts

of private equity don't say, you know, I overcharged you. I'm just not going to take the money.

INVESTMENT DIRECTOR GOGAN: Well, I think, if I could, one thing that I would like to back up and offer up is that with respect to our entire portfolio, it's important to note that the entire portfolio is audited. Everything is audited. Ninety-seven and a half percent of the portfolio is audited under standards that conform with U.S. GAAP. And so one of the questions without going into a lot of detail on how the management fee waiver mechanics work from partnership to partnership, and it depends to Réal's earlier point on the waterfall computation, one thing that does give us comfort with respect to having assurance that the bottom line numbers that we're relying upon are fairly stated, is that the majority of the portfolio, as I mentioned, the overwhelming majority is prepared in accordance with U.S. GAAP.

And there are independent auditors typically, one of the top three, that provide a statement to us that provide information that we, as investors, are reasonable in relying on the fact that the financial presentation of the income statement, the balance sheet, and the capital accounts are materially accurate and fairly represent the financial position of the company.

COMMITTEE MEMBER JELINCIC: And so how does the

fee waiver function work?

INVESTMENT DIRECTOR GOGAN: And so with respect to the fee waivers, to some degree, it's going to depend on whether it is a European waterfall or whether it is a deal-by-deal waterfall. But my point in trying to go back to the audited financial statements is that in accordance with presenting the financial condition of the individual partnership, there are independent auditors that look every year to evaluate and assure that the computation of net income is consistent with the particular limited partnership agreement, and take into account each of the idiosyncratic conditions of the various waterfalls that exist for that particular partnership.

COMMITTEE MEMBER JELINCIC: And the SEC would say they didn't do a very good job of it. But let me ask another question that I think is a yes or no. Are they GIPS compliant, Global Investment Performance Standards?

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: In general, no. GIPS -- just for the Committee's benefit, GIPS is a set of -- it stands for the Global Investment Performance reporting Standards. And it's basically a set of standards promulgated by the CFA Institute that help promote consistent reporting of investment performance by managers.

The CFA Institute is working on a guidance

statement that will be applicable to private equity, that we think may help increase adoption of the GIPS standards within private equity. Essentially, because private equity uses internal rate of return versus time weight of return, not many managers have progressed very far in the private equity space. It's very well adopted in the public asset management space, but not very fully adopted in the private equity space.

COMMITTEE MEMBER JELINCIC: Thank you.

CHAIRPERSON JONES: Okay. I think it's also important to realize that earlier in the day, Mr. Eliopoulos did indicate an update on the private equity project, the PEARS project, where he indicated that he has collected about 94 percent of the data that's necessary to maybe answer a whole host of questions that we've been asking, and that he plans to come back to the Committee to present that information to us.

And so I think it's important that we know. And matter of fact, he also stated in his comments this morning, that they actually went live and parallel on this particular project that they're working. So it's getting there. And I know that we all are interested in understanding some of the complexities of private equity investment. But I think we need to be patient too to make sure that we get all of the information and get the

accurate information, because I think there's been too many misquotes, too much misinformation that's been in the public.

And as you know, when information is provided to the press, and many times they go with what they were told, and many times it's not accurate information coming from our Investment Office. So I would encourage us all to be a little patient, and certainly answer J.J.'s questions when the data is available, or if he has specific requests that he can provide that request to you and -- so that it can be responded to.

So I would just caution us that -- and remind us that that report is coming. And that's going to be the -- we champion that report as improving transparency, and also eliciting best practices from this whole industry.

So I look forward to getting that report, and then incorporating many of the questions that were raised here into that report when you present it back to the Committee. Okay.

So thank you. Now, we will move to public comments. We had a request to speak from Michael Ring.

MR. RING: For the record, Michael Ring, Service Employees International Union.

Chair Jones, members of the Committee, good to see you all again. Very briefly, I just wanted to give

you an update. You may recall that in May at this
Committee meeting, Michael Johnson, a security officer
with Universal Protection Services in Silicon Valley came
and testified along with David Huerta a leader of ours
from United Service Workers West. I wanted to give you
and update on what's been happening with that.

First of all, I want to thank your staff, and, in particular, your real estate staff, and Carrie Douglas-Fong and Laurie Weir for all their work with us on this issue to try to engage all stakeholders in trying to find a good fiduciary solution that brings long-term value to your real estate portfolio.

And obviously from our perspective, one of the keys to that is your human capital management work that makes sure that the workers, who in this case are securing investments, are well compensated, and receive the benefits and the work conditions they need to successfully secure your buildings in different locations.

So your staff has been, as usual, really a pleasure to work with and have really played a positive role in trying to bring together all stakeholders

In spite of the best efforts of so many in this situation, and in spite of an ongoing dialogue with Universal Protection Services, we have not been able to reach a solution that met the needs of Mr. Johnson and

other security workers.

And so on July 15th, SEIU officially downgraded Universal Protection Services from green, in our responsible contracting guide, to yellow. The reasons for that I'll read to you quickly here.

The downgrade stems from the failure of statewide UPS management to implement a plan to mitigate serious issues affecting employees, including allegations of wage theft, discrimination, harassment, retaliation, and unfair labor practices. This downgrade is only for California markets, and it's unfortunate. And we're still in conversations with UPS management to try to find a common ground solution, but I did want to share that update with you and thank your staff and all their managers who've really helped engage the conversation to try to find a solution that can bring healthy markets and lead to the long-term returns that all of you as fiduciaries are working towards.

And I think you've done a really good job of doing that within the context of your human capital management investment belief and your responsible contracting.

So I just wanted to give you an update and thank you and your staff again for all their support in trying to find a solution here.

CHAIRPERSON JONES: Okay. Thank you, Mr. Ring. And we appreciate you taking the time today to come and share your views on -- to the -- with the Investment Committee. And please continue to work with staff regarding that particular issue.

So that concludes the agenda for the open session. And we will go into closed session in 10 minutes.

(Thereupon California Public Employees' Retirement System, Investment Committee meeting open session adjourned at 3:01 p.m.)

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

CERTIFICATE OF

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;

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