MEETING

STATE OF CALIFORNIA

PUBLIC EMPLOYEES' RETIREMENT SYSTEM

BOARD OF ADMINISTRATION

INVESTMENT COMMITTEE

OPEN SESSION

ROBERT F. CARLSON AUDITORIUM

LINCOLN PLAZA NORTH

400 P STREET

SACRAMENTO, CALIFORNIA

MONDAY, AUGUST 15, 2016

9:20 A.M.

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

A P P E A R A N C E S

COMMITTEE MEMBERS:

Mr. Henry Jones, Chairperson

Mr. Bill Slaton, Vice Chairperson

Mr. Michael Bilbrey

Mr. John Chiang, 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. Betty Yee

STAFF:

Mr. Doug Hoffner, Interim Chief Executive Officer

Ms. Cheryl Eason, Chief Financial Officer

Mr. Ted Eliopoulos, Chief Investment Officer

Mr. Matt Jacobs, General Counsel

Mr. Eric Baggesen, Managing Investment Director

Ms. Natalie Bickford, Committee Secretary

Mr. Dan Bienvenue, Managing Investment Director

Mr. Paul Mouchakkaa, Managing Investment Director

Mr. John Rothfield, Investment Director

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

STAFF:

Ms. Anne Simpson, Investment Director

Mr. Wylie Tollette, Chief Operating Investment Officer

ALSO PRESENT:

Mr. David Altshuler, StepStone

Ms. Janet Cox, Fossil Free California

Ms. Rose Dean, Wilshire Consulting

Mr. Allan Emkin, Pension Consulting Alliance

Ms. Christy Fields, Pension Consulting Alliance

Mr. Michael Flaherman

Mr. Andrew Junkin, Wilshire Consulting

Ms. Susan Webber, Aurora Advisors

INDEX

		PAGE
1.	Call to Order and Roll Call	1
2.	Executive Report – Chief Investment Officer Briefing	2
3.	Consent Items	25
	Action Consent Items:	
	a. Approval of the June 13, 2016 Investment Committee Meeting Minutes	
	b. Approval of the May 16, 2016 Investment Committee Meeting Minutes	
4.	Consent Items	26
	Information Consent Items:	
	a. Annual Calendar Review	
	b. Draft Agenda for the September 19, 2016 Investment Committee Meeting	
	c. Monthly Update – Performance and Risk	
	d. Monthly Update – Investment Compliance	
	e. Federal Investment Policy Representative Update	
	f. Quarterly Proxy Voting Update	
Action Agenda Items		
5.	Program Review	
	a. Adoption of Global Governance Strategic Plan	27
6.	Policy & Delegation	
	a. Revision of Real Assets Policies – Second Reading	60
Information Agenda Items		
7.	Asset Allocation, Performance and Risk	
	a. CalPERS Trust Level Review	80
	b. CalPERS Trust Level Review – Consultant Report	143
8.	Program Review	
	a. Investment Compliance Program Annual Review	160
9.	Summary of Committee Direction	162
10.	Public Comment	162

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

	PAGE
Adjournment	165
Reporter's Certificate	166

P R O C E E D I N G S

CHAIRPERSON JONES: Good morning. I would like to call the Investment Committee meeting to order. The first order of business is roll call, please.

COMMITTEE SECRETARY BICKFORD: Henry Jones?

CHAIRPERSON JONES: Here.

COMMITTEE SECRETARY BICKFORD: Bill Slaton?

VICE CHAIRPERSON SLATON: Here.

COMMITTEE SECRETARY BICKFORD: Michael Bilbrey?

COMMITTEE MEMBER BILBREY: Good morning.

COMMITTEE SECRETARY BICKFORD: John Chiang represented by Frank Moore?

ACTING COMMITTEE MEMBER MOORE: Here.

COMMITTEE SECRETARY BICKFORD: Richard Costigan?

COMMITTEE MEMBER COSTIGAN: Here.

COMMITTEE SECRETARY BICKFORD: Rob Feckner?

COMMITTEE MEMBER FECKNER: Good morning.

COMMITTEE SECRETARY BICKFORD: Good morning.

Richard Gillihan represented by Ralph Cobb?

ACTING COMMITTEE MEMBER COBB: Here.

COMMITTEE SECRETARY BICKFORD: Dana Hollinger?

COMMITTEE MEMBER HOLLINGER: Here.

COMMITTEE SECRETARY BICKFORD: J.J. Jelincic?

COMMITTEE MEMBER JELINCIC: Here.

COMMITTEE SECRETARY BICKFORD: Ron Lind?

COMMITTEE MEMBER LIND: Here.

COMMITTEE SECRETARY BICKFORD: Priya Mathur?

COMMITTEE MEMBER MATHUR: Good morning.

COMMITTEE SECRETARY BICKFORD: Good morning.

Theresa Taylor?

CHAIRPERSON JONES: Excused.

COMMITTEE SECRETARY BICKFORD: Thank you.

Betty Yee?

COMMITTEE MEMBER YEE: Here.

CHAIRPERSON JONES: Okay. Thank you. Before we get started, I would just like to acknowledge that we see, as a visitor in the audience, Mr. Chris Ailman and his staff so -- of CalSTRS, so we just want to welcome them.

Okay.

(Applause.)

(Thereupon an overhead presentation was Presented as follows.)

CHAIRPERSON JONES: With that, now we will turn to our CIO, Mr. Eliopoulos.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Terrific, Mr. Chair, members of the Committee. Boy, as if it's not a tough enough job as it is to have Chris Ailman here watching --

(Laughter.)

CHIEF INVESTMENT OFFICER ELIOPOULOS: -- watching proceedings is a daunting task here, but I welcome him and the student interns and the staff from CalSTRS as well. He's been a terrific mentor and advisor over the years to me. So thanks for being here, Chris.

We do have a focused agenda before us today in the Investment Committee, because I think as the Committee knows there's a scheduled educational workshop in the afternoon that's scheduled to begin after lunch. In terms of the Investment Committee agenda this morning, I will just highlight main topics.

First, after two years of productive and rather intense review, we are presenting for adoption by the Investment Committee a proposed Global Governance and Sustainability Strategic Plan for adoption. In addition this morning, we also have our fiscal year-end Trust level review of both your Investment staff and your Investment consultants will be presenting the performance and risk positioning of the fund for your discussion and review. So that's the agenda.

In terms of my brief comments this morning, I know that our announcement last month of our fiscal year returns certainly generated some discussion at our off-site, and by some of our stakeholders.

I know this -- the issue of CalPERS expected rate of return and discount rate is on people's minds, so I thought I would share how we, in the Investment Office, look at it from our perspective as, you know, one leg of the three legs of the ALM process.

Of course, we have a very formal process to review, analyze, and ultimately set the -- both the capital market assumptions and the discount rate. And that work and that governance process certainly will be the overwhelming priority for all of us in the upcoming two years.

From my and the senior investment team's perspective, how we look at the setting of the capital market assumptions and its role in the ultimate adoption of a discount rate, we really look at it from the perspective of this chart that you see on your screen, and that we put up. And we thought it would be helpful to really frame the discussion that we've seen in terms of our perspective and the perspective that this chart provides.

As you can see, it looks at many years. So on the left-hand access, you can see we looked at a time frame going back to June of 1961 through June of 2015, quite a time period. And what we've plotted really are three sets of information. So on the red line that you see, that is the adopted official discount rate of CalPERS over that time period, and you can see it starting at the left-hand side a little bit below four percent. And you can see it gradually rising through to the early 1980s to over eight percent. I think it topped out at about 8½ percent. And I'll call that the Jimmy Carter years during that time period.

And then has held relatively flat to the present, but has been taken down by this Board over the course of the last six years to its present 7½ percent. So that's the middle line, the red line in the middle of the chart.

The blue line that you can see that spikes up during the mid or early 1980's time period is a plot of the 10-year U.S. Treasury yield over that same time period. So you can see the blue line, and I'm talking about both -- I'm trying for those that have color blind issues. I'm trying to also locate the lines for you -- for that as well. So the blue line is the one that kind of looks like the Matterhorn. And it goes from, you know, four percent yield black in 1961, you know peaking over 14 percent again, during, what I'll affectionately call, the Carter -- the Carter years in early 1981, 1983. That's the tip of the mountain top on the slide.

And then you can see the long 30-year gradual secular decline of interest rates that we've talked so much about in this Committee over the years. And you can see it coming down to what it presently is about 1½ percent, and that's the blue line.

Behind those two lines are background colors that represent our asset allocation. And again, I'll try and plot the -- or describe the colors for those that can't see them. But generally, the message of this slide is that in 1969, there is just one color there. We were entirely in fixed income instruments. And what you can see over time, specifically in 1967 is the introduction of stocks or public equity into the portfolio, and -- so that really at the -- again, pointing out the early 1980's time period, we moved from 100 percent fixed income to a, you know, roughly -- you know, to a 60 percent -- 60 percent fixed income, 40 percent public equity. And then to a 50/50 positioning over time, and then all the way over to the right axis, the present asset allocation of the fund that this Committee is so familiar with.

And principally that ending point on the right axis shows you our current asset allocation, which as this Committee is very familiar, is dominated by equity risk now. The fixed income portion of the portfolio is now roughly 20 percent. So that, for us, is the framing of how we look at the setting of the expected rate of return, and the risks inherent in forecasting returns and expected rates of return and to -- into the future.

You hear us and other investors talk quite a bit about the low interest rate and low return environment we are currently in. And certainly, the blue line, the Matterhorn, the U.S. Treasury yield line, representing the U.S. Treasury yields over this time period, really from the Investment Office's perspective, you know, our role in the enterprise, this yield forms the foundation for the return expectations of the other risk asset classes. And that's why it's so important for us to look at that as we look at return expectations going forward.

And as I mentioned, the long secular decline in now ultra low yields in the bond markets, in general, but particularly in the U.S. Treasury yields form the backdrop of our perspective in evaluating the risks of achieving a 7.1 percent return over a 10-year period, or a 7½ percent return over the very long term, looking at it from the perspective of our current environment.

The background colors, our asset allocation, form the other perspective in evaluating the risk of achieving a 7.1 percent return over a 10-year period going forward, or a 7½ percent expected return over a much longer time faring, looking at it from the perspective of the current environment.

And in that regard, our asset allocation, as the Committee knows, like most of our peers in the institutional investor community, and certainly the U.S.

pension fund universe, has shifted quite dramatically from a predominantly fixed income instruments to equity instruments. And that shift, over this very long time period, highlights that the volatility of the present asset mix is a risk. It's a risk the Board sought to address for sure in adopting the risk mitigation policy, which, of course, takes effect over a 20-year time period with modest incremental improvements during favorable investment years going forward. And that's quite an improvement over the prior setting.

In the meantime, with the announcement of our currently fiscal year returns, we have certainly seen the volatility of our asset allocation expressed certainly in the last three years in looking further into the past. But looking at the last three years of a positive 18 percent return, a positive 2.4 percent return, and this fiscal year 0.6 percent return, all three of those annual fiscal year returns are all within one standard deviation expected return.

It's each one of those is what we do expect and should expect in terms of a result in any given year. There's a 66 percent statistical chance of that type of a result in any given year. And that's reflective of the volatility in our asset location mix.

As we look forward to the agenda later -- the agenda we'll be taking up a little later in your investment consultant Wilshire's materials, you'll see their most current expected rate of return forecast for our current asset allocation. We'll get to that during the agenda item for sure, and there will be lots of time for discussion.

Their expected rate of return forecast for our current asset allocation is now estimated by Wilshire to produce a 6.21 percent return over the next 10 years. This would represent a 90 basis point drop from our staff assumption just two years ago during our ALM presentation, reflecting, among other things, the current low interest rate environment and low return environment that we talk so much about in this Committee.

As we have discussed in those meetings, and I think important to underscore that the next two years, the next five years, and perhaps the next 10 years are shaping up to be a most challenging market environment for us, a most challenging time for CalPERS and other institutional investors to address this market environment going forward.

We do begin this next phase with some significant advantages. We have deep financial resources. We have a long term investment horizon. We have vast liquidity in our portfolio in our asset allocation. And I firmly believe we have a very strong ALM team and governance process that we've collectively developed over the years.

But we also begin this phase with some challenges. An estimated 68 percent funded status, a growing negative cash flow, and a low return market environment that, as you will see in our agenda materials later today, present downside risks that we believe are outweighing our expectations of upside potential over this next period.

Therefore, I do think it is imperative for all of us to use this year and next year wisely to focus on and concentrate on the strategic priorities of the ALM process, and continue to explore downside risk protection through our portfolio priorities process. In addition, Investment staff is taking steps in the short-term to use our available ranges to reduce risk in the portfolio. And we expect to come forward to the Investment Committee within the next quarter with a look at, and some potential suggested, changes to the interim allocation in the short-term.

Last, I think we collectively also need to continue, as we have done, to communicate with our stakeholders about the steps we have taken to date and are taking, and the risks that we see in the current environment. We are in a challenging environment. And the more communication and transparency around the analysis, the forecasts, and the options we have is paramount, as is giving ourselves, our stakeholders, and policymakers the time to adjust their plans and projections as well.

Mr. Chair, that is my remarks and happy to move forward to the agenda or take any questions.

CHAIRPERSON JONES: Okay. Thank you very much, Mr. Eliopoulos. Some of these comments are -- it's almost like we see a wall in the near future that we are going to have to deal with. And so I would like to engage with you and staff to a deeper dive among the Committee members can occur to help get ready for these discussions going forward. So that we can have a clear understanding of what some of these challenges are and what actions may be taken in the short-term, as you mentioned, the one of looking at the current allocation ranges of making changes. But are there other items that we may be able to accomplish during this short-term period.

So I will be talking with you about that and getting the Committee members involved in that process.

Okay. Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: As the Committee member who at least admits to being colored blind --

(Laughter.)

COMMITTEE MEMBER JELINCIC: -- I will point out that the lines, the red and the blue, are vivid enough, I can actually tell which is which, so I do thank you. Now, the assets, they're a little softer. They're a little more difficult, but I do like the red and the blue.

You know, you talk about our difficulties going forward, and I think it will be troubling at least for the next few years, and -- but I have absolute confidence in the market's ability to do what it has to to make most people wrong. It's done that, you know, for the entire 30 years I was at PERS, and it did that before. So that's my once sense of hope is everybody says we're in trouble, I like that. I'll take the other side of the bet. But thank you.

CHAIRPERSON JONES: Mrs. Mathur.

COMMITTEE MEMBER MATHUR: Thank you. Well, you've painted a sobering picture. It's not a surprise, but it is certainly something -- a challenge for us moving forward. My question for you is what activities do you think we should be engaging in, either alone or in cooperation with other investors to stimulate or facilitate economic growth? And ideas off the top of my head, you, I'm sure, have many more, are around infrastructure investment and how can we engage with policymakers to help foster a ramp-up in infrastructure investment in this country, also around monetary and fiscal policy. What else? What are you thinking about?

CHIEF INVESTMENT OFFICER ELIOPOULOS: Sure. No, I think it's a really -- a really good question and focus for us. I don't believe, you know, CalPERS has taken, as active a policy or strategic approach to federal policy and State policy with respect to growth in the past. But given the challenges that we see, I think that's one of the things that we should consider is whether to use our federal representative to express some views on the need for fiscal and policy measures to work in coordination with the monetary policy that -- one of the risks that you'll see us talk about later is the exhaustion of the monetary policy's effectiveness over time. And it would be much more effective to have some coordinated approaches by the U.S. government and other world governments to work in coordination with these monetary policies.

Certainly, infrastructure is one area that we have, through our workshops and other plans, engaged here in the State. We've collectively -- you know, individually and collectively participated on networks and exchanges on the west coast, and in addition, I was privileged to be able to meet with a small set of chief investment officers with the Treasury Secretary about two years ago on infrastructure. And I think that is a very safe spot for us, given our approach over the past few years, its inclusion in our portfolio, and the effectiveness of a really well designed infrastructure policy by our federal government and State government would -- may be one of the tools in our toolkits we should consider.

The other area that's more difficult, and certainly is at the center of political discussion is the topic of world trade. And certainly, with a portfolio that is international, and global, and actually weighted towards benefiting from global growth, that is a concern in the current political environment that we note in our materials as we look at our macroeconomic materials later in the program.

And that's a risk to us if the retreat from, you know, global trade could have some negative risk and headwind to our emphasis on global growth throughout the globe. That's a much harder and very big topic to undertake, but those are the two areas that come most to mind.

COMMITTEE MEMBER MATHUR: So do you -- do our -- our current legislative guidelines, do they provide sufficient guidance and direction? Do you need direction today around -- to engage on some of these topics, particularly infrastructure and the monetary policy questions? They seem very timely.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Yeah, they are. I don't believe they're currently in the legislative guidelines. I'd want to review that to make sure that's the case. And perhaps, it's something that we could bring, at least the investment guidelines portion of it, back over the course of this next quarter for review, and revision. It's scheduled -- currently scheduled for November.

COMMITTEE MEMBER MATHUR: Scheduled for November.

CHIEF INVESTMENT OFFICE ELIOPOULOS: But let us look at it and see how it -- but we do need some time to think through what to recommend and what might be the direction of the Committee with respect to infrastructure.

COMMITTEE MEMBER MATHUR: Okay. Thank you.

CHAIRPERSON JONES: Mr. Costigan.

COMMITTEE MEMBER COSTIGAN: Thank you, Mr. Jones. Good morning, Mr. Eliopoulos

CHIEF INVESTMENT OFFICER ELIOPOULOS: Good morning, Mr. Costigan.

COMMITTEE MEMBER COSTIGAN: I actually just want to take a little bit of a positive spin, because we are having a very sober conversation right now. First, to you and your staff and to Mr. Dear, I think there are some things that we first have to remember and remind ourselves are, we're having a conversation today about low returns. Why? Because it's about transparency and making sure the information is out there.

When you look at where this fund probably would have been a decade or 15 years ago, I don't think we'd be having this conversation. So while it seems to be depressing and a little bit sobering this morning, the fact is we are having an honest and very difficult discussion. So first, to you and your staff, I appreciate that, because these are difficult times.

I also think, at some point, when CalPERS -- when we talk about CalPERS, we tend to forget the 3,500 organizations that we actually represent. I know folks like to look at us in a vacuum and say we're just one big organization, but we're a compilation of thousands of small organizations, not all sitting here in the room today, but I think sometimes we lose site of that.

We talk about the 68 percent funded status. It ebbs and flows. The one thing I've learned from all of you, and from the other folks on this Board, it is long term. I seem to recall just 60 days ago, we were going into a recession, the world was in a panic, Europe was going to crater, there was going to be a crisis in the UK. You know, trillions were lost in two days, and everybody panicked.

And yet, nobody can remember Brexit right now. We're setting record highs every day on the stock market. I mean, you look at it -- and part of it is, don't panic, look at the long-term horizons. I do think -- Mr. Jones, one thing I do want to point out that often gets lost, is while we focus on returns, and we focus on liabilities, I don't think we focus enough on the staff.

I know you guys don't to come work every day for the pay. I know most of the people in this room don't come to work for the pay every day. It's the sole focus of our members. It's the sole focus of being able to provide the benefits. And I know the driver at the end of the day is to make sure that we pay the benefits that were promised, that we, in fact, ensure long-term sustainability.

So I know today is sobering. I mean, I think I need to go get another cup of coffee because, Ted, it's been a little depressing and quiet this morning. But just from the standpoint, liquidity, you're right. In 2008, we had a liquidity issue. We've taken care of that. I don't think we'll have the same concerns. This is exactly what Mr. Dear and what you and your staff have been doing over the last five years, have been-planning for this. This is nothing new. This is nothing. This is cyclical. All markets are cyclical.

So when we talk about the investment strategy, and the changes that we've made, yeah there -- it's been a little bit worse, but as Priya -- as Ms. Mathur said, part of this is the monetary policies. Every time the Feds look at raising interest rates, someone panics. We have artificial rates. We have artificial markets. We've got -- no one wants to have a -- no one wants to have the difficult conversation. No one wants to have the conversation of go ahead and raise rates, and understand that there will be a short-term impact to the market.

But right now, it's -- everybody bears responsibility. It's just not us. It's across the Board. So whether it's increasing infrastructure investment or looking at monetary policy, I do just want to again say you guys are doing a fantastic job. It is a difficult conversation. It is -- you know, I don't like the fact when we see these returns or Wilshire is talking about different rates, it's hard, but we shouldn't lose site that this is something we didn't see coming, that we haven't been planning for.

We've got to work with over 3,500 partners. It's easy to sit in this room and pontificate or go on a website and pontificate. But at the end of the day, it's millions of people that are impacted by what we work on, and we have to do it in a deliberate manner. So thank you all for what you're doing.

Thank you, Mr. Jones.

CHAIRPERSON JONES: Okay. Thank you.

Mrs. Hollinger.

COMMITTEE MEMBER HOLLINGER: Thank you. Thank you for the sobering comments, and I really want to express my support to the Investment staff in working very hard in a challenging environment. I think what this reminds us is the absolute priority has to be the sustainability of this system in fairness to all our members.

And my question to you is, I think it's very important to me that the Investment staff and the investment team should be really focused. Our number one priority are on our options and alternatives for the long-term sustainability of the System.

And I want to make sure that you guys aren't -- and girls are not diverted from that, because even though we can say markets are cyclical, coming from an insurance background I believe we've reached a tipping point when we turn negative cash flow in a low return environment. And so I don't think we can always rely on saying markets are cyclical, being as we reached that inflexion point.

So my question to you is I really want to make sure that the investment team, that that's our number one priority, number one, and we're not being diverted.

CHAIRPERSON JONES: Thank you.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Yes. There was question.

CHAIRPERSON JONES: Yeah.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Okay. Thanks, Mr. Jones. I didn't -- I and the whole team can't agree anymore. And I think this is the right pivot point over the -- from today for the next two years to focus on our portfolio priorities project on the ALM work, and all of its facets as well as looking at our interim asset allocation, as I mentioned, and continuing our ongoing discussion with the Committee over risk mitigation, and positioning of the fund during this two-year period.

Looking back over the last two years, I did a rough estimate of time in this Committee, and we spent about 20 to 25 percent of our time on asset allocation.

I think that should go up as it -- as it should in the timing of the ALM cycle for this next two-year period. We should be focusing more and more of our collective time, and by derivation the time of your senior managers on these topics.

CHAIRPERSON JONES: Wait, wait, wait, Dana.

Go ahead.

COMMITTEE MEMBER HOLLINGER: Do you feel that you're sufficiently supported in that? Do you feel you're being diverted by other agendas or, you know, or how can we support you if we're not fully supporting the staff and team?

CHIEF INVESTMENT OFFICER ELIOPOULOS: I think our -- again, in pivoting to the next two years and certainly in -- hopefully, in moments -- in minutes we'll be taking up the global governance plan, and that was a key meaningful use of our time for the last two years and putting that plan and strategy together.

I don't think we'll need to devote as much of the Committee time and our time in the architecting of that plan. It now moves into execution plan. So I think having less time devoted on the strategy setting side, and more into the execution phase of the global governance plan, and the ESG integration, that will be a helpful pivot as well for us, but well worth taking the time that we spent in the last two years to build the foundation of a very strong plan going forward.

I also think we've devoted quite a bit of time in the past two years to the risks and opportunities in private equity. I think that's -- looking back on the last two years, we've spent most of our -- we've spent about one-third of our time on the global governance and ESG, and we've spent about 20 percent of our time reviewing all the facets of private equity, which, as we know, is, you know, currently about nine percent of our portfolio.

I think going forward, we need to spend less time on the discussion of the strategic, and certainly the minutia of any of these topics --

COMMITTEE MEMBER HOLLINGER: Right.

CHIEF INVESTMENT OFFICER ELIOPOULOS: -- at this Committee level, and spend our time on the strategic necessities now, and over the next two years, looking at our asset allocation, looking at our asset classes, and looking at downside risk protection, given our -- you know, our current interim asset allocation. So it's a long-winded way of saying, yes, I think we need to pivot to spending more time collectively on those issues, and put into the rear-view mirror some of the really foundational work we've done to make sure we all understand the various asset classes within the plan, and the extremely important foundational work we've done to set our course on ESG integration for this fund for the next five years.

COMMITTEE MEMBER HOLLINGER: Thank you.

CHAIRPERSON JONES: Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: Priya touched -- Priya touched on infrastructure. Rich spoke quite a bit about the monetary policy. And one of the difficulties I think we have as an economy is that you have fiscal policy and you have monetary policy. And the -- quite frankly, the politicians have bailed and said we're not going to do fiscal policy, suffer. And so we've asked the Fed and central banks around the world to deal with the economic growth and cyclicality, and have left this other hand unused.

And so I think as we look at what we're asking our federal lobbyist to do, we need to engage that conversation and say, look, there are both fiscal and monetary policies. You cannot ask monetary policy to do it all by itself, despite the fact that people think that it -- some people have won a Nobel Prize for saying monetary is all there is to it. I think we've proven that that is not correct.

So I think we need to engage our federal lobbyist, and not just Gates, but all three of our federal lobbyists on that issue. And I've got some ideas on how we can spend a lot less time on private equity, but we won't go into it here, because people will get upset with me.

CHAIRPERSON JONES: Mr. Slaton.

VICE CHAIRPERSON SLATON: Thank you, Mr. Chair.

I want to thank you for this work, and in particularly this chart. I think this particular chart summarizes our challenge, and puts it all in one place. I want to address two points.

One is that the issue of infrastructure and federal policy versus the timelines that we're dealing with, you know -- and I think the comments and suggestions that Priya made are great, and I think we need to advance those and work on them, particularly at the federal level. There's been a lot of articles written recently that this is the opportune tune time to do infrastructure at the federal level because the borrowing rate is so low, and you can fix that rate and it's pretty inexpensive to be able to do these kind of projects around the country.

However, the timing of when those actually start to impact the economy still leaves us with the challenge that we have as you've shown in the chart.

I think there's really, and I know this doesn't deal directly with investments, but it does, and that is the other chart, which is kind of the elephant in the room is the Pension Buck. And that Pension Buck says today $0.65 of every $1 comes from investments. And so this chart combined with the Pension Buck says to me can we still deliver that $0.65, and can we do that with a level of risk that we can tolerate?

And I think that's the educational thing that we need to work on to decide on whether it's realistic and sustainable. Because at the end of the day, I think the job of the 13 of us is to make sure that these pension benefits are sustainable. So thank you for this work.

CHAIRPERSON JONES: Okay. Thank you for that comment.

Just one last comment on the chart, the historical allocations. It would probably be helpful if you could overlay on that chart -- I know you made comments about what the return -- actual returns were, but if you overlay the returns on this chart, it would probably be very intuitive.

Thank you very much. Okay. That completes that item.

We now go to Item 3, consent action items. Do we have a motion?

COMMITTEE MEMBER BILBREY: So moved.

COMMITTEE MEMBER COSTIGAN: Second.

CHAIRPERSON JONES: Moved by Mr. Bilbrey, second by Mr. Costigan.

All those in favor, say aye?

(Ayes.)

CHAIRPERSON JONES: Opposed?

Questions.

Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: The April -- or the annual calendar review, there is no meeting scheduled in April on the calendar. Has that decision been made, not made, and I think we need to warn people.

CHAIRPERSON JONES: Yeah. Thank you, Mr. Jelincic. Yeah, that decision has not been made by the Committee. And we have advised staff that that needs to be the other way until the Committee makes a decision on that. So thank you for that comment. And Mr. Eliopoulos is aware of that.

Okay. Thank you.

Okay. So all those in favor say aye?

(Ayes.)

CHAIRPERSON JONES: Opposed?

Hearing none. The item passes.

Item 4, we do have a request to speak on this item by Mr. Michael Flaherman. But just as we do with our Board members, if there's a request to speak on a consent item, the item is removed from the agenda, and it's addressed at the end during public comment.

So if Mr. Flaherman still wants to make his comments at the end of our meeting at the public comment time, he can do so.

So with that, we will now move the consent items -- just information. Any additional questions on this information item?

Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: Well, if it's on the consent, is it on the action consent?

CHAIRPERSON JONES: No, it's information.

COMMITTEE MEMBER JELINCIC: Information consent. Okay.

CHAIRPERSON JONES: Okay. Thank you.

Okay. So that --

COMMITTEE MEMBER JELINCIC: Which one are we pulling?

CHAIRPERSON JONES: It's 4c. I'm not pulling it. I'm just --

COMMITTEE MEMBER JELINCIC: Moving to the end.

CHAIRPERSON JONES: -- going to allow him to speak on that item at the public comment period with basically any other comments that may ensue after that.

Okay. We now move to Item 5, the -- and this next item, Agenda Item 5a, ESG strategy review, we have done a significant amount of thinking and learning about ESG integration space to create our five year ESG strategy since launching this review. Through this strategy, we have accomplished setting the key areas of risk and opportunity among which are improve and enhanced disclosure of ESG considerations globally in corporate reporting; increasing corporate board diversity to improve performance; and C, advocating for industry-wide adoption of the ILPA framework for transparency of fees and profit sharing in the private equity industry.

I want to thank staff for all of the work that they've put into this item in preparing for a monthly discussion on the subject of ESG integration since January. I would also like to thank all of my fellow Committee members for their work in reviewing the item, and for their questions throughout this process.

So with that, I'll turn it over to Mr. Eliopoulos.

(Thereupon an overhead presentation was presented as follows.)

CHIEF INVESTMENT OFFICER ELIOPOULOS: Mr. Chair, members of the Committee, this presentation is the culmination of a two-year in-depth review of our global governance and sustainability strategy meant to guide us for the next five years. We present for consideration and adoption a bold and ambitious plan to advance our strategic priorities, and integrate our ESG activities into the investment-decision making of the office.

As we look ahead, I do believe it's helpful to benchmark where we are now. CalPERS global governance work is well regarded across the globe internationally.

Our rankings frequently put us in the company of leading funds globally. Just to mention a few of our most recent rankings, Extel Surveys ranked CalPERS number one on the -- number one in the world on which asset owner contributes most to the wider SRI debate.

The UN PRI has evaluated our overarching approach to ESG and corporate engagement, and we have received the highest score possible for the past three years, and A or an A plus. And we've seen improvement in scores across each of our asset classes.

The Asset Owners Disclosure Project, we received the highest score, AAA, all three years we have reported out of 322 pension funds globally. This survey focuses specifically on climate change, engagement, advocacy, and integration.

Now, we're certainly proud of all these rankings, and extremely proud of our global governance team, and leader. But as Anne Simpson reminds me constantly, and I agree with it completely, we're humble. And we know there's much more to do, and we're still in the beginning stages of a very long climb to excellence on this topic. And it's an area that will require excellence over a long time period, and one that is shifting.

So it takes -- it will take time to really implement these plans.

Today, we seek the Investment Committee's approval, and I want to clarify the recommendation page in your materials. So we seek the approval of the Committee on the strategic plan, specifically approving the strategic plan and its key performance indicators and the timeline for these activities.

In addition, we are seeking the investment Committee's acknowledgement that the resources outlined in the agenda item to undertake these activities are necessary to complete this plan, and forward that request to the Finance Committee as part of either the mid-year budget review or as part of next year's budget cycle. And that's a key question to the Committee in terms of timing of this activity.

So again to clarify, to approve the strategic plan, the key performance indicators that are outlined, and the timeline for those activities and to acknowledge the resource request that is before the Committee. I'm not -- and the team, we're not going to go into a page-by-page review of the plan. I think it's very familiar to the Committee at this time. As you recall from our work together, the strategic initiatives continue to be data and corporate reporting standards, engaging the UN PRI Montreal Pledge companies, focusing on diversity and inclusion, finalizing the pilot phase of manager expectations, and implementing it, research on sustainable investment evidence and strategies, and transparency of private equity fees and private share -- and profit sharing.

I'll mention two proposed changes, not to hit the Committee with too many words at one time, but I think they're simple enough, and that it makes sense to take them up now.

--o0o--

CHIEF INVESTMENT OFFICER ELIOPOULOS: With respect to the -- first, with respect to one of the KPIs, we've heard some concern in our discussions that the 20-year time period for the private equity fee, and the ILPA standards to be adopted and in 20 years is a little -- is too lax. I'll say it directly. And I think that comment is well taken, so we would recommend we move that to 10 years rather than 20 years, knowing that it's not completely within our control, but that's the caveat we have for many of these very ambitious KPIs.

The second comment, really not a change on KPIs, is that we have set a KPI for the Montreal Pledge corporate engagements. I'll just flip back to that here. But we have not, as of yet, set KPIs for some of the further anticipated corporate engagements going forward, and those corporate engagements to come. As the Committee is aware, we have some work on supply chain. We have corporate engagements to be designed around diversity and inclusion.

We have in year three a design of corporate engagement on water issues, and fourth, we're analyzing and setting the topic of income inequality and have a placeholder with respect to corporate engagements that may or may not be designed following that research.

In addition to that, we have our focus list engagements, which has its own set of methodologies with respect to it. So for those four corporate engagements, we don't have a specific plan right now of what engagements we plan to do, how many companies, what the strategy, and what our timeline anticipates is that in the first year of this plan, we'll be bringing those plans for those specific engagements over the course of the first year, and then with respect to income inequality after the research is done and then with respect to water issues in year three

So our plan, rather than speculate on the KPIs for what we might -- the approach we might us when we bring forward the very specific plan for those corporate engagements we'll include KPIs. And we think -- just want to emphasize that in the materials.

Last -- so that's it with the changes. So I do want to highlight, having mentioned resources, as the agenda materials provide, we anticipate that this new strategic plan will require eight new staff positions, and those are listed in your materials, at an annual cost of approximately $2 million.

We display in the attached charts how management plans to integrate these resources more directly into the asset classes. And that's something the whole leadership team here believes is very important in order to achieve one of the overarching goals of the strategic plan, which is to more deeply integrate and effectively integrate ESG considerations into investment decision making. And that's why we're requesting new resources, and we're shifting some of the execution work back down into some of the asset classes, most notably global equity.

So with that, Mr. Chair and Committee members, I also want to thank our whole team, Anne and Dan, and the whole team for all the work, and thank the Committee for all that work. We're happy to take any questions on the plan.

CHAIRPERSON JONES: Okay. Thank you. Thank you.

Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: Yeah, I, surprise surprise, have some questions.

On the -- on 3 of 25, 100 of the iPad, the private equity fee, I noticed it says including AB 23 -- or 2833. And I hope we will go well beyond that. I mean, one of the virgin birth amendments that showed up was taking -- instead of reporting on total carry, as allocated to the partners to report only on the paid carry. And we've had the whole discussion about that. So I hope that that is broader than just that bill, and it seems to be.

And then on -- let's see if I can -- 7 -- I guess 7 of 25, the -- I'm glad -- which is the timeline strategy. I'm glad to see the pull back from 20 years to get everybody on. Although, I actually would be more inclined to say 12 years rather than 10 years, so that it's something we can actually hold you accountable for. There are some relatively new partnerships we've entered into that don't require that. The GP has the ability to unilaterally extend it for two years.

And so the new ones, you know, we've said you either comply or we don't play. So I would actually be more inclined to say 12 years, so it's something we can hold you accountable to.

The other observation I would make is under 18 -- 2018, 2020, 2019, '21, we talk about engaging corporations on their supply chain, and I think that's an important issue. But one of the things we continue to not do, and I've raised this numerous times, is we don't engage them on how they actually handle their own employees. Yes, we care how their suppliers handle their employees and deal with the environment, but I think we need to call out a need to engage with them on their own practices.

And then the other -- so those are observations, which you can respond to or not. But the other thing that I want to make clear is when I look at the org chart - and I see that I got a revised one in my packet - what I don't see is actually how this all fits together. I mean, I see each of the silos. I don't see how the silos fit with the whole thing. And I am very hesitant to approve that, not understanding how it fits. So thank you.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Why don't I take each one fairly quickly, I think.

CHAIRPERSON JONES: Yes.

CHIEF INVESTMENT OFFICER ELIOPOULOS: On the private equity profit sharing, we agree, it's not just limited to the AB 2833. It's really to fully effectuate our ILPA reporting.

So that one is easy.

On supply chain, I think that was the second one.

COMMITTEE MEMBER JELINCIC: Yeah.

CHIEF INVESTMENT OFFICER ELIOPOULOS: On supply chain, we have had this discussion some during the course of these meetings, and we are focused on this very specific set of activities that we have been doing, and hope to continue to fruition over the next two years, and have not extended it further into the company's employees. And that just has to do with our sense of our time, and focus. So you're correct in saying that that's not included.

I will take this moment in time, while we're on this timeline just to note, we have added in 2018 a review of progress on the plan. I just want to -- it's sort of a half time look. So we know five years is a long time. So really during the mid-point of this, we will take a look on how we're doing, not just in effectuating the plan, but looking at other topics that come up during the course of the time.

Lastly, on the organization chart, I certainly can sympathize with the Board members, who aren't in the weeds of managing this office, trying to understand how the different parts fit in. That certainly is one of the main jobs of your management team is to understand and to deploy the organization assets in a way we think is efficient. So we're not asking this Committee to approve this organization structure. You've delegated that to staff. I can sympathize, as I said, that it's hard to see the eight resources and the shifts as easily as Board members as we do as staff members. But we think this structure we've spent a lots of time as a management team reviewing it, analyzing, and as I said, we believe it really effectuates the overall intent of this plan, which is to have at the top level, the total fund level, the key policy setting, strategy setting, external communication and external partnership relationships at the head of the fund led by Anne Simpson and myself, and then now to shift some of the execution of those strategies back into the asset classes.

And really, the main piece, as I mentioned, is the execution of proxy voting and corporate engagement. We're relocating back to global equity where it was and we think that will help us more closely integrate the work, the strategies that we've set into the asset classes, as well as notably the financial market reform and sovereign regulation work to move our team that currently works up through Anne, to myself, into our execution services strategy that you see there to report to Don Pontes and Dan Bienvenue.

And we think having that team literally on the floor at the point of our trading floor that sits and does all the trading for global equity and more and more of the trading for fixed income, having them at the heartbeat of our trading activities in the financial marketplace, we think will have a really tremendous synergy for executing, not only the plan, but for bubbling up the ideas for financial market regulatory reform from the trading desk itself. And I think that's the heart of it. But I can sympathize that it's hard to peer through it.

CHAIRPERSON JONES: Thank you.

Mrs. Mathur.

COMMITTEE MEMBER MATHUR: Thank you.

Well, I really want to thank the whole Investment Office for their real substantial engagement in this process. And I think it's been a robust and worthwhile process, and I'm quite pleased with the results. And I know there's -- this is -- the result is really just the launch of this effort -- or the re-launch of this effort.

But I really am -- I really am very appreciate of everyone who stepped you, and particularly the leadership of Ted and Anne and Dan in this effort. It's really important.

And also, that the restructuring plan really presents a meaningful step towards meaningful integration of ESG into our investment decision making and activities. And I appreciate the global equity asset class, especially for stepping up to the plate on this.

So I do have a couple of comments. One is thank you very much for mentioning the KPIs on the corporate engagement. That was one of my concerns and issues. And I will look forward to seeing those as they get rolled out over time.

The other one that we had talked about previously is the manager expectations, having more targeted KPIs, and that that would come back in December. So it's not explicitly on this timeline, but I just want to confirm again that that is indeed the plan.

CHIEF INVESTMENT OFFICER ELIOPOULOS: That's correct, and it would be appropriate to note that in any motion that might get made.

COMMITTEE MEMBER MATHUR: Okay. So I will make sure to note that.

So I do have -- then, just one other thing that I had raised previously is around the difference between carbon footprinting and climate risk assessments. And I know we're not -- we're not out of place yet to do full scale carbon risk -- climate risk assessments. But there is -- this is sort of an evolving field, so I would -- I just would ask or hope that we would not be too boxed in to the term carbon footprinting. If there's something else that evolves that can provide more meaningful information for us from an investment standpoint. So I just make that note.

And then I did have a question on the Global Equity Strategy's review timing, and whether -- and why 2018, why would it really take quite that much time to come up with -- we've been looking at this for a little bit. We've had an in-house -- or we've had a strategy that we've been piloting. I know that's going to be -- well, anyway, so that's my question. I guess it's, I don't know, to Ted or Dan.

CHIEF INVESTMENT OFFICER ELIOPOULOS: I'll forward that to Dan.

MANAGING INVESTMENT DIRECTOR BIENVENUE: Yeah, as FAR as 2018, I mean our plan actually is kick it off immediately. The big issue is we don't know exactly what we're going to find. Our hope would be that we're concluding well short of the 2018, but we want to make sure that we're very thoughtful in our assessment. We want to make sure that we're really kind of as all-encompassing as we can be.

And so we didn't want to commit to 2017, and then feel like we need to shorten it. We'd rather commit to 2018 with the hope that we could actually be done sooner.

COMMITTEE MEMBER MATHUR: And overdeliver?

MANAGING INVESTMENT DIRECTOR BIENVENUE: Absolutely.

COMMITTEE MEMBER MATHUR: I'd love that. Okay.

Great. I just -- I would just hate for sort of the opportunities to be arbitraged away before we -- or to be eroded in the marketplace by the time we come to some conclusion about what might be worthwhile pursuing.

MANAGING INVESTMENT DIRECTOR BIENVENUE: Yeah, And to be fair, this -- we believe that this is something that will be ongoing in some sense. We'll be doing certainly this research initiative --

COMMITTEE MEMBER MATHUR: Sure.

MANAGING INVESTMENT DIRECTOR BIENVENUE: -- but we don't view that as the end of the research.

COMMITTEE MEMBER MATHUR: I'm sure that's true in all aspects of global equity

MANAGING INVESTMENT DIRECTOR BIENVENUE:

Absolutely.

COMMITTEE MEMBER MATHUR: Yeah. Thank you.

So if it's appropriate now, Mr. Chair, I would like to make the motion.

CHAIRPERSON JONES: We have a few more requests to speak, so I'll --

COMMITTEE MEMBER MATHUR: Okay.

CHAIRPERSON JONES: -- call on you to make the motion at the appropriate time.

COMMITTEE MEMBER MATHUR: Okay. Thank you.

CHAIRPERSON JONES: Okay. Thank you. Plus we have a public request to speak on it. So Mrs. Hollinger.

COMMITTEE MEMBER HOLLINGER: Thank you. I really appreciate the work of staff in your efforts in getting us to this point. And these considerations are important for long-term risk to the portfolio, but let's not lose sight in order of magnitude on the financial stability of the fund.

And these eight new positions and restructuring comes at a cost. And it's at a cost when returns are flat, and actually when we look forward, the projection of returns we're in a low return environment. We paid out approximately 19 billion in benefits in 2015. Our shortfall was just under 7 billion dollars. That's expected to grow by about a billion dollars a year.

So when I do the math, I just don't see the money for the new positions. So that's my comment, where is the money?

CHAIRPERSON JONES: Thank you. Mr. Lind.

COMMITTEE MEMBER LIND: Thank you.

I also wanted to compliment the process and the work that's done, and particularly that it's been such a collaborative and growing process between the staff and the Board. And, you know, the staff has certainly been responsive to the concerns and the individual issues that individual Board members have raised. And this thing has really, you know, sort of grown over this long period of time.

It's been a -- you know, as I think Priya mentioned the word robust process and thoughtful. And so I think the ultimate product that we've come up with is an outstanding collaborative piece of work. And I agree with you what you said earlier, Ted, in your earlier presentation, it's time to get beyond all of this great thinking and now, you know, implement, and we look forward to that happening.

I also appreciate -- I know this is sort of contradictory to what Dana just mentioned, but I appreciate that you've addressed the concern that many of us have raised around, okay, we believe in this long-term sustainability, and the fact that we really didn't need to do this for the long-term benefit of the System. We have to fund this work.

And so I appreciate that you have taken that into consideration in going forward that we're going to, you know, sort of fund that investment belief or that belief that we have that this work is so important. And I assume that when we take a look at the progress of this in 2018, we'll also look at that, to see if it's enough, if it's too much, how those sort of resources are working. I think that's something that's important for us to continue to monitor.

As we move forward with implementation, I would like to see us consider something that a few of us have raised over this whole process is whether or not it makes sense to have a committee or a subcommittee of the Board that focuses on this work, a little bit. And I'm not saying we need to make that decision today, but I still think it's a valid one. And I -- you know, I don't make the suggestion in a way that we're trying to create more work around this for staff, but perhaps a way that a committee of Board members can sort of help or help focus the work so that, you know, the overall Investment Committee can focus on the important work that you talked about, the -- you know, the concern over the next 10 years and you Know the assumption and all of that.

So I would like, if we can do it, to maybe refer this issue, because now we've been through the process. Maybe it's time to consider it, and maybe the Governance Committee is a place where we could talk about whether or not it makes sense to have a subcommittee or a committee around global governance or sustainability, or ESG, or whatever you want to call it.

So I would ask the Chair how we can maybe look at that going toward. And if we could just -- you know, if it was all right just to refer this to the Governance

Committee for a discussion.

CHAIRPERSON JONES: Yeah, I think one of the first steps is for the Committee to discuss the ramifications before we make a recommendation to the Governance Committee to consider different organizational structure of committees. But I think we need to have the discussion at this Committee at some future time, and the near future on that issue.

COMMITTEE MEMBER LIND: Could we maybe agendize that discussion, because I know a lot of times we -- you know, we talk about things, and then we forget to come back around, because we have so much work to do.

I just think we've raised this several times. We're now at the spot where we're going to implement all this great work. I'd like to see it.

CHAIRPERSON JONES: Sure. Yeah. And I can direct staff to agendize it in the near future.

COMMITTEE MEMBER LIND: Okay. Thank you.

CHAIRPERSON JONES: You're welcome.

Okay. Mrs. Yee.

COMMITTEE MEMBER YEE: Thank you, Mr. Chairman. I, too, would like to commend the staff for this tremendous effort, and it looks -- while it looks very nice and tidy on paper, I think it should not go unnoticed what a heavy lift this really is over the next period of years. And so I'm particularly grateful about the additional resources that will be devoted to this.

A couple thoughts though. One is obviously there's been a lot of work done to date in a number of these areas. And I don't want any of that to be lost. And I think some of the timeline considerations probably took some of that work into consideration. But I did have a question with respect to, I think it's slide 11 on diversity and inclusion, where there's still obviously a lot more broader conversations going on from our regulators to other investors.

But just in terms of how confident you think this can be fully measured within the next few years. I mean, it's -- and if there are kind of changes to these timelines, as we learn more, kind of what that process will be for making those changes.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Tough question, Madam Controller. Thank you.

I'm going to pivot that question on some of the timeline in terms of the goals of the Board diversity work to Anne, but I'll just preamble that to say one of the first to-do items will be to come back to this Committee with our proposed strategy -- our corporate engagement strategy, and that will have some specifics to it.

Are we going to engage companies internationally, are we going to engage them within the U.S., are we going to engage them perhaps here in California? These are some of the strategic choices that we're evaluating how best to move this ball forward, in addition to all the other activities that you mentioned on the regulatory and other front.

I think our expectation on the timeline is that while not in our complete control, with respect to the S&P 500 and not in our complete control with respect to the 10,000 plus holding, that there is quite a bit of momentum and evidence and data behind our policy approach. And that makes us -- I don't want to overstate it, more optimistic, than pessimistic that by dent of that momentum that it will move forward. And then the question is the more targeted strategy that we develop, will that help push it forward some more.

Anne.

INVESTMENT DIRECTOR SIMPSON: No, thanks for the question. I think we feel we have the wind in our sails on diversity and inclusion. As Ted said, the evidence is compelling, and we're finding that along different dimensions of diversity, gender, LGBT, race and ethnicity. And the Board members who were at the ICGN will have heard Chair White of the SEC saying how positively she's responded to the petition that we and other funds put forward to improve disclosure. And we think this is going to be a virtuous circle. If we can improve disclosure around diversity, we'll be able to track the impact on both risk decision making and drivers of value.

And because the business case is so strong, part of our job as the owners of companies is to take that business case to the boards of companies. And obviously the work we're doing in parallel on proxy access in the UK -- in the U.S. is so important, because it gives us the opportunity to really engage far more effectively on the question of board composition.

So advocacy work with regulators is a critical part of setting the scene for the engagement work. And internationally, this is an issue that has real momentum. Even in, I would say, Japan, we noted with great delight that diversity is one of the components of the relatively new Japanese corporate governance code. And this issue is live in Canada, and Australia, throughout Europe with a variety of different approaches.

So as Ted says, there's lots to do, but we certainly think long-term owners as bringing their voice to this agenda is going to accelerate progress.

COMMITTEE MEMBER YEE: Okay. Great. Thank you.

And then just following on the question with respect to our managers. On slide 12, I am particularly happy to see the KPI where all managers have policies and procedures for including ESG information and decision making.

Are we essentially starting from like ground zero here? I mean, what's -- how many are -- are there managers that are really complying with the standard now?

CHIEF INVESTMENT OFFICER ELIOPOULOS: Well, certainly, the -- there isn't a standard right now, so that part no. There is -- and that's one of the challenges here, there's not an accepted standard in the marketplaces. It's being -- it's evolving and developing.

Many of our external managers do have documented ESG policies and procedures. They vary from asset class to asset class, as we would expect, in terms of the things that they look at. And that's one of the challenges in this field is there isn't a cook book or a menu or a standard to set. And one of the real purposes of this work over the course of the pilot, and then into the implementation is to extract as much information from our external managers to learn what is the lay of the land, what is the field of ESG activities from our external managers, and use that information, not only to evaluate our managers from search to termination, but also to help inform our own internal asset class staff documented procedures.

And can you see we're going to take that information from the pilot project and use it internally as well to develop our own internal standards.

I don't know. Anne, did you want to add anything? Or, Wylie, I'm sorry, I didn't mean to --

INVESTMENT DIRECTOR SIMPSON: No. I think an important proposal in the new integration plan is that this work moves to Wylie's new manager evaluation unit, because then it really is part of the overall design, the overall architecture for our work with external managers. And as Ted says, the positive response that we've had to date during the pilot that we'll report on in December really is giving us a very rich new source of ideas, thinking, and experience we can use internally as well.

So, so far, again, I think the great work of the PRI in this field has created momentum on this agenda. And managers finding that they may already have a lot of this work implicit, but they certainly don't have it explicitly set out, and they're not currently perhaps reporting in full to their clients or potential clients.

So again, I think this is another area that we feel very positively about. There's good developments out there and we'll benefit from them.

COMMITTEE MEMBER YEE: Great. Thank you. And then on slide 16, thank you for laying out the reporting schedule on the core activities. Can you -- how frequently will you be reporting on the strategic initiatives in the plan? I mean, does that go hand in hand with kind of the quarterly schedule as well or...

CHIEF INVESTMENT OFFICER ELIOPOULOS: Yes, it would -- on the quarterly schedule for each strategic initiative, that is consistent with the theme of each of the quarters, we'd be reporting on it at that quarter. We've tried to group the quarters thematically.

So quarter 1 you see a grouping of proxy voting, shareowner campaigns, corporate engagement. So any strategic initiatives in that field --

COMMITTEE MEMBER YEE: Would be incorporated in that.

CHIEF INVESTMENT OFFICER ELIOPOULOS: -- would be incorporated there as well.

COMMITTEE MEMBER YEE: Okay. Great. Thank you.

And then transition. I wanted to just make a couple statements. One -- and this is something that I talked about in the past about how -- and I think it's getting better that we're communicating all the great work that we do, and that Anne, and Dan, and the team have done to date.

So as we transition -- and maybe you could speak to this in terms of Anne having been the external face of this in the past, and her changing role, one, how her role will change.

And two, how that will be communicated more broadly with our partners and others with which we work on this whole space.

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

One of the real advantages of this plan is that Anne will continue to lead the strategy development, the policy development, the network of our external partnerships, and the external communication outwardly facing that she is such a leader -- global leader in this field, and will continue to play that role for -- that vital for us going forward.

I think you've even seen recently in the last week or two lots of press stories, and including the announcement of this. We -- I guess it would be too strong to say -- are trying to brand the Governance Program with Anne, but we know we have one of the unquestioned global experts on these topics right here in Sacramento with Anne Simpson.

And that absolutely will continue. What we're hoping to do is move some of the execution. You know, the fact that -- we like to call it factory work, you know, implementation, getting that work down into the asset classes, and also free up some of Anne's time away from the structuring of the implementation of these to the strategy development policy statement -- policy setting, and advocacy work that we need to do.

COMMITTEE MEMBER YEE: Great. Thank you. And then lastly, if I may, with these eight new positions, and I think we all share this, but I hope that we will keep a broad eye towards trying to bring more diversity into the team.

So thank you, Mr. Chairman.

CHAIRPERSON JONES: Okay. Thank you very much. Okay. We do have a request to speak on this item from the public. Janet Cox, you can come up and the mic will be on, and you'll have three minutes, and the mic will start once you start talking.

MS. COX: Thank you, Mr. Chair. I want to say that I concur with everyone's support for sustainability in the fund and the portfolio. I am a CalPERS beneficiary, and it means a lot to me, as you know, because I keep popping up here.

My concern is with limiting the exposure to fossil fuels, especially at this moment -- well, coal for sure, but oil is looking pretty dodgy in the long term, as I'm sure you know. I see this as a threat to the future sustainability of the fund.

But I want to make a couple of comments on slide 7 of 25. I think it's great that you've moved the deadline for the companies up from 20 years to 10, but I'm concerned that you're kind of running out the clock on the Paris agreement. CalPERS needs to lead. And if you're really going to lead, you've got to -- you've got to go faster, because everybody needs to speed up.

And I'm afraid that if the rest -- if the global community looks and says, well, CalPERS says we've got 30 years to meet these goals, and you may be talking about 2 percent, when it really needs to be 1.5, I think we've got to do better. If we're really going to lead, we've got to get out there and do it.

Another comment is that I'm hoping that the list of the 80 companies that you're going to engage with is going to change as you gain the information about Scope 3, greenhouse gas. Do -- I hope you all know what I'm talking about.

I think that the list is not accurate until you are computing Scope 3 for oil companies especially. And the American Petroleum Institute agrees with this and says that Scope 3 is essential for computing the carbon footprint of oil companies. It's just -- it's -- this is really critical.

So I'm hoping that as you get more information, that list is going to shift over time.

And I see Anne nodding. I hope that's true.

(Laughter.)

MS. COX: And that's really the most of it. I'm a little concerned -- I'd love to know more about what engaging with companies on supply chain activities exactly means. But I think it's equally important to engage them on value chain activities, which is the downstream, as opposed to the upstream. So thanks for listening, I. appreciate it.

CHAIRPERSON JONES: Okay. Thank you very much, Ms. Cox, for your comments. And any clarification areas that you have in mind, certainly staff will be willing to explain and go into detail on those items with you.

Mrs. Mathur.

COMMITTEE MEMBER MATHUR: Thank you, Mr. Chair. Well, it is a great pleasure to make this motion, that the CalPERS Board -- or the Investment Committee adopt the global governance five-year plan as presented in the attachment, with the modification that the manager expectations targeted KPIs will be developed and presented or adopted in, I guess, December of 2016, and that the KPIs for the other corporate engagement areas will be evolving and rolled out over a few years, and also the change to the private equity fees timeline of 100 percent of our managers in 10 years.

COMMITTEE MEMBER YEE: Second.

COMMITTEE MEMBER MATHUR: Thank you.

CHAIRPERSON JONES: Okay. It's been moved by Mrs. Mathur.

COMMITTEE MEMBER BILBREY: Second.

CHAIRPERSON JONES: Second by Mr. Bilbrey.

I beg your pardon?

Question.

COMMITTEE MEMBER MATHUR: Yeah. So actually -- thank you for that question. I was going to -- I was actually going to include that the Investment Committee ask the Finance Committee to take up the resources required for the additional positions as a mid-year budget revision.

CHAIRPERSON JONES: Okay. All right. And that is embodied in the document itself.

COMMITTEE MEMBER MATHUR: I don't think it -- it wasn't explicit that it be mid-year versus next year.

CHAIRPERSON JONES: Okay.

Did you want to speak?

COMMITTEE MEMBER HOLLINGER: In approving the plan, am I approving the new positions or not?

CHAIRPERSON JONES: That's part of the motion.

COMMITTEE MEMBER MATHUR: You're approving -- not approving the new positions, but asking --

CHAIRPERSON JONES: To go forward.

COMMITTEE MEMBER MATHUR: -- the Finance Committee to take up the -- as part of a mid-year revision the new committee -- it's a recommendation.

CHAIRPERSON JONES: It's a recommendation from the Investment Committee.

COMMITTEE MEMBER HOLLINGER: Got it. Thank you.

CHAIRPERSON JONES: Okay. Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: I'm not sure how much discretion the Finance Committee has to deal with it, if we've already -- the 13 members of the Board have already said do it, so that's troublesome.

But I also would like to make clear that the organizational chart is not part of what we're adopting, or is it?

COMMITTEE MEMBER MATHUR: It is not -- it has been delegated to the staff, and so -- the actual organizational structure, so that's not part of what we're adopting.

COMMITTEE MEMBER JELINCIC: Okay. Thank you.

CHAIRPERSON JONES: Okay. Mr. Costigan.

COMMITTEE MEMBER COSTIGAN: I believe the motion merely authorizes positions, but does not contain the appropriation. That has to come through Finance and Admin tomorrow.

CHAIRPERSON JONES: Okay. Thank you.

All those in favor?

(Ayes.)

CHAIRPERSON JONES: Opposed?

The item passes, and congratulations.

(Applause.)

CHIEF INVESTMENT OFFICER ELIOPOULOS: Mr. Chair, if I may just thank the Committee and express on the staff's perspective that this collaboration was really meaningful and appreciated, and really improved the plan over time. In terms of execution, one -- just one quick thing. I just want to note, because execution starts meaningfully now. I've been asked by SASB, the Sustainability Accounting Standards Board, to become a member of the Investor Advisory Group.

And that is a group of about 15 to 25 members. Mr. Ailman, I believe, is the Chair of the Investor Advisory Group for SASB.

I've given our strategy, and the focus of our strategy. I think it's well within the target of what we should be doing. I would very much like to do it. It's not a huge amount of personal time, but I think the time that would be taken up by it is well worth it. So unless there are any objections by the Committee, I would plan to accept the invitation and become a member.

CHAIRPERSON JONES: And I would just indicate that please do accept it, unless I hear otherwise from any Committee members.

You're on the Committee.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Great. Thank you.

Okay. Mrs. Mathur.

COMMITTEE MEMBER MATHUR: Thank you. Well, congratulations on that invitation. I think that is really important work, so I appreciate you're taking that up.

I just wanted to raise one other thing, Mr. Chair, as we're taking up the consideration of a Governance -- Global Governance and Sustainability Committee, I would also suggest that we take up the consideration of a governance and sustainability investment consultant. We currently don't really have that expertise explicitly on our investment consultant team, and I think we should consider that.

Thank you.

CHAIRPERSON JONES: Okay. Okay. Mr. Eliopoulos, when we bring back a discussion item include this for Committee discussion.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Okay. Got it.

CHAIRPERSON JONES: Thank you.

Okay. Now, we will move to Item number 6a, Revision of Real Assets Policies, Second Reading.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Thank you, Mr. Chair. Wylie Tollette, Investment Office staff. And we're gathering our staff and consultants here.

Now, that was quite an aspirational investment agenda item that we just completed. This, although seemingly comparatively pedestrian, is a very important investment policy, serve as the Investment Committee's directions to staff as to how to execute our investment activities.

And today, we're talking about the second reading of the proposed updates to the real assets investment policy. The changes represent the final step in aligning all of our asset class policies with the new Total Fund Policy framework.

The proposed revisions incorporate the changes required to align staff's authority with the new strategic plan for real assets as approved by this Committee in April combining real estate, infrastructure, and forestland into one program and policy.

Following the first reading in June, we received several edits and suggestions from the Committee that are detailed in the agenda item, and they're now incorporated into the policy.

So with that, I will pause and see if there's any questions or comments on the policy from the Committee.

CHAIRPERSON JONES: We have one. Mrs. Mathur.

COMMITTEE MEMBER MATHUR: I just have one question. And this is not a common occurrence, I don't think, but there have, on occasion, been situations where two asset classes are investing with this -- putting it in allocation with the same manager. Do we have any overarching limits on commitments, or staff -- on staff authority limits, or is that really the CIO's limit?

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

That's a great question. I don't believe we have current manager limits at the fund level. We do informally understand those amounts, but we don't have any formal policy limits established.

COMMITTEE MEMBER MATHUR: So it -- I don't think it's an urgent issue. It is a very rare occurrence. But the next time we think about these things, maybe we can consider whether that would be appropriate to include.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: I think it would be. It's a good comment. Thank you.

COMMITTEE MEMBER MATHUR: And with that, I'm happy to move the policy -- adoption of the policy.

VICE CHAIRPERSON SLATON: Second.

CHAIRPERSON JONES: Okay. It's been moved by Mrs. Mathur. Second by Mr. Slaton.

CHAIRPERSON JONES: Discussion?

Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: Well, yes, this is technically the second reading. I would point out the first reading was less than two minutes, and there really was not any real discussion about the policy.

But I have some concerns. And, you know, one of them is the new staff limits. On, you know, real estate, you know, the staff had the ability to do in, you know, domestic tactical, a half -- point -- I guess three quarters of a billion dollars, and we are changing that to three billion. Three billion may be the right number, but I think it really ought to be talked about.

When you look at infrastructure, we're expanding the staff's authority from a half a billion to a billion. And again, I think that -- again, it may be the right number, but we should understand why we are doing that.

And forestland, you know, we're going from a quarter of a billion dollars to a billion. And again, we should understand why we are doing that. And those limits are the Managing Investment Director just, you know, the

Chief Investment Officer has higher limits.

We have a policy where right now if they reduce debt, that, you know, is part of with -- you know, that's used against their limit. We're currently taking that out, but we also are not limiting their ability to add debt, and have that count against the limits. So that is troublesome.

Wilshire, PCA, and Steptoe[sic], just to an extent, all had rather extensive comments in June, which we didn't discuss. You know, this month, the consultants are talking about the changes from June, but not the changes from the current policy.

So I was kind of hoping we could get the consultants to talk about some of this expansion that they were calling out through removal of some of the limits that they have called out. And, you know, some of the constraints are being moved from Board -- from policy that the Board controls to these internal procedure manuals that the Board doesn't see. And I think it was -- I think it was PCA that pointed out, at this point, those constraints in manuals are conceptual rather than actual.

All of which leads me -- hopefully, you can comment on it, but it also leads me to the question that maybe this should not be an adoption, but it should, in fact, be -- come back as a third reading once we've had the discussion.

CHAIRPERSON JONES: Okay. We -- I'm going to ask the consultants to make comments, since you have questions specifically for them PCA, Wilshire, and StepStone. PCA, you want to go first.

MS. FIELDS: Christy Fields, PCA.

There are some significant changes in what's being proposed here in this policy versus what was in place a year ago or so, both in the delegated authority of the staff limits, and in the way that the policy is shaped. But I think that the overall objective of getting the real assets policy to be in a consistent format of those of the other asset classes is a good one. And we have been -- while the IPPGs and the desktop procedures are not complete, and able to be reviewed at this point, staff is making progress on them. And they are, to the extent that we know to date, consistent with building out kind of a more fulsome set of documents to support the Real Assets Program.

I think it's also important to note that going forward the policy limits that are shaped by the strategic plan that you all approved recently for real assets are the, you know, real determinants of how the program will be run. And, to date, the program is being built out in a way that's very consistent with that strategic plan.

COMMITTEE MEMBER JELINCIC: And, Christy, one of the observations that you made in your letter back in the end of May is, you know, considered, one -- one changes appear reasonable, consider collectively the number and type of changes make it difficult to understand the potential consequences.

MS. FIELDS: Yeah, and I think that spoke to not having these other documents built out, right, we -- because they're -- this is -- especially for private equity real estate, which is not a homogenous asset type. The simplicity of the overall -- this policy statement leaves a lot of the detailed language around risk classifications and around diversification within the portfolio left to these IPPGs and desktop procedures that we just haven't seen in full form yet, and so my comment was around that.

And I suspect that those questions will be answered as these kind of get developed. But our concern was that we need to really keep an eye on that ball as the kind of sausage is getting made.

COMMITTEE MEMBER JELINCIC: And PCA had specifically raised the issue of leverage and the change in authorities. Can you comment on that?

MS. FIELDS: Yeah. And we've spoken to staff about this. You identified the primary one, which is that there's not a limit through the staff limits on their ability to lever up the portfolio. That, however, is constrained by the LTV limit that's included in part of the strategic plan.

CHAIRPERSON JONES: Okay. StepStone.

MR. ALTSHULER: Yes. Thank you. David Altshuler with StepStone. As you noted, we did identify several of these changes as topics that we thought it was important for the Board to be aware of with respect to the infrastructure program policy. I think that asset class in the policy was probably impacted the most, just because of the initial changes within the strategic plan, which created a new portfolio hierarchy, and essentially incorporated infrastructure into the broader real asset portfolio on many levels. And as was noted, the delegated authority staff limits did increase quite a bit.

I think the comment we would provide there is it's not entirely clear what the -- what -- if there is an exact right number, quite frankly. I think what we have seen is that the -- what we don't want to see is the program limited in its ability to pursue opportunities that are consistent with the objectives of the program. And there have been instances where that -- there are big tickets, quite frankly, that CalPERS is pursuing.

So it's not a comment so much as to whether it's the right number, but just noting that CalPERS has -- the program has pursued investments and its managers have pursued investments that require commercial time frame and so forth to compete for that have exceeded the current limit.

And on the final point, I would note that we spent a lot of time talking with staff and with ICOR about the -- a lot of the material that was coming out of the policy, and it was going to be located in these other documents. It was a big concern of ours in particular, because the definition of the risk classifications was -- is a key focus for the program. It's a defensive oriented program. Risk matters a lot.

And so we were assured that those documents would be developed first before the policy would be approved, so we could at least see what they would look like, how the risk classifications would be defined, and so forth.

CHAIRPERSON JONES: And have you seen those?

MR. ALTSHULER: I don't think they've been completed yet.

COMMITTEE MEMBER JELINCIC: Okay. So we're adopting a policy before they're completed, and the procedures are completed and reviewed --

MR. ALTSHULER: If you -- it's our understanding --

COMMITTEE MEMBER JELINCIC: -- assuming we adopt it today.

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: They would not come into adoption or be implemented until the consultants have reviewed the IPPG. So it would be contingent upon that. So this would be approving the -- basically, this document, it would not be implemented until those IPPGs are in place.

If I can just add a couple of thoughts for the Investment Committee to consider. We are eliminating the current interim policy, which has broader limits across the risk categories and leverage. That will take effect once this goes into adoption, and implementation.

Secondly, we've tightened, through the strategic plan, the risk categories significantly. As an example, the infrastructure program did have, in the defensive category, 25 to 75 percent, which is more akin to core. And we have tightened that to 60 to 100. So that is a significantly tighter box, and higher bar. And the leverage limits now include an LTV limit and a debt service coverage ratio in each and every bucket across real assets.

Therefore, we believe that the added complexity related to measuring the -- when we make a commitment and not knowing exactly how much debt may be employed was very complicated and hard to measure at the point, but using the overall philosophy of the debt service coverage ratio and the tighter leverage limits, and the high -- and actually more conservative leverage limits would protect the fund.

And the last comment I'll make is the role of real assets is really to focus on core assets, and David alluded to it. The tickets tend to be larger for these particular investments. We can't speak. It is very hard. It is more art than science as to how you arrive at these limits. But being able to execute and focus primarily in using the guidelines set at the sort of core or the risk category level we felt would enable us to be -- to manage the balance between being active and flexible but not diluting the strategy.

And that, in our opinion, as staff is the real risk, where you make your policy limits too broad, and you end up diluting what you're really trying to accomplish. And we felt that this toggled that balance, as much as we possibly could.

COMMITTEE MEMBER JELINCIC: StepStone raised the issue of infrastructure being big tickets. And my memory is not perfect, I acknowledge that, but I only remember one case where you actually came to the Board and said, you know, this exceeds our authority, we need your approval. But I also acknowledge that there may be cases where it was beyond staff's authority, but it was moving so quickly that you didn't think you had time to bring it to the Board, and therefore just kind of dropped out of the process early. How frequent is that?

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: I've been there a year and five months, but it's becoming more frequent. The level of activity in the infrastructure space, particularly in Australia, as an example, with the level of privatizations that is really just in early phase is kicking up. And many institutional investors are in earnest starting their infrastructure programs now or over the last few years. So it is our anticipation that this is a measured approach in order to make us, as I said, flexible and competitive, but at the same time not dilute what we're trying to accomplish.

COMMITTEE MEMBER JELINCIC: And can you talk a little bit about in real estate why three billion a opposed to the current one and a half billion in core, and why a doubling in infrastructure and quadrupling in -- I mean, how did you get to the number?

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: As I said, it really is more art than science. And was arrived upon merely in order -- due to the fact that we have much more focus on core transactions. In some cases, they can be portfolios, and we wanted to be competitive in order to pursue those.

There's really not a magic formula that we followed, but we believed that eliminating the interim limits and raising the bar in terms of our focus on core added enough of that protection for the system.

COMMITTEE MEMBER JELINCIC: Thank you.

CHAIRPERSON JONES: Okay. Mr. Costigan, is your question for StepStone or -- because we haven't heard from Wilshire yet.

COMMITTEE MEMBER COSTIGAN: I can wait.

CHAIRPERSON JONES: Okay. Wilshire.

MR. JUNKIN: Good morning. Andrew Junkin with Wilshire Consulting. I can be pretty quick, because I think David and Christy have covered a lot of this.

Wilshire has the advantage of having worked with other asset classes in building the IPPGs and the desktop policies. So we kind of see the process that takes place, adopt the investment policy, follow back up with what was there, what is there, what needs to move. We've lived through it, so we know that, you know, the ball doesn't get dropped along the way. So we had a lot of comfort with that.

I think really our view on this was that so many of these limits -- these changes were covered in the strategic plan, even though it wasn't really discussed in June. It had been discussed in April when the strategic plan was discussed and reviewed by the Investment Committee. And then in particular when it comes to forestland, really to me that program is kind of in a wait and see mode. I would expect any transaction of any size to come before the Investment Committee at this point, whether it's an acquisition or a disposition.

So whatever the limit is there, I think just from a practical standpoint, you know, that asset class is kind of frozen, if you will.

CHAIRPERSON JONES: Okay. Mr. Costigan.

COMMITTEE MEMBER COSTIGAN: Thank you, Mr. Jones. Just a few questions.

Paul, first of all, along the lines of Mr. Jelincic, what's the problem you're trying to solve? You're saying it's timing time, it's size. How many projects? I mean, I guess what's the problem with the current policy?

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: I wouldn't call it so much of a problem. It's really more of -- you can clearly see in the real estate market today the transactions of -- the type of deals or the type of property that we are pursuing is very competitive. We're not alone in that space. And enabling us to have the --

have some mode of entry that makes us more competitive in the market, many other sovereign wealth funds and similar sized pension funds really do have a similar strategy as ours.

It's not -- it's not -- we're not alone. And giving us that flexibility, we felt that the primary risk control of having the risk categories and the leverage enabled us to have that sort of trump any movement into large movement of two or three billion dollars into riskier real estate in one shot.

COMMITTEE MEMBER COSTIGAN: Well, I guess the question I'm getting at is most sovereign funds and most large pension funds don't meet monthly. So what's the problem just from a notification -- I mean, you're talking about timing. So is there a project that you can point to that within the 30 days between both Investment Committees meeting that you've lost projects, can't get a project? I mean what -- where's -- I'm looking at -- I get moving the limits up. I understand that. But what I haven't heard is actually what's the problem?

I heard timing from Steptoe. I heard, you know, some of that, but -- and Mr. Jelincic asked you how man projects? You couldn't identify how many projects would fit into this. So you pointed to Australia, I get that. But you're saying that within 30 days you couldn't -- you need this because you couldn't move in 30 days in notifying the Board?

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: We could notify the Board. Enabling all of the requisite material and having it presented in open session or closed session, for that matter, the market can move much faster than 30 days. In some cases, we have to be in a position to at least commit to something or go into some sort of due diligence for a 30-day period.

And that could put us a little bit at risk in terms of whether that deal could fall through. And it has happened probably -- more in the last, call it, six to eight months than in my first, let's say, six to eight months. And I would say that in terms of the number of transactions, it's probably been somewhere around five or six, where we've had a little bit of a challenge in order -- if it were to come to this board, it would be a bit of a head scratcher, even just fitting it with the various schedules and whatnot.

COMMITTEE MEMBER COSTIGAN: All right. Last one. And I'm sure you didn't mean it this way, but I'd like you to clarify. You're saying it's contingent, in response to Mr. Jelincic, upon consultant's review.

What have we delegated to the consultants to approve you to do? Because you said this wouldn't take effect. It was contingent upon the consultant's review. So where have we delegated the authority for the consultants to approve this?

MANAGING INVESTMENT DIRECTOR MOUCHAKKAA: So this has to do with a point that was made I believe in both letters in May or June, that relates to -- we have these limits, let's say, on a risk category, but the language or detailed definitions behind some of those limits will reside in these IPPGs. And those IPPGs are still in the process of being formed and developed.

And so therefore, we would work under the old policy until the staff, working on the -- on that IPPG, in concert with consultant's review of those, and then upon that, they would take effect.

COMMITTEE MEMBER COSTIGAN: What if the consultants don't agree?

MS. FIELDS: So we've agreed. I mean, everyone is in agreement around the strat -- the parameters set in the strategic plan. I think really, at this point, we are just reviewing the IPPGs to make sure the language supports, in an effective manner, those limits in just narrative language, so that ICOR can continue to monitor those limits, and the deployment of capital in the program against those limits.

We're not actually approving any limits. We're just approving the language in the IPPGs to support those.

COMMITTEE MEMBER COSTIGAN: I'm sorry, Mr. Jones, just a second. You're approving it or you're agreeing it, because I don't believe you have the authority to approve anything.

MS. FIELDS: I'm sorry, opining on the -- I guess, providing an opinion about the appropriateness and the sufficiency of those definitions.

COMMITTEE MEMBER COSTIGAN: All right. Thank you.

CHAIRPERSON JONES: Mr. Eliopoulos.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Yeah, just two quick additions to supplement what Christy and Paul said, because they're very good questions from Mr. Costigan.

One on the procedures and processes is that is one of the roles of the Board consultant that you have contracted for, with each of these consultants very specifically, that their role is to perform this review on your behalf in the weeds at this level. So I just want to give you some confidence that the governance architecture works for the Committee and is actually well architected.

The second on the core real estate and infrastructure. As Paul mentioned, it's the -- those are the, you know, least risky of the spectrum of real asset transactions. So that should give some comfort in providing the ranges before the Committee today.

The other piece though in terms of the problem on the timing is it's very important for Paul and his team, on behalf of CalPERS, to be able to speak for the capital on these transactions. So as they are moving forward, they do move fairly rapidly, but there is time on a 30-day period for sure to notify the Committee. But one of the questions that we get from sellers and buyers all the time is do you have the authority to transact? And if we have to wait till the last 30 days, we're going to -- we're going to be replaced by other bidders that don't have that contingency, if you will.

The last piece is we have, and will continue to have in closed session, the external manager reports. So we keep this Committee very well apprised in a very real-time and outward looking basis of the types of transactions of any significance that we're doing. So hopefully, those things supplement your comfort level.

CHAIRPERSON JONES: Okay. Thank you.

Mr. Lind.

COMMITTEE MEMBER LIND: Thank you.

I just wanted to thank J.J. for raising this issue and getting us to focus on it for a few minutes, because sometimes we do make decisions over big numbers without having full discussion. And I think this full discussion we just had and the responses from the staff and the consultants have been very helpful to me in voting on this. I think it was a great conversation. I now have a more thorough understanding about the timing and the other issues surrounding this. So I certainly will be supporting the motion.

CHAIRPERSON JONES: Okay. Thank you.

Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: Okay. And, Paul, I've worked with you. I'm aware of your background. I have utmost confidence in you, so I hope you're not thinking that I'm communicating otherwise.

But, Wilshire, in your letter, talked about the fact that, while not provided to the IC Wilshire has reviewed a marked up version of the current policy with highlights -- that highlights which portions are being moved into the proposed policy and which are being moved into the IPPG. Was there anything surprising or particularly enlightening in that?

MR. JUNKIN: There was not. A lot of that task is really making sure that there is a complete transfer of what exists now into multiple different places. So a lot of what we're looking for is did anything get dropped along the way, was there anything added unintentionally.

So really it's a process focused review, and we felt comfortable with the things that we'd seen on this particular asset class, and on prior asset classes where we'd done the same review.

COMMITTEE MEMBER JELINCIC: And also in your letter, you pointed out that the proposed RA policy does not include specific reporting requirements for real estate, infrastructure, forestland, consultants. Care to expand on that or comment on that?

MR. JUNKIN: Well, just upon the first read, you would think that that was kind of a missing element. It's just contained in the Total Fund Policy. The Real Asset Policy doesn't call for the consultants to report back to the Investment Committee. The Total Fund Policy calls for the private asset class consultants to report back to the Investment Committee. It's just on my first read I thought, well, that's interesting that it's not there. And then as I worked through it, I realized it was someplace else.

COMMITTEE MEMBER JELINCIC: Okay. Thank you.

CHAIRPERSON JONES: Okay. We have a motion and a second on the floor for this item.

All those in favor say aye?

(Ayes.)

CHAIRPERSON JONES: Opposed?

No discussion. The item passes. Thank you very much.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Thank you.

CHAIRPERSON JONES: Now, we will take -- let's take a 10-minute break before we start the next item. So at 11:25 we will reconvene.

(Off record: 11:15 a.m.)

(Thereupon a recess was taken.)

(On record: 11:26 a.m.)

CHAIRPERSON JONES: We'd like to reconvene the Investment Committee meeting, please.

Okay. Thank you. Now, we are at Agenda Item 7, Asset Allocation, Performance and Risk. 7a, CalPERS Trust Level Review. Mr. Eliopoulos.

(Thereupon an overhead presentation was presented as follows.)

CHIEF INVESTMENT OFFICER ELIOPOULOS: Sure. I think you've Heard enough from me so far this morning.

(Laughter.)

CHIEF INVESTMENT OFFICER ELIOPOULOS: I'll be turning it over very quickly here. There's a set presentation that we have. First up will be John Rothfield, as you know, our Investment Director and Chief Economist for the Investment Office will have a review of the macroeconomic conditions that we're seeing. And following that, you'll see me and Wylie and Eric have a part in this play.

So first, John.

--o0o--

INVESTMENT DIRECTOR ROTHFIELD: Okay. Thank you. It's a great pleasure again to be able to report to the Board. And my role in this discussion is to talk about the economic environment that informs some of the return possibilities and challenges around different asset classes. So the economic environment, I think, is fair to say is, if you look at the length of the expansion we've had in the U.S., the way it's measured is we're now 86 months into an economic expansion. So a little over seven years in -- of economic growth. It's been a low growth recovery. The economic -- the average economic growth over that period has been a little over two percent in real terms, with only a little over one percent inflation. So it's been a low growth recovery, but it is still going.

And there is some optimism to believe that the recovery can keep going for some time, but there are some challenges as you get toward late economic cycle. So as the unemployment rate in the economy hits what the Fed believes to be full employment, there start to be challenges for corporations and policymakers within the economic environment that starts to affect asset class returns.

So I'm going to go to page five, which the Board often likes, which is looking at some of the positives and negatives on the economy. Add I think it's fair to say that over time we've shifted from more positives than negatives to a more even-handed environment right now. And I think we're probably in a point now where some of the negatives we have on the right-hand column there have more of a capacity to affect asset class returns than some of the stuff on the left.

And I just wanted to focus on two or three of the things in this economic trends piece that are positive, same, and negative. One of the positives in the economy is the household sector is still doing very well. And that's really important. So the growth of the wage bill in the economy is still purring along at about four to five percent a year, so well beyond inflation and population growth.

And households tend to still be very conservative with how they're spending that income. So right now, you know, in the last expansion, which kind of flamed out fairly dramatically, the savings rate in the economy got down to about one to two percent. Right now, it's about five percent. So households are banking a lot of the gains that they've made from wage growth, and employment growth. And they're putting it into things like mutual funds, their pensions, things like that, or directly into the market. And that's providing a nice pool of ongoing savings to the market. We're not relying on international sources of borrowing. So that's good.

We've also started to see a little bit of an improvement from the first quarter of the year in things like profits and sales in the corporate sector. That's mainly because some of the things that were negative on profits and sales, such as the rise of the dollar or the fall in energy prices have started to level out a little bit.

And then one -- a third factor, which is kind of a double-edged sword, I think, which relates to return and risk, is that the Federal Reserve is keeping interest rates very low for a long period of time. And that very easily policy setting is also being replicated in other countries in the world. So the Bank of Japan, the European Central Bank, the Bank of England are all engaging in very strong monetary easing still. And most other central banks around the world are still in an easing mode. They're prepared to grow their money supply, cut their interest rates in order to try and stimulate economic activity. Nobody is moving in the other direction right now.

And then in a couple of countries, which I think the Board mentioned last time, you're starting to see more cycle fiscal policy. So China has moved its budget balance from about flat to a negative five percent of GDP. So they're throwing a lot of infrastructure spending and support for the real estate market into the Chinese economy to make up for the slow down in private sector investment in China. And Japan is also moving toward another stimulus on the fiscal spending side in its economy.

And this time, it's a little bit more targeted to some of the so-called structural challenges that Japan is facing. So there are some things to like about the economy.

When you get into the same trend in negative, there are some challenges that are growing now that we're 86 months into the expansion. Expansions typically don't go, even long expansions typically don't go, past 10 years, which is 120 months. So we're kind of getting into that back part, and that's starting to affect some things.

You know, one of the things that's still negative on the economy, and in fact we got some data earlier this week that didn't end up on one of the slides is that productivity in the economy is very weak.

So in the last expansion, productivity in the economy, which is how you -- your labor supply turns into a full blown economic activity, had been about two and a half percent. This time it's less than one percent.

And in the latest quarter or the latest year, we've actually got negative productivity in the economy. We've managed to continue to grow hours worked in the economy, but the GDP gain from that has actually been less than the growth of the hours worked in the economy.

So, you know, the economy just is not benefiting from improvements in productivity in the way that one often sees in past cycles or early on in an economic cycle.

Another challenge is that capital spending in the economy has been quite weak for about a year now. That's mainly been in the mining sector and related industries. So as energy prices started to come down and price of other commodities, some of the states which had a lot of investment in mining have really contracted there, and that's affected some of the other supply industries into the mining sector, so that's been weak as well.

And then we continue to get this issue where the demand for labor is actually pretty strong. So if you look at the government survey of job offers or vacancies, it's growing at 5 to 10 to 15 percent a year, depending on which month you look at.

But the availability of skilled labor in particular that's actually looking for work right now is getting very tight, kind of late cycle in terms of that. So that has implications for the economy.

Now, with regard to that, I'd like to turn to -- you know, because the labor market, the fuel that's kind of going into the expansion I kind of cover on page 13 --

--o0o--

INVESTMENT DIRECTOR ROTHFIELD: -- which is the so-called underemployment rate in the economy. So this is not only people who are unemployed, but it is also folks who would like to be working longer hours. They can only get temporary work as opposed to full-time work, those who are discouraged from even looking for work in the latest month, that kind of thing. That has come down a lot, but it is still elevated relative to where it could be in past cycles.

And the other element that I wanted you -- to show you was the Fed's Labor Market Conditions Index. In the past we've shown the labor market spider, but this is another variation on that. So the Fed's Labor Market Conditions Index, which actually just early this week bounced back above zero, is saying that the incremental improvement in the labor market in the U.S. is starting to get tighter, again mainly because we're running out of labor.

So the two areas that we can continue to sustain the expansion if we don't increase immigration into the economy, is we can increase the employment to population rate, particularly amongst 6 to 24 year olds, which is still relatively low. That's already starting to happen, which is encouraging, but we still have someway to go.

And even in the main working age group, 25 to 54, there is some upside in the employment to population ratio. So I would say that the labor market, which is fueling the recovery, is getting fairly close to late cycle, but there is still some labor that can be had. The question is at what price does that labor come, and whether it's -- it has the right skill set relative to the demand for labor.

--o0o--

INVESTMENT DIRECTOR ROTHFIELD: And then finally on page 15 to feed into that is we look at one of the things we look at in looking at economic performance and how it maps to the performance of different asset classes is the profit and wage share of national income.

So what we've started to see is the dollar got stronger, energy prices came down, and wage growth has started to pick up. The profit share of national income is coming down, and the wage share is going up. That's typical of what tends to happen late in an economic cycle as you get tight labor markets.

So it's more a challenging environment for corporates. You start to see in the right and the middle chart there that it tends to start leading to less capital spending by corporates. And in terms of the S&P 500, it can often mean that profit share comes down, it's a more challenging environment for the stock market as well.

--o0o--

INVESTMENT DIRECTOR ROTHFIELD: So finally going to one of the new things that we kind of look at, which is the different scenarios for the kind of world that we could expect going forward on page 22, is the central environment, which I think I've presented here for the last couple of years is as we get late into the economic cycle, we're still likely to have a economic growth in my view. I think that, you know, there's a -- probably a 50/50 chance at least that in the next three years we have a recession, probably a fairly mild one, but we are still in this challenging returns environment now, where we're in a low growth environment, the profit share is coming down relative to the wage share, we are seeing a little bit of inflation, which is good, so we're not Japanifying the economy.

But, you know, we -- inflation eventually makes the Fed have to act on interest rates. And then we have Japan, the Euro area, the UK, China and many other central banks around the world and governments all stimulating their economies, but the question is at some point do you get declining marginal returns to those efforts to improve the economy?

So there are some things that we can imagine as upsides to returns. One is that, you know, we start to increase the rate of household formation in the U.S., which still hasn't come back to a million a year; we get a further increase in labor force participation, which increases the employment to population rate. So that continues the growth in the economy. But we did assign or believe that some of the downside risks are somewhat more pervasive.

So growth in the economy, as I mentioned, has averaged 2.1 percent in the expansion. The last 12 months has only been 1.2 percent. So you run a little bit of danger the economy getting in kind of -- some kind of stall speed growth, which is not good. It increases the risk of something going wrong with the expansion.

You have a risk in the next 12 months that as you start to see higher headline inflation, the Fed has to do something about it. And you get the risk that the policy responses abroad can't continue forever. How long can China continue to stimulate its economy, how long can Japan continue to do that, and where is the declining marginal return for all the bond buying that central banks around the world are doing.

And then one clear known/unknown is this tendency around the world for increased protectionism and isolationism that showed itself up in the Brexit vote in Britain. It's showing itself up in the U.S. election campaign. What effect would that have on the economy?

So the way I would like to summarize that before questions is to say that we still believe that we're in a positive but challenging returns environment with an economic expansion that's likely to go another multiple years, but there are downside risks to worry about over that time frame as the cycle here gets more mature, and some of the policy responses abroad start to lose their effectiveness.

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

COMMITTEE MEMBER MATHUR: Thank you, Mr. Chair. Thank you for your comments, Mr. Rothfield.

So I have a couple questions. On page 22 of the presentation, you have a bullet under upside -- potential upside, significantly more fiscal stimulus. Is there anything in particular that you think would be helpful that you would be looking for?

INVESTMENT DIRECTOR ROTHFIELD: Right. So again, this was brought up six months ago, and I think that was very prescient that that was brought up. And since then, we've seen countries like China and Japan do some fiscal stimulus. So, you know, one of the issues around fiscal stimulus is with monetary stimulus that's been done up until now, you don't necessarily get a one for one in economic activity. It depends what the recipient of the dollars does with it. So they might save them. It may just go into bank balance sheets, et cetera.

Fiscal policy you've got more chance of a one-to-one response between the spending and otherwise. But there is a caveat to that, that if it -- it kind of repairs that there's no crowding out of private sector activity. So, for example, we already are fairly tight in the housing market in the U.S.

So residential construction companies are saying that they can't get enough labor to build the houses that people want. So if -- let's say you do have some shovel ready projects in the U.S. and you try to reallocate some resources into infrastructure projects or something else, that could lead to a problem in the economy. So there's kind of a crowding out effect.

But in an -- and in the U.S., you also don't have what they call an output gap, so we're operating at fairly close to full employment. So you would have to find a way to bring that labor in that isn't being deployed somewhere else.

But there's also a microeconomic argument, which is that, you know, some of these infrastructure and other fiscal projects of the government has -- may have a higher expected rate of return because of underinvestment in those areas over the last, you know, couple of decades.

So, you know, an economy clearly which has got unemployment, and in which you're starting to see private sector investment starting to struggle despite the policy settings, it does make sense, I think, to have, you know, some kind of fiscal response, even in a country like the U.S. where the marginal -- where the unemployment rate is basically at full employment.

COMMITTEE MEMBER MATHUR: So turning to the labor or market on page -- I think that was on page 13, can you just talk a little bit more about what you mean by full employment? Does it -- is this including people who have dropped out because they haven't -- been unable to secure jobs, either in their field or at all? I mean, there's been a hugely rising disability -- Social Security disability rate, because people are unable to find productive work where they live.

And then also the impact of the gig economy and whether that's included in these numbers?

INVESTMENT DIRECTOR ROTHFIELD: Yea. So it's interesting the Federal Reserve, every six months -- actually, every three months produces a report on what they think the rate of full employment is. And that's actually come down. It -- early on in the expansion, it was close to six percent. Now, it's somewhere below five percent, which means this is really just a rate at which the labor market is so tight in terms of frictional workers, that you start to get a big increase in wage growth, that the Fed has to start to slow down the labor market. That's really what that is, the non-accelerating inflation rate of unemployment.

You can go through that for a period of time. It doesn't mean necessarily that once you get to non-accelerating inflation rate of unemployment, that the expansion just ends. There are ways to bring in people who are not even looking for work right now. And again, that goes to this broader measure called employment to population, where particularly in that 25 to 54 that already has started to pick up, but it's got a couple of points that it can go. And then in the 16 to 24 year olds, there's a lot of upside for that. So more 16 to 24 year olds have opted to go into education rather than going into the workforce. There are some workers in that part.

So NAIRU, or full employment, is not the end of the story. There is still labor resources you can pull out from somewhere. So my feeling on that is even though we've reached full employment, it's not going to keep the expansion going for another two or three years. One of the encouraging things that actually has happened in the last year or so is we have seen so-called unskilled or folks who either don't have high school degree or just got out of high school and don't have any college, they're starting to get employed more. So the gap between the unemployment rate for them and college educated has started to come down. I think as we get late into the cycle, there's more of that happening.

COMMITTEE MEMBER MATHUR: And what about the 54 plus group? I would imagine that there's room for additional employment in that category as well.

INVESTMENT DIRECTOR ROTHFIELD: Well, if you look at them, and I'm in that group myself I have to confess --

(Laughter.)

INVESTMENT DIRECTOR ROTHFIELD: -- the --

COMMITTEE MEMBER MATHUR: I hope to be too.

(Laughter.)

INVESTMENT DIRECTOR ROTHFIELD: The participation in the labor force of that group, not only is that population growing very quickly, because between 2010 and 2020, we have a very fast growth of people getting into that 55 and older age range, and even 60 and older age range, not only is their population growing fast, but their participation in the labor force is growing very quickly. It's very high right now and it's still rising.

So, you know, one of the dangers is -- well, it may actually be a good thing for the economy. At some point, these guys are going to get -- people are going to get really old and drop out, and that's going to provide more opportunity for the 16 to 24 year olds. So there's not much left to be had in that 55 and older. Their participation rate has been rising and is now very, very high. And they're rebuilding their balance sheets and, you know, looking forward, at some point, to retirement.

I think one of the encouraging things we have to look for into -- as I said in the next couple of years is that some of those folks are going to drop out and that's going to provide more an opportunity for the younger cohort to get more jobs.

COMMITTEE MEMBER MATHUR: Um-hmm. Thank you.

INVESTMENT DIRECTOR ROTHFIELD: Sure.

CHAIRPERSON JONES: Okay. Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: Two observations, and then three questions. When -- the observation. When you talked about mining, at least in my mind, I didn't consider oil part of mining. It was pointed out that that's part of that segment and so then suddenly it made sense, because I didn't think we did that much mining as mining.

INVESTMENT DIRECTOR ROTHFIELD: Yeah, that's mostly fracking, right, in the U.S.

COMMITTEE MEMBER JELINCIC: And then we had a discussion earlier about how low bond rates are really hurting us. So there would be some upside to higher bond rates, some down sides to it as well. But anyhow, those are the two observations.

The questions are -- and I'll give you all three, so you can think about them. You raised the issue of low productivity growth or negative productivity growth, and I was wondering if you could talk a little bit about the debate about how well we are measuring productivity.

The -- you talked about the length of the expansion being long. But the slope is very low. And I'm just wondering if there is some rationale to saying that the you're reach -- your goal is to reach an endpoint in terms of growth. And so if you have a lower slope, it takes you longer to get there. And so could the lower growth, in fact, be encouraging a longer expansion?

And then the other question is on labor. You know, I'm old enough to remember when employers used to train labor. And now, they say schools, you do it with the taxes. We're not paying. And so we can't find people who are trained unless we bring them in on H-1B visas and -- you know, half the people aren't qualified to do the job do some of the training but -- so productivity, the length and slope, and then labor.

INVESTMENT DIRECTOR ROTHFIELD: Okay. Yeah, the low productivity is clearly an issue in the economy. One of the best proponents of some of the evidence on this is actually the San Francisco Federal Reserve. And, you know, one argument is new inventions like Uber -- or new ways of doing things like Uber, et cetera, have lead to unmeasured GDP.

And so if productivity is just the -- the aggregate hours applied to a given legal of output and we're mismeasuring output, then there's a problem there. And one way to measure that is to say that the price of the service isn't being correctly measured. The price is actually lower, that means the volume is higher and the government is not picking that up.

And there is some argument that maybe that's been the case, but another argument is that, you know, some of the -- I think, the San Francisco Fed paper concluded is that some of the big productivity gains in the economy were really from the mid-nineties to the mid-2000s. And then thereafter, all you're getting is kind of marginal change.

So you get your first iPhone, which is a huge change from what came before it, and then you get just different numbers on the iPhone going up, et cetera. So the productivity is actually being measured okay. And one of the reasons we have low productivity is actually probably something like, you know, we're a more service orientated economy now, which has kind of low rates of growth of productivity anyway.

So we haven't really had any major breakthroughs that have led to very strong productivity. It's hard to come down on either side of that argument, but I personally think the more compelling argument is we're kind of stuck with this low productivity environment that we're in.

With the demographics that are going on in the economy, you know, some of the work that's been done is said as the population ages, you tend to get lower productivity as well, for one reason or another. So they look at different states with different aging rates and conclude that per capita growth and productivity are lower when there's less -- you know, the demographics are starting to work against you.

So I would say that probably we're still in that low productivity environment. There are some measurement issues around trying to price and value some of the new products that are out there, but I think that's probably a smaller part of the story.

In terms of the -- yes, we have had lower growth in the economy, but it's also partly because we've just got lower potential growth as well.

So the unemployment rate has come down just as quickly in this cycle as it did in the last cycle, just because we haven't had, you know, the same productivity or labor force growth than we did last time. But I think an important point is that unlike the last cycle, we haven't had this massive increase in leverage as you get into the economic cycle.

So what happened last time is that households just went crazy. The government was borrowing more, because we were still -- you know, defense spending was going up. The household sector was doing a lot of home equity loans, things like that, and the corporate sector was borrowing at double digit rates as the economic expansion went on.

And as a result, I think one of the penalties for that is not only did we have a shorter cycle, but when it flamed out, it was a very hard landing. I think the most important thing about this cycle is not only that we've kind of -- it's a low productivity improvement is we haven't really had an increase in leverage. The government deficit has been coming down, household sector has remained a supply of funds to the market, our trade deficit, as a consequence, hasn't widened out, so you can have lower and longer growth, as a result of that. And that's a good thing for the economy, I believe.

And then the third thing about skills is, you know, 16 to 24 year olds have increased their -- or they've reduced their participation in the labor market and gone out and got education. The question is whether that education is correctly aligned to what's happening in the corporate sector. We know during the Great Recession, a lot of young people actually went and got a degree, because there wasn't that much else to do.

So they're having difficulty getting high paying jobs that were related to the education that they got. We do know from something called the Beveridge Curve, that right now -- which kind of relates to scarcity in the labor market --

COMMITTEE MEMBER JELINCIC: I'm sorry, you said beverage?

INVESTMENT DIRECTOR ROTHFIELD: Beveridge Curve. Not beverage as in drink, it's a guy called Beveridge.

COMMITTEE MEMBER JELINCIC: Oh, okay. Thank you.

(Laughter.)

INVESTMENT DIRECTOR ROTHFIELD: I can send you the material on his curve, but it's basically showing that the -- if we had the right skill match, the unemployment rate now would be four percent or even lower. So the fact that we still have unemployment -- unemployment close to five percent really means that firms are asking for one thing, and they haven't got that much left. So it would be a good policy prescription to have a better immigration program, more targeted education of workers.

COMMITTEE MEMBER JELINCIC: And more employer training?

INVESTMENT DIRECTOR ROTHFIELD: More employer training, sure.

COMMITTEE MEMBER JELINCIC: Thank you.

CHAIRPERSON JONES: Yeah. Mr. Rothchild[sic] on your response to J.J.'s question on productivity, are we really in a new normal, because all of the business expansion is -- like you said, is embodied in services, applications, Facebook, Uber. I mean, they're not producing anything, so are we in this for the long term, because every time there's a new IPO, it's in the application or the technology area, and it's not necessarily construction or building things that will help also drive the productivity and the economy.

INVESTMENT DIRECTOR ROTHFIELD: Right, it's not being picked up in broad numbers of economic activity. So you know, somebody who is spending a lot of their time playing on an iPad is just a constant stream of services from the same initial purchase, rather than going out and spending money on this and that, over time. So we are in that low productivity environment. I think we are in a new normal. And the other thing that contributes to that is somewhat the demographics, which is the aging of the population and the demand for services that comes along around that.

So part of the problem in Japan wasn't only the bubble they had, but their population, their dependency ratio, has really gone up. So the number of people in working age that are around relative to the people who are dependent, either youth or old, has gotten really weak. And so you are seeing more spending on some of these low productivity activities like health care as well.

So I'm -- I would say that I'm in that low -- that new normal camp. You can't have cyclical growth periods above and beyond that. But overall, we're probably likely to stay in this low environment. And it is interesting that the Fed itself has gone through this whole process itself. So the Fed's own determination of what the potential growth of the economy has gone from about 2½ percent a year down to below 2 percent.

And the Congressional Budget Office has a similar assumption where they've reduced their estimates, and I think that that's probably a prudent thing to do.

CHAIRPERSON JONES: Okay. Thank you.

INVESTMENT DIRECTOR ROTHFIELD: Sure.

CHAIRPERSON JONES: Mr. Costigan.

COMMITTEE MEMBER COSTIGAN: Thank you, Mr. Jones.

So I really do appreciate this conversation. I just -- things so that I can better understand it. So when you look at sort of the correlation of housing going up, okay, the valuation of housing going up -- and I've seen it out where I live. I've got folks in my hood -- or neighborhood who have been flipping homes last year, which has been pretty amazing, given where the price is.

But wages are stagnant, and so -- and interest rates are low. So what I'm just trying to figure out is when we look long term is -- so the moment interest rates go up, it means your qualifying ratios get higher, to be able -- but your income is stagnant, so now the home that you could afford this week, you can't afford next week, because interest rates have risen. When does the cascading effect begin?

Because I know -- and then when you talked about -- and I'll throw some in. I've got a few questions. But then we have household spending is up, and -- which is a good thing. And I recently read an article, I believe it was in Market Watch, that the new affluent gig economy has a taste for high-end watches, expensive wine, and automobiles, which watches aren't worth much afterwards, automobiles depreciate, and wine you drink.

(Laughter.)

COMMITTEE MEMBER COSTIGAN: And then when you look at savings, at least in the chart that you have, while it's up, it's trending down. At least that's the way I read the chart is that household savings -- savings -- so I'm just trying to correlate all of this. So you've got the standpoint -- you've got rising housing, stagnant wages, tight labor market, disposable income spending going up, savings going down, 16 to 24 year olds potentially going into the marketplace -- and back to, I think, Mr. Jones's point, when you look at, whether it's Uber, Lyft, or Airbnb, we're not producing anything, and it's still a small group of folks where you're seeing sizeable wage growth. So I'm just trying to -- what should we be looking for?

INVESTMENT DIRECTOR ROTHFIELD: Well, yeah, what we do -- tend to do on a monthly basis is we kind of -- or quarterly basis is map where some of these different contributors to growth are within the continuum. Are they looking overheated, are they looking still mid-cycle, late cycle? A lot of asset allocators tend to do that.

So with regard to housing, there is a measure that the home builders put out called the Housing Opportunity Index, which is, in a given quarter, taking 200 cities or so in America, what percentage of houses sold were the new or existing homes can be afforded by a person on a median income?

And that number has actually obviously come down a bit, but it's actually still pretty high at 65 percent. It's higher -- it's certainly higher than it got during the last bubble that we had in housing, way more affordable. So 65 percent of houses sold in America can be afforded by the person on a median income -- household or median income. And that's still a pretty good number, despite, you know, at some point, mortgage rates are going to go up. Actually, people can get mortgages still, so that's kind of preventing that from being more of a fully blown price bubble.

In California, it's different. That Housing Opportunity Index is down to about something like 11 percent in the Bay Area or something. So only 11 percent of houses sold in California, particularly the Bay Area and Los Angeles, San Diego can be afforded by a person on a median income. So if you look around the rest of the country, you're not seeing these conditions in the market.

In the Bay Area, one, you know, would have to give pause to think that we're pretty close to the end of the housing cycle, if you look at those affordability indices. And of course, this is an area where because of tech and various other things, income has tended to outperform the rest of the country.

So if you even look at things like rent inflation, and those house prices, the west is different to the rest of the economy. And I would say that things are relatively well behaved in other parts of the economy on the housing side.

With regard to the household spending, what we tend to look at there is income growth, which has been very stable. So if you multiply the number of new employees by their wages, you're still growing at about a four to five percent rate, which is great. It's been very stable since about 2012. You're not seeing that starting to tail off. You're getting a little bit less employment growth, because you're running out of workers, but you're getting a little bit more wage growth to offset that. So that's been very stable.

As you point out from that chart on page nine, the household savings rate has come down a little bit. But overall, it's still much higher than it was in the last expansion. So it's still -- it's still above five percent. And again, what that means is, you know, the government does, in their flow of funds analysis, how much money is coming out of the household sector into savings? It's something like $500 billion a quarter, which is the excess of income growth versus what's spent on current goods. And the rest is going into savings.

And so if we started to see that number come down, as it did in the last expansion, then you'd start to say, you know, the household sector is kind of getting a little exuberant and spending too much money, but there's not really much evidence that that's happening yet. The pool of outstanding mortgages in the economy is actually still coming down. Student loan outstanding has gone up, but credit cards and things like that are just very stable.

So you're not -- we do look at whether you start to see some of the sectors of the economy engaging in more exuberant behavior, and to start to call an earlier end to the cycle. We just don't, on aggregate, see that happening in the household sector, not withstanding some of the things that you've mentioned there.

COMMITTEE MEMBER COSTIGAN: So we're not seeing the same leverage that we saw in 07-08 among consumers, credit card debt? I mean, I often wonder, when you look at new cars sales for example, is it the availability of cheap zero percent interest at -- I mean, we've gotten addicted to cheap credit.

INVESTMENT DIRECTOR ROTHFIELD: Yeah, I would say that that's -- you know, there has been a rebound in auto sales, and that's partly because, you know, some of the fleet -- the fleet buyers of cars were not doing it during the Great Recession and they've kind of gone back to where they were, but it's also happening, to some degree, just in the household sector.

So, you know, desirably there what's one thing that's happened is they've been buying more energy efficient carts, et cetera. So it's been taking kind of less of a financial wallet share, the growth in the spending on cars.

And you're starting to see that level out right now. So all the buying that wasn't done during the Great Recession has kind of started to level out a bit now. And there has been a little bit of a rebound in spending as gas prices have come back down, but it hasn't really been excessive.

So one of the things that's been going on in the household sector is household spending has been very stable at below wage growth, but there's been a change in the wallet share. So there's been underspending on things like gasoline, where the price has come down, but there's been an increased spending on things like health care. As people have come under the ambit of the Affordable Care Act, and they're buying their own insurance, the spending on that has gone up. So there's been a shift in wallet share between different things in the household spending area. But overall, the level of spending in the economy has been very stable and well behaved relative to that cycle in the 2000s.

COMMITTEE MEMBER COSTIGAN: All right. Appreciate that you've done an excellent report. Maybe the next time you do it, I'd like just a little more on the credit aspect of it, just to see where consumers are going. Because when you look at the two charts, real disposable income seems trending downward. I mean, not the spike that we saw even in 12-13, and then the same thing with personal, just a little tick.

And then the more we hear about student loan debt, I mean -- although I try not to incur it for my kids, I understand that that share of where disposable income goes. And then when we see a spike again in energy, or when we see an increase in energy -- again, fuel costs are extremely low. It is the equivalent of a multi-billion dollar tax cut when you look at what we're paying four dollars and something a gallon two years ago. Now, if it's above 2.50, you're complaining.

I mean, it's really again the psyche that we've gotten into, so -- but excellent report.

Thank you, Mr. Jones.

CHAIRPERSON JONES: Okay. Thank you.

Yeah, another question of the -- a number of corporations when you look at their balance sheet, they're sitting on enormous reserves. What do you think is going to happen in the future? Do you foresee them releasing those -- that cash that they're holding for expansion to maybe help the economy going forward or --

INVESTMENT DIRECTOR ROTHFIELD: Yeah, what you often see is this is being used for share buybacks, taking advantage of cheap credit, right? So that's happening a lot in the economy.

The other thing I'd probably mention is that if you look at investment -- business investment in the economy, it's actually -- its share of gross product is actually quite high right now outside of mining, which has done this big u-turn. So businesses have been investing for a low growth economy. So investment has definitely picked up since 2008 in the IT area. In the auto sector, there was a reinvestment after the crash, et cetera, so -- and even in things like an aircraft, et cetera, that kind of investment in the economy actually has been fairly high.

One thing that corporates may be missing is that investment can create its own demand. So if you're employing people, you're doing various things with that investment, you're actually creating the demand for your investment. And we haven't seen much of that go on in the economy. So corporates have been very cautious. And they're tending to hold a lot of that cash reserves abroad, of course, because of tax reasons. So they don't see it as, you know, lucrative to bring that money back and put it to work in the U.S.

So will, you know, some future administration or policy change get businesses to increase investment and create a self-fulfilling demand? There's a possibility that policy settings could lead to a bit of an increase. But again, I think that because of demographics and other things that are keeping down potential growth of the economy, firms are operating in that cautious environment add not getting ahead of themselves.

CHAIRPERSON JONES: Okay. Thanks.

Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: Just, I guess, a sort of technical question. 401(k)s, IRAs, are they considered savings or do they just disappear from the disposable income?

INVESTMENT DIRECTOR ROTHFIELD: They're diversions from disposable income, so it's counted as part of unspent income. So it is treated as part of the savings ratio.

COMMITTEE MEMBER JELINCIC: Okay. Thank you.

INVESTMENT DIRECTOR ROTHFIELD: It's current quarter income that's not being spent.

COMMITTEE MEMBER JELINCIC: Thank you.

CHAIRPERSON JONES: Okay. Thank you, Mr. Rothchild[sic] for your informative comments.

INVESTMENT DIRECTOR ROTHFIELD: Always appreciate the questions.

CHAIRPERSON JONES: I always look forward to it.

Who's next, Ted?

CHIEF INVESTMENT OFFICER ELIOPOULOS: Sure. I am, Mr. Chair, and I will go quickly through my -- I truncated my presentation to two pages here, and then I'm going to turn it over to Wylie to go over performance attribution and Eric to go over the asset allocation of the fund.

The performance summary of the total fund for the fiscal year-ending, this is our moment to reflect in a sort of moment of transparency and accountability as well, how did we do?

And looking at how the fund did from a total return basis, we returned 0.61 percent for the fiscal year as the Committee knows as of the year-ending June 30th. And the main drivers of this return were a weak year for global equities, a negative, you know, 3.4 percent return highlighting the benefit of the diversifying assets within the portfolios, specifically fixed income and real estate, providing positive 9.3 percent and a positive 7.1 percent.

As I had mentioned at the off-site, that return for fixed income on an absolute basis and on a benchmark basis is quite astounding, a positive 9.3 percent return, reflecting that 1000 basis point decline in interest rates for the year.

The other point on this slide to think about from an absolute basis is looking at our five-year, 10-year, and 20-year returns have moderated, taking into account the last two years of challenging overall total fund returns.

We highlighted the fact, for instance, that the global equity five-year returns were 6.1 percent for that five-year period, and contrasted that to the assumption in our 2013 ALM of expecting a 9.2 percent return.

The other part of the performance summary for the fiscal year is to look at what we did on a relative basis. And there's -- this is the accountability part of the -- of our exercise of looking at how we're doing from time to time on a regular basis.

And here, the total fund had an underperforming year from a relative basis, a negative 41 basis points. Looking out for the longer term, we basically were flat over the three-year period at a total fund relative performance, and, we've had positive 13 basis point peformance for the past five years.

The main driver of the underperformance for this fiscal year was the Real Estate Program, which really had three factors in this fiscal year, negative factors. One was the sale of the $3 billion Opportunistic Program. And we expected that to be -- have that impact, so it was known and expected and forecast.

Secondly, we had a valuation change or a valuation impact from the year's appraisal of our non-core assets, specifically our CenterPoint holdings, and our housing portfolio took a negative valuation, certainly compared to the U.S. core benchmark that we're comparing against.

And lastly, our emerging market holdings in real estate underperformed quite significantly compared to the

U.S. core benchmark.

We're monitoring that carefully, looking at it. But again, those were risks we intended, we accepted, and they underperformed for this fiscal year. But looking out over longer periods of time, we're comfortable with the positioning of the portfolio. The real estate portfolio on a five-year basis is ahead of its benchmark.

Last, I'd like to note on a positive point, the contribution on a relative basis of our public asset classes, global equity and fixed income, continue to drive strong relative performance for the fund.

--o0o--

CHIEF INVESTMENT OFFICER ELIOPOULOS: In terms of the positioning of the fund, we're closely aligned to our interim asset allocation targets throughout the past year and currently. The main risk to the allocation of the fund is the one we've been talking about, which is the predominant allocation to growth assets in the current asset allocation.

I will stop there, because I think we have more detailed attribution coming from Wylie, and turn it over to Wylie and then to Eric, and then we'll sum up.

CHAIRPERSON JONES: Hold on Ted, I think we have a question for you.

Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: Ted, one of the things that makes us different than our peers is our more global equity portfolio. We had -- public equity had a negative 3.4. How much of that was from international versus domestic? And if it was in here, I didn't see it.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Much of it is from the relative poor performance of the international markets versus the U.S. I do believe we have some slides coming up, if not in our -- in our slide deck, certainly in Wilshire's slide deck, but --

COMMITTEE MEMBER JELINCIC: Okay. Then I'll defer on the question.

And the other observation I will make is we are doing so much better in the equity market since we got a new CEO.

(Laughter.)

COMMITTEE MEMBER JELINCIC: Not sure it was cause and effect, but take credit where you can.

CHIEF INVESTMENT OFFICER ELIOPOULOS: We'll take it. We will take it.

--o0o--

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: No, we'll take it. So this -- Wylie Tollette, CalPERS staff. Thank you for your attention to this. This is a slightly more quantitative decomposition of the absolute returns of the portfolio here on slide 29. So it's the -- it's sort of looking at where performance came from and where it didn't come from. As noted, the negative 3.4 percent return in global equity was the primary negative contributor to the fund's total return.

And, Mr. Jelincic, pursuant to your comment, there were generally positive returns in U.S. markets. However, those were more than offset by negative returns in international markets, and emerging markets in particular, which had a very difficult year.

However, demonstrating the benefits of diversification, the fund experienced positive returns in fixed income, because of continuing declines of interest rates. They were historically low last year, and now they're actually historically lower. And so we saw price appreciation in our fixed income portfolio, in addition the real assets portfolio. The core U.S. real estate continued to do very well, not as well as the benchmark, which I'm going to get to in just a slide or two.

--o0o--

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: So on page 31, it's always helpful to look at what the Investment Committee assumed were going to be the levels of risk and return for the different asset classes versus what we've actually observed in the marketplace.

And this chart attempts to capture that. There's a lot of data points. So rather than try to capture them all, I'm going to highlight just a few of the big movers. One of the biggest movers there is actually inflation. You'll see that the returns to the inflation asset class are significantly lower. Although, the level of risk is comparable, but inflation has been a dramatic underperformer, largely because inflation has been very muted in the overall economy.

You can see fixed income has actually been moving in exactly the type of direction that you'd like to see. It's been lower risk than expected, but higher return. So if you look at the green triangle -- and apologies to the color blind -- but you can -- we've tried to illustrate it with the acronyms next to the boxes in the triangles, but you can --

COMMITTEE MEMBER JELINCIC: And I appreciate it.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: You can see fixed income has actually outperformed our assumptions.

Real estate again has moved sort of in the direction that we would like to see. You can see the -- where we thought the risk would be, and where we -- what we've actually observed, and the returns have been higher. However, the largest asset class in the portfolio, the public equity portfolio, you can see. That's been lower risk overall than originally assumed, but also lower return.

And because it's more than half the portfolio, that has a significant impact on the overall returns of the fund.

--o0o--

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Turning to slide 32, I think the chart on the left is perhaps one of the more illustrative ways to understand the long term returns of the fund across different asset classes.

Over the 10-year period, you'll note that private equity exceeds the 7½ percent over the 10-year period, so it returned 10.2 over that 10-year period, and that real estate returns are actually finally back to even. So I'll let that sink in for just a moment. But essentially, for the last 10 years we've just climbed out of a very deep hole that the real estate portfolio entered into back in 2006, and we're just getting back to even.

You'll also note that the 10-year returns from fixed income actually exceed the 10-year returns from public equities, by a fairly significant margin. Once again, that's certainly different than what we would have expected 10 years ago. And that's not necessarily aligned with the typical behavior of those asset classes, but that's what the last 10 years has delivered.

--o0o--

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

This is a new slide that we've added to the deck. We used to cover attribution only at a high level, but the Committee requested, and due to much work from our -- from Michael Krimm, who's sitting behind me, my new Investment Director in the Investment Portfolio Analytics Team. We've come up with an attribution model that we think makes sense for CalPERS.

I'll walk through it. I'm not going to cover every number on the page. I'll focus on the right-hand columns. So as I mentioned earlier, the performance contribution slide that I covered just a moment ago decomposes total return. Performance attribution covers and decomposes relative return.

It's a really important tool in understanding an investment portfolio, and also in how you manage an investment function, because it allows you to really align accountability with the organizational structure, and the asset classes and programs that you have under way, and to make sure that they're working as intended.

So I'll highlight a few key elements, and I'll focus on the right-hand three columns. So you can see in the top row though -- there, relative to the benchmark, excess returns, were negative 41 -- negative four for three years, and a positive 13 for five. Those are the numbers that Ted covered earlier.

Also, in the one-year column, you can see, just as Ted mentioned, that real estate was the big detractor at a negative 49 basis points to the relative returns. You'll also notice a negative 20 basis points from the allocation activities of your Investment Office staff relative to the strategic targets. And that can be summarized by saying that we entered the year with a slight overweight to equities -- to global equities. And, as I mentioned earlier, global equities actually underperformed. They had a negative return this year. So that slight overweight that we entered the year with didn't payoff this year. It actually detracted from the fund.

The next row requires a bit of explanation. And so, as you know, we haven't been able to achieve our full interim targets in the private equity and real assets area. There haven't been enough opportunities that meet our underwriting standards and our expected rates of return in those asset classes, so we haven't been able to get to our full, say, 10 percent allocation interim target for private equity.

So we have to park those assets in global equity or fixed income. Well, global equity and fixed income don't return -- don't have the same returns as the public asset classes. And this is that impact of that proxying we call that, when those assets are parked in the public asset classes.

And so we've separated that out, because we don't want to basically hold the public equity asset class accountable for that. That's really a challenge of the private asset classes, so we want to make sure to pull that out in the attribution and reflect it as a separate line.

You can see in the three-year returns, the public programs, as Ted mentioned earlier, were positive contributors, and that was offset by negative relative returns in the private asset classes. And you can also see that 13-basis points detraction from the proxy work that we've been doing.

It's important to note as well that the asset allocation team is working and has been as part of the overall portfolio priorities project, in looking at alternatives -- alternative ways to proxy those asset classes, and they've made good progress. And we hope to come back to the Committee as part of the asset liability management exercise with some new alternatives in the proxying capabilities of the office.

Finally, over five years, I'll just highlight once again the public programs contributed a positive 24 basis points, while the private programs had a negative 18 relative to the benchmark. And the underweights to those private asset classes contributed a negative 19, the proxy impact.

And finally, you'll note a positive 27 basis points of return relative to the inclusion of the currency hedge as a five percent weight in the policy benchmark calculation from the years 2009 to 2013. This approach was discussed with the Board, and that approach was changed in 2013, but there was a relative return impact when you go back to the five-year attribution.

So there's a lot of numbers. You can -- we use this new attribution model quite extensively as part of our internal investment discussions, and it's proving to be quite a useful tool, and we look forward to bringing it to the Committee in future trust level reviews.

So I'll pause. Before I turn it over to Eric, I'll see if there's any questions.

CHAIRPERSON JONES: Yes. There are a few.

I have one. On the allocation impact, year one, 20 percent negative, is that number -- does that number show up in that information or Sharpe Ratios?

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:
Yes, it does.

CHAIRPERSON JONES: Okay. So when I see the Sharpe -- is it information or Sharpe?

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:
Well, it would show up in both actually, because the total impact of our allocation efforts shows up in the total return of the plan obviously. And that's the top, that's the numerator in a Sharpe Ratio calculation. And it also would show up in an information ratio, because that's the active risk -- the active return divided by the active risk of the plan. And that would show up as an active return, the negative 20 basis points, so it shows up in both.

CHAIRPERSON JONES: Both. Okay. Thanks.
Mrs. Mathur.

COMMITTEE MEMBER MATHUR: Thank you.
Yes, I really appreciate your including this attribution slide. I think it's really helpful and instructive. I have a couple of clarifying questions to make sure that I fully appreciate or understand it. One is that the excess return and the contribution to plan excess, that's based on each asset class versus its own benchmark, correct?

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

That's correct.

COMMITTEE MEMBER MATHUR: So it's not -- okay. And then, two, this private asset class proxy shortfall, that is the difference the expected return for the private asset class and whatever the fixed income or public equity it was -- the money was parked in or as the allocation impact is the actual underperformance of those public markets versus their benchmarks for the assets that were allocated from the private asset classes --

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Yeah, that's a great way to it.

COMMITTEE MEMBER MATHUR: -- is that right?

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: In other words, maybe said a slightly different way -- you're right. To say it a slightly different way, the global equity asset class, in addition to being overweight due to an active decision by the staff to overweight private equity, in addition, private equity was also the area that we had to park the underweight that we -- where we could not achieve our private equity target weighting.

We didn't want to hold, say, the asset allocation team accountable for the fact that we couldn't get to our private equity target weight, so we pulled that out of the allocation impact row, and that amount is included in the proxy shortfall row.

COMMITTEE MEMBER MATHUR: Okay. So now I'm not sure I understand. Let me -- let me -- let me restate it again and just to make sure.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:
It's confusing.

COMMITTEE MEMBER MATHUR: So the full assets that you had allocated -- that had been allocated to the public asset classes on behalf of the private asset classes basically, all of the negative return impacts, the negative from between the private asset class benchmark and the public asset class actual returns is encapsulated in the proxy shortfall?

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:
That's correct.

COMMITTEE MEMBER MATHUR: Whereas, only the active overallocation that was taken by global equity itself -- or public, is in the allocation impact?

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: The allocation impact is actually taken by the Investment Office as a whole.

COMMITTEE MEMBER MATHUR: Right.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:
It's -- those decisions are made by the ISG, by our Investment Strategy Group.

COMMITTEE MEMBER MATHUR: Thank you. Yeah.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: So in other words, the public equity there is -- the public equity line, for example, is strictly the performance of the public equity asset class versus its benchmark.

COMMITTEE MEMBER MATHUR: Right.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: And it attempts to exclude any of the assets that might be either allocated to it or taken from it by the allocation activities of the office. Once again, the idea of attribution is to try to take the return -- the total after-return and decompose it, and then assign accountability for it to the different decision-making functions.

COMMITTEE MEMBER MATHUR: Okay. Fair enough. So the -- so the Investment Strategy Group decided to overallocate to public -- to global equities?

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

That's right. And that's captured in allocation.

COMMITTEE MEMBER MATHUR: That's what's -- that's what's in the allocation impact.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Yes.

COMMITTEE MEMBER MATHUR: Okay. Great.

The other slide that I really like is on page 13, the one that the asset liability management assumptions.

I think that's really --

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: Oh, slide 31.

COMMITTEE MEMBER MATHUR: I'm sorry, I said 13. I meant 31. I'm feeling dyslexic today.

I do think it would be useful if the size -- and this might be challenging -- the size of the squares and the triangles reflected the size of the asset class. You've seen that -- I've seen that with bubble-charts before, but that gives you a sense of sort of the impact of each of those asset classes. We know it, in any case, but it would be helpful.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: No. Good comment. We'll see if we can architect that within Microsoft Excel.

(Laughter.)

COMMITTEE MEMBER MATHUR: I couldn't.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: No, I don't have the skills, but I may have folks on my team who do.

(Laughter.)

COMMITTEE MEMBER MATHUR: All right. Thank you.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: Thank you.

So with that, I think I'll --

CHAIRPERSON JONES: Wait just minute.

Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: Yeah. This goes back to the proxy shortfall. To the extent that we've put additional resources into public equity, because we -- the private equity can't absorb it for whatever reason, and so we park it in public equity, the -- does public equity get credit for the earnings on that incremental contribution or does it get backed out somehow so that it's not counted twice?

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

They're still head accountable for the performance of all of the assets that have been allocated to them on an active basis. So they have to try to meet or beat their -- the public equity benchmark. What the proxy shortfall represents is the fact that the public -- our public equity performance doesn't match the private equity benchmark. So the private equity benchmark, as you know, is a -- well over this particular time period, there's actually a few different private equity benchmarks, so it's not just one.

But the most recent private equity benchmark is two-thirds U.S., one-third international public equities, plus 300 basis points. And our public equity portfolio, where we had to park those assets, was not able to beat that. And this reflects the impact of that.

It also, by the way, reflects the impact of the timing, because private equity benchmarks are lagged, as is the valuations, because of -- that's a private asset class where it takes awhile for us to get all the returns and valuations in from the different partnerships. And the public equity benchmark is not lagged. It's current. So both of those impacts are rolled into this proxy shortfall number.

COMMITTEE MEMBER JELINCIC: Thank you.

CHAIRPERSON JONES: Okay. Mr. Cobb.

ACTING COMMITTEE MEMBER COBB: I was thinking -- looking at that attribution analysis, I was kind of thinking back to some of the discussion on Item 6 around the -- you know, the broader targets in some of the real estate policy. If built out further, is this kind of attribution analysis the kind of thing that could serve as a tool to kind of judge whether those -- you know, that discretion is paying off for the system?

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE: I think, in general, the answer to your question is yes. Attribution at a total fund -- I would just comment that attribute for a total fund, where your decisions are really to allocate to an asset class or not, those are kind of the levers that you have to apply.

When you get down into an asset class, you may have a slightly different attribution model. So for example, in real estate, we might look at an attribution model that looks at the amount of leverage, the type of real estate, apartments versus retail versus, you know, medical/dental offices things like that, to look at that, because some of the categories that we're using at the total fund wouldn't necessarily make sense.

But absolutely, those are the types -- that's the type of information that we're building out, again, within our portfolio analytics team to try to improve the investment decision-making process, and our ability to assign and determine the impact of our decision-making around that.

ACTING COMMITTEE MEMBER COBB: Thank you.

CHAIRPERSON JONES: Okay. That concludes the questions on that item. Moving forward.

Wait a minute.

Okay. Thank you.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Are you ready to proceed Mr. Jones?

CHAIRPERSON JONES: Yes.

MANAGING INVESTMENT DIRECTOR BAGGESEN: Perfect. Eric Baggesen, Managing Investment Director for Asset Allocation and Investment Risk Management.

I'm just going to touch on a couple of slides very briefly in the interests of time, and the fact that we've kind of run our time limit, and we want to leave a bit of space for the consultants to have a few words.

The asset allocation Ted touched upon it. Again, you can see the equity weights have been -- drifted around a little bit to overweight from underweight. In general, we're very, very close to the overall interim benchmark targets for the plan.

--o0o--

MANAGING INVESTMENT DIRECTOR BAGGESEN: I did want to just touch briefly on this chart. We usually don't spend too much time on this particular graphic. But if you notice, you will see just how the picture has evolved over an 11-year period on the asset allocation. And certainly, you see the choppiness in the line, the drawdown that happened in the 2008-2009 kind of time period. And it's really illustrative to understand that that drawdown happened from the first layer, of the bottom layer, of this chart, which happens to be the public equity exposure. So you can viscerally see exactly how that equity risk really drives the entire fund. And we'll see this again in just a moment.

The other thing I would point out, you see that the effects of the low returns that we've had over the last couple of years in flatlining the value of the total fund, the last two years on the chart.

Another element that has contributed to that though also is the shift in the asset allocation that we did in the last ALM exercise, where the Investment Committee and the organization consciously attempted to shift a little bit of the risk away from the equity asset class. So we actually reduced, to some extent, the weights on equities, while boosting a little bit towards fixed income and the inflation assets, so that that's -- that's another element that has contributed to these observations.

--o0o--

MANAGING INVESTMENT DIRECTOR BAGGESEN: I'm not really going to say too much on the risk highlights. We'll get to the VAR chart here in just a minute.

--o0o--

MANAGING INVESTMENT DIRECTOR BAGGESEN: The only point I would make on this line graph that we have on page 38 is the fact that there's a difference between the volatilities that we estimate for the fund versus the volatilities that we actually experience for the fund.

So there's a definite gap between the modeled volatility, where we are attempting to take all of our private assets and identify a market moving proxy for those assets, so that we can impute volatility movements on top of that in contrast to the actual accounting for the PERF where we sustain the smoothing and the delayed pricing and the pricing to models in those private assets.

So there's a methodology gap between our modeling exercise versus the actual accounting for the fund. So you need to be very careful that you understand, when we talk about volatility measurements, what exactly are we talking about? Is it the realized volatility or is it the modeled volatility, because we have a definite gap between those two measures?

--o0o--

MANAGING INVESTMENT DIRECTOR BAGGESEN: This page reflects the VAR characteristics and the conditional VAR characteristics of the fund. The bottom line of this is I would point out that in an extreme market environment, we would not be surprised to see a movement in the valuation of the overall fund by, you know, $18 billion over the course of a month.

And certainly, we sort of led into the whole Brexit experience, experiencing some of that, and then actually a tremendous snapback in the opposite direction

The thing that I would point out to you though is that the great preponderance of the area where this VAR volatility, or change in value, comes from is that left-hand bucket on the chart, which is public equities. Again, we keep harping on the fact that the risk in the plan comes from our public equity exposure. And this is a very graphical illustration of that simple fact.

--o0o--

MANAGING INVESTMENT DIRECTOR BAGGESEN: And the last chart I would point to is yet again this equity risk. The pie charts on the left-hand side show the actual asset allocation. So our growth related assets of public equities and private equity represent about 61 percent of the overall asset allocation. When you look on the right-hand bubble pie chart, that's the contributions to volatility. And over 85 percent of the volatility in the outcomes of the plan comes from those two assets that represent closer to 60 percent of the allocation. So they have a disproportionate effect.

And then if you look at the line graph in the bottom segment of this page, you see how exactly the outcome to the PERF aligns with the outcome to these growth-related assets, so that -- you know, we keep saying that to some extent, this is an undiversified portfolio from a risk aspect perspective. Even though we have tremendous diversification on individual positions and company exposures, this portfolio, very typical with public plans here in the United States, is very much an investment into growth related assets.

So if economic growth works out for the country and for the globe, this portfolio does very well. In an environment where growth is challenged, if you think back to John Rothfield's comments, this is a place where the portfolio becomes more challenged. And that's exactly -- this all underlies the comments that Ted made this morning to open up this session.

The fact that we are in a challenging return environment, which is really being driven by the fact that globally we're not seeing a tremendous amount of economic growth. And the world is obviously going through major shifts, either demographically from an energy perspective on a number of different fronts.

And I think with that, I would stop and ask if you have any questions, and we probably then could turn it over to the consultants.

CHAIRPERSON JONES: Okay. We have one.

Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: I have fairly consistently asked about the MAC, and I keep getting told, wait until August, wait until August. It's August.

(Laughter.)

COMMITTEE MEMBER JELINCIC: It's slide 54. And what is in there? I mean, when I look at standard life, they do basically half of what the fund did as a whole, but they also did it with 11 percent less volatility. On the other hand, AQR had 174 percent of the return to the whole fund with only 37.9 percent more volatility. What's in there and what are these guys doing?

MANAGING INVESTMENT DIRECTOR BAGGESEN: That's actually a really good question. And I would say that the thing that is in here that is having the effect of this is both of these organizations are running some iteration of risk parity. And in order to actually do that, it requires the application of leverage. So I think leverage and how that leverage is applied is the greatest differential, Mr. Jelincic, on where these returns are coming from.

I think probably what we should do is come back though and have a more complete discussion at some point of this. I don't think that we could get into all the details right now. But the fact that you keep asking this question proves that you're curious about the category.

COMMITTEE MEMBER JELINCIC: Okay. I will accept that, but I hope that it's not, well, wait until August, wait until August.

Thank you.

CHAIRPERSON JONES: Okay. That -- no further questions on that one. So that concludes staff's presentation. But before I call on the consultant, we have a request to speak to this item, Susan Webber, if you're in the audience. If you'd come down on my left here to the chair. And you will have three minutes to speak. And the timer will start once you start to speak.

MS. WEBBER: Thanks so much. Strange as it may seem, I'm here to offer some helpful advice. Many of you know me through my website where I've been a critic of you folks in private equity. But since you may not know the rest of the things that I write, I'm actually a big supporter of government providing pensions. And I'm a very big critic of the efforts to privatize them.

And therefore, when I look at your efforts to communicate with critics, I see that you are falling into some of the patterns that the unions exhibited in terms of operating generally tactically and being defensive. And that winds up accepting -- oftentimes accepting the framing of your critics, which isn't to your advantage.

What was encouraging about the discussion this morning around the chart that Mr. Eliopoulos presented is -- you know, is the candor about acknowledging the overall strategic issues. And I'd encourage you to be more strategic in your discussions with the public. And, in fact, some of the things -- and I think you've got much better messages that you can convey, despite the difficulty of this overall situation, and, you know, even despite the fact that I sort of disagree with you tactically on your not lowering the a 7.5 investment return target.

You know, the way the conversations have gone around that sort of illustrate the general pattern that you've got better message -- you can -- there's an opportunity to shift the conversation to other topics. And, in fact, some of it came up in the Board meeting today, that the fact there's a difficult return environment, you know, is something that people -- that parties other than CalPERS face, you know, articulating that this isn't just a CalPERS problem, that it's a problem for all long-term investors, that it's a problem for savers. And using that as an opportunity to reiterate the fact that if it's hard for CalPERS, it would be even harder for private individuals, you know, to make the bigger strategic point that CalPERS is still better positioned to do this than other parties.

Similarly, the sort of discussion you had, you know, with Ms. Mathur and Mr. Jelincic mentioning the fact that we need better growth policies. I would go much further than just talking to your lobbyists about this. There really -- there is sort of belatedly an emerging consensus among economists that we've had a very long term set of bad economic policies for growth. That what looked like was working for 30 years is now looking like it -- that it wasn't such a good policy mix, that we need much more emphasis on wage growth. We need much more spending on R&D, that there's an emerging consensus that running deficits on an ongoing basis is actually -- is actually productive, and, of course, the point about infrastructure spending.

And not just talking to your lobbyist, but actually being a much more forceful external advocate for better growth policies. You know, similarly, the other thing, and I wish I'd heard it more discussed this morning was the role of the Fed in this. That the difficult environment is driven to a very large degree by not just -- not just the Fed, but the central banks around the world.

CHAIRPERSON JONES: Ms. Webb[sic}, your time is up.

COMMITTEE MEMBER JELINCIC: Henry.

MS. WEBBER: With all due respect, you have not obtained the permission, Mr. Chairman, under Bagley-Keene to limit the time of speakers. There's certain steps you have to take to do that and those have not been taken.

CHAIRPERSON JONES: Our -- this is our policy to --

MS. WEBBER: There's certain steps under the law you need to take to limit the time. You have not done that under Bagley-Keene.

CHAIRPERSON JONES: Our policy to apprise the speakers that they have three minutes. And when that time expires, then the mic is cutoff.

COMMITTEE MEMBER JELINCIC: Henry, I would like to ask that she be allowed to continue. We spent this morning talking about Bagley-Keene. We have been put on notice that the statute requires adoption of regulations, if you're going to limit speakers. We have chosen not to adopt those regulations. I would --

CHAIRPERSON JONES: Yeah, well, I think that the issues related to Bagley-Keene we will address with our legal counsel.

COMMITTEE MEMBER JELINCIC: Well --

CHAIRPERSON JONES: Our General Counsel.

COMMITTEE MEMBER JELINCIC: The State --

CHAIRPERSON JONES: This is not the place to debate the Bagley-Keene with the --

COMMITTEE MEMBER JELINCIC: Henry, the Board has been put on notice that this was an issue.

CHAIRPERSON JONES: And I said that the General -- our General Counsel will be the person to address that issue.

COMMITTEE MEMBER JELINCIC: And -- but he hasn't since May. He hasn't since the last -- and the statute is really clear.

CHAIRPERSON JONES: Okay. Then I'm going to move on, because I said that that's our policy, and we will address the Bagley-Keene issues with our General Counsel.

MS. WEBBER: Can I raise a point of order?

COMMITTEE MEMBER JELINCIC: The --

CHAIRPERSON JONES: So I'm going to move on.

COMMITTEE MEMBER JELINCIC: I'm not sure it's a violation of our rules, so I'm not sure a point of order is appropriate. However, I will point out that your behavior is illegal.

CHAIRPERSON JONES: Well, that's a different question.

Anyway --

COMMITTEE MEMBER JELINCIC: Well, actually --

CHAIRPERSON JONES: -- I'm moving forward.

COMMITTEE MEMBER JELINCIC: -- it's not --

CHAIRPERSON JONES: As I said, this agenda item.

COMMITTEE MEMBER JELINCIC: It's not just a question if you actually look at the statute.

CHAIRPERSON JONES: I'm going to ask that the Wilshire group come forward to start your presentation on this issue.

COMMITTEE MEMBER JELINCIC: So much being a public agency.

(Thereupon an overhead presentation was presented as follows.)

CHAIRPERSON JONES: Okay. You may proceed.

MR. JUNKIN: Thank you. Good afternoon. Andrew Junkin, Wilshire Consulting. I have with me Rose Dean. We're just going to make a few comments. We have 74 pages, probably 70 of them we will not touch.

(Laughter.)

MR. JUNKIN: That may be overpromising, but I know that lunch is pending.

So I'm going to start just on page two.

--o0o--

MR. JUNKIN: And really, in some ways, This is an unintentional sort of echo of the comments this morning that Ted made in terms of being in a low return environment. And I've got a number of data points I think that will support that contention, and I think lead to some interesting discussion, particularly as the Investment Committee prepares for the asset liability workshop, which is coming next fall.

So we'll talk a little bit about the current environment, the intermediate term, and then the long-term forecasts. So if you start here on page two, these are our 10-year forecasts for expected returns and risk for a variety of asset classes. We update these on a quarterly basis. They're really driven by what's going on in the market. This would be, in the scheme of CalPERS, I think an intermediate term forecast. It is the kind of forecast that drives the asset liability workshop. We also have a 30-year forecast, which I'm going to cover in a little bit, which is closer to the actuarial time period, which is sort of indefinite.

But you'll see here that our expected returns are down pretty much across the Board. We've seen interest rates fall, particularly towards the end of the quarter, post-Brexit, and that really has brought the going in yield of fixed income to a very low point. That happens to be kind of the jumping off point for almost every fixed income forecast very accurate typically. And so it's a challenge when you look at, you know, the current 10-year yield at a percent and a half, the current 30-year yield as 2.3. That's a tough market in which to invest.

Equities are also down some from the beginning of the year, based on returns, but also based on interest rates. The real returns those have changed less as inflation has dropped a little bit as well.

Moving on to the next page here.

--o0o--

MR. JUNKIN: I won't spend a lot of time here, because I thought John Rothfield did a great job on covering the economy. I just wanted to point out that in the discussion about jobs, we've had this chart -- this graph lower right in our deck for a long time. It's now inappropriately titled job gains and losses, because we haven't had a job loss over the span of this chart. It's actually been six years now where we've had a month where we've posted job losses.

So that's an incredible expansion. You'd think somewhere along the way there would have been sort of almost an accidental month where we didn't have great performance, but that's not the case.

I'm going to skip ahead a little bit.

--o0o--

MR. JUNKIN: Page seven, I know you -- we've spent a lot of time talking about ESG. We've done some writing and some publications on climate risk for investors. This happens to present sort of just one of the takeaways and one of the concerns that a lot of investors face, which is stranded assets. A lot of the energy that remains to be extracted from natural resources really is not at -- it's not priced at levels where it's valuable at this point.

And the more expensive it is, it tends to be more -- less climate friendly. So we probably don't want to get out to the red under this curve in any event.

--o0o--

MR. JUNKIN: I'm going to go backwards on pages 10 and 9. We've developed a framework, and you all are working on your own, in terms of using factors in asset allocation to try to -- to better understand the drivers of risk and return to tie it back to things that we have -- we can all observe. And our factors are -- we just focused on two, one is inflation and the other is global GDP. And you can see on this chart, we've plotted where we think a variety of asset classes sort of land in terms of their exposure to global GDP, rising or falling, and inflation rising or falling. No surprise, commodities have a lot of inflation exposure. Global equities, private equity have a lot of GDP exposure.

There's not a lot of things that do particularly well when inflation is falling. And there are not a lot of things that do particularly well when global growth is falling. Just to the Excel point that was raised earlier, the size of the bubbles here represent the expected returns --

(Laughter.)

MR. JUNKIN: -- so it is possible to be done. We can set you up with some of our excel gurus.

(Laughter.)

MR. JUNKIN: But we've plotted CalPERS here. This is based on your target asset allocation. And you can see to the point that Eric made earlier, and it's no surprise, we've talked about it I great deal, there's a lot of global growth dependency in this portfolio. And that absolutely tends to be the case in U.S. public pension plans, because they're all striving to hit returns that help them be sustainable. And that leads them towards sort of a public equity/private equity orientation throughout the portfolio.

--o0o--

MR. JUNKIN: Now, I'm going to go back a page. We've taken this two-factor lens and kind of said, all right, how do we explain market returns? So we've built these asset class buckets that -- those that should do well in rising growth, those that should do well in falling growth, and we've kind of listed them on that table off to the right, those that do well in rising inflation, falling inflation, and then we've calculated performance.

This is over the last year, so this is over the fiscal year. And you can see the rising growth assets, like equities and private equities, didn't do well. Falling growth assets, high quality bonds, and gold really did well.

You've got some exposure to high quality bonds. You really don't, except through the inflation program and commodities, to gold. But when 61 percent of your portfolio is targeted to rising growth, then that's a challenging year.

You can also see that rising inflation didn't do very well last year, falling inflation did. And so the net growth and net inflation factors, so it's rising growth minus falling growth, and rising inflation minus falling inflation, those typically would be the things that you would think that would be expressed in those portfolios. Those didn't have very good years last year. That was the challenging place to be.

--o0o--

MR. JUNKIN: I'm going to skip to page 12. So we've taken our 10-year assumptions, which we covered on page two, and your target and actual allocations, we've updated this chart to include our 30-year assumptions, so that you can really see the difference between the 10-year assumption and the 30-year assumption. We have not designed our 30-year assumptions to be higher than our 10-year assumptions.

In fact, we had some conversations with Eric sort of covering what it would have looked like had we had these 30-year assumptions going back. And in the 80s, the 30-year assumptions would have been lower than the 10-year assumptions. And then they crossed some time in the nineties, and now they're a little bit higher. So it pretends that there will be a reversion to a more normal environment, whatever more normal happens to be from where you are. Well, more normal happens to be a slightly higher return environment.

So you can see there's the 6.21 expected return on the target allocation that 10 mentioned earlier, which is going to be a challenge over the next 10 years. Over 30 years, we think it will be higher. We think it will be 7.80, so definitely ahead of the 7.50. Now, these are estimates, right? And we know -- the one thing I know about them is they will be wrong. I don't know which direction or by how much, but we've got a model that has tried to coalesce all this data. And this is not, you know, me and Rose sitting in a room saying we think returns will be X. There's an economic model there.

So, you know, this raises, I think, the very important question that we've been discussing, how do you deal with the next 10 years in the context of the sustainability of the total fund. And that's really, I think -- the opportunity to deal with that is at the asset liability workshop, so I think there's a lot of heavy lifting to be done over the next 14, 15 months.

--o0o--

MR. JUNKIN: From that, I'm going to turn it over to Rose. She's just going to hit a few high points to sort of continue the theme, if you will. It's not a happy theme of the kind of low return environment that we're in.

MS. DEAN: So I'll just touch on -- Rose Dean, Wilshire Associates. I'll just briefly touch on some valuation figures and public equities, as well as private equities. And finish up with real estate.

On page 22, really these graphs are meant to just signal the fact that valuations are relatively full. We are at 83 percentile in domestic equities. As Wylie mentioned emerging markets and developed markets ex-U.S. have lagged U.S. But as the next page will show -- or the non-U.S. markets will show --

--o0o--

MS. DEAN: -- valuations are relatively full in developed markets all across the globe. That's not to say that growth can't continue, but it is consistent with the theme that we've discussed up until now that we can expect lower yields going forward.

MR. JUNKIN: And I think there was an open question about how U.S. Equities did versus non-U.S. equities in terms of the attribution. U.S. equities over the last year were up three percent as measured by the Wilshire 5000. Non-U.S. equities combined emerging and developed down 10, huge difference.

--o0o--

MS. DEAN: And those differences are illustrated on slide 27 between developed U.S. markets -- developed non-U.S. markets versus U.S. equity.

--o0o--

MS. DEAN: I'm just going to move to the private equity valuations on slide 37, the top graph shows the buy-out multiples. And you see that in the first half have of 2016, the valuation's level at 10.1 times is not quite the high, but we're close to the high. And again, valuations are relatively full. The, I guess, complementing factor to that and the over -- capital overhang slide you see on slide 39 is that there's still 540 billion of capital overhang remaining in this sector. So there is capital that is waiting to be deployed, which should potentially mitigate the fact of any possibility of a crash in the private equity sector, given the support we're seeing from the investor community.

--o0o--

MS. DEAN: And to finish up with real estate, if you go to slide -- sorry, slide 65, again, the -- and we've seen a tremendous increase in real estate valuations, but the red lines indicate the vacancy rates, and then just different types of commercial property. And the vacancy rates continue to remain quite low and is still supportive of the real estate sector performance.

MR. JUNKIN: So I think that that kind of wraps up our short presentation. Just tried to add some different points of view to what you heard from staff. The major point obviously is that we agree we're in a low return environment. As Rose pointed out, really it kind of doesn't matter what asset class you look at, it is pretty fully priced. You can't make the argument that there is anything that's really cheap at the moment where there would be an outsized return to be expected.

That's not to sound any alarm bells, but, you know, expecting in a percent and a half return 10-year environment to come up here and say, well, we think you're going to make 10 percent would probably be pretty objectionable.

CHAIRPERSON JONES: Okay. Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: On slide 22, page 372 iPad, you've got a number of bands and dotted lines. And I'm not sure about the colors, but at least I can tell the texture difference,

MR. JUNKIN: Yes.

COMMITTEE MEMBER JELINCIC: What are -- what are those bands? I don't understand what I'm being told.

MR. JUNKIN: Yeah. So there's three different charts here that -- the one that I tend to focus on is just the dividend yield relative to its own history. The bands there are 15-year -- a 15-year mean and then one standard -- sorry, the 25th percentile, 75th percentile, 10th percentile, and the 90th percentile. So to try to give some measure of how expensive the stock market is based on its diffident yield to its own history.

And so right now, it's between the -- is it 83rd percentile. It's right there on the page. I was trying to guess, but somebody has conveniently written it there. So it's not -- this would be one of those asset classes that would be --

COMMITTEE MEMBER JELINCIC: So where somebody were put in the 75th and 90th percentile.

MR. JUNKIN: Exactly.

COMMITTEE MEMBER JELINCIC: Okay. And so I assume that is consistent throughout with those kinds of bands.

MR. JUNKIN: Yes, it is.

COMMITTEE MEMBER JELINCIC: Okay. And then the other question I had is something that I know you've done some work on, asset allocation versus trying to identify risks, and then looking for assets that fit those risks.

Can you comment a little bit on where you are on that, and --

MR. JUNKIN: Well, I think some of that is presented on that bubble chart on page 10, but that doesn't capture everything. So we published a research note earlier this year where we talked about what we think are kind of six critical risk lenses that investors need to be mindful of, drawdown risk, inflation risk, liquidity illiquidity, active risk - so trying to beat the market and being unsuccessful for whatever particular reason - behavioral and then shortfall risk.

And some of those you just simply can't graph, but the challenge is the tension that those risks create with each other. So you could really try to address shortfall risk, which is the risk that you won't earn what you need to earn, so in your case, that you won't earn 7½ percent. You could load up on assets that have very high expected returns. You have problems in terms of scaling. Let's set that aside for a minute. But you've now really enhanced the drawdown risk. And as a cash flow negative plan, that could be catastrophic.

So there's a lot of balance in that as we work with clients on asset allocation. We're presenting things like the growth factor exposure, the inflation factor exposure. We've create a score for liquidity across portfolios both in a normal environment and in a stressed environment, so you can see are we likely to be able to liquidate things when things go poorly, as they're bound to do - there's likely to be an equity drawdown at some point - to try to capture it all.

It is a -- there's not a dashboard that I can show that says here are all the critical risks laid out in one page. Everybody wants that. I want that. It just doesn't exist because those risks are so complicated and in some ways it's trying to like nail jello to a tree. It just doesn't really work.

(Laughter.)

COMMITTEE MEMBER JELINCIC: And that paper is available in your research library.

MR. JUNKIN: It is.

COMMITTEE MEMBER JELINCIC: At some point, can you tell me what the title is so I can find it?

MR. JUNKIN: I think it's called the Critical Nature of Risk, or something like that. I'll find it and send it to you.

COMMITTEE MEMBER JELINCIC: Thank you.

CHAIRPERSON JONES: Okay. Thank you.

No questions. And I -- we're going to take a lunch break. We'll return at 1:50, and then we'll have one more item before we go into closed session.

(Off record: 1:03 p.m.)

(Thereupon a lunch break was taken.)

A F T E R N O O N S E S S I O N

(On record: 1:52 p.m.)

CHAIRPERSON JONES: Okay. I would like to reconvene the Investment Committee meeting. But before I reconvene to the regular agenda, at the conclusion of the agenda before we recessed, there was the question about our three minute public speaking issue. So I've asked, Matt, our General Counsel to make a comment regarding our three minute provision of public speakers.

Matt.

GENERAL COUNSEL JACOBS: Yes. Happy to, Mr. Chair. There's been some discussion and some confusion, I think, about what Bagley-Keene actually requires with respect to time limits on public comment. What it actually requires is that the public have an opportunity to comment. So here's what the most important line says, 11 -- this is section 11125.7(a) of the Government Code. "Except as otherwise provided in this section, the State body shall provide an opportunity for members of the public to directly address the State body on each agenda item before or during the State body's discussion or consideration of the item". Then there's some other sentences, but that's the core of it.

It also says in the next subsection that, "The agency may..." -- and it uses the -- that word, that is the permissive "may" as opposed to "shall" or "must", -- "...adopt regulations to effectuate the intent of subdivision (a), which is the one that I just read. So the basic idea is the intent of subdivision (a) is to ensure that the public has an opportunity, a chance, to be heard.

So that section I just referenced 11125.7(b), the exact language is, "The state body may adopt reasonable regulations to ensure that the intent of subdivision (a) is carried out, including, but not limited to, regulations limiting the total amount of time allocated for public comment on particular issues and for each individual speaker".

The absence of a regulation that -- an agency regulation under this cannot mean that there are no limits on public comment. The agency can utilize reasonable limits on public comment in the absence of a regulation, and certainly three minutes is reasonable.

So, Mr. Jones, I think you're safe. I don't think that you committed any crimes. That said, we are bringing a draft regulation on public comment to the Board next month. That is already in the works. It's already drafted, and it will be before you next month, and it will address this and some other items.

CHAIRPERSON JONES: Thank you very much.

GENERAL COUNSEL JACOBS: You're welcome.

CHAIRPERSON JONES: Now, back to the -- the agenda item we left was the trust review with the consultant's report. And we did not hear from PCA nor from StepStone. Unless Committee members have a question of either of those consultants, we will go to the next agenda item. And I believe Mr. Jelincic has indicated that he does have a question for PCA, J.J.?

COMMITTEE MEMBER JELINCIC: (Nods head.)

CHAIRPERSON JONES: PCA.

COMMITTEE MEMBER JELINCIC: Hi, Mike. This was actually in your executive summary. You were talking about the PE program is in the 26th year, 94 percent of the value and performance is distributed in commitments made during the vintage years 2006 to 2016. Given that they're 10-year partnerships, generally speaking, isn't 90 percent of the value always going to be in partnerships in the last 10 years?

MR. MOY: I haven't done the math, but it sounds like it's -- that's right.

COMMITTEE MEMBER JELINCIC: Okay. I just. When I saw that, you know, I couldn't -- I want sure what the point you were trying to make was.

MR. MOY: The program has been in existence for such a long period of time. Up until, I'm going to say, eight, nine years ago, the Custom Young Fund Universe was the benchmark. The argument was, well, it was not -- this is not a young fund anymore. So I think there's a carryover from that thought process as to why we go into that description.

COMMITTEE MEMBER JELINCIC: Okay, cause -- yeah, it just struck me, if your 10-year funds -- your value is going to be in funds in the last 10 years. So okay.

MR. MOY: As long as you've got even pacing, yes.

COMMITTEE MEMBER JELINCIC: Well, even if it's all done in the last year, still over the 10-year period is where you would have all of the value. Ten-year funds --

MR. MOY: But you wouldn't make that kind of observation. If it was all done in the last year, you'd say 80 percent or 90 percent was done in the last year of the program. You wouldn't make a observation for 10 years.

COMMITTEE MEMBER JELINCIC: Okay. Thank you.

MR. MOY: You're welcome.

CHAIRPERSON JONES: Okay. Thank you. No further questions. So thank you. Okay.

Now, we will move to Item 8, Investment Compliance Program Annual Review.

Mr. Eliopoulos.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Actually, Mr. Chairman, that's me. But just in the interests of time, because we've moved past the expected time we were expected to move into closed session, and then for your workshop to begin. So what I propose is just to see if there's any questions following the Committee's review of the agenda materials.

CHAIRPERSON JONES: Are there any questions?

Seeing none. Thank you.

Oh, you're not -- you need to turn it off and then turn it back on.

CHAIRPERSON JONES: Now. Okay. Mr. Jelincic.

COMMITTEE MEMBER JELINCIC: The -- I still am struggling with ICOR and where it's structured. The fact that we've now said the ICOR folks won't be based -- their compensation won't be based on performance I think is a good thing. But having ICOR in compliance based in the unit really is a problem. It kind of blew up on JPMorgan Chase and the London Whale. The Fed has actually decided that even the embedding compliance folks with the banks has created problems of conflicts of interest. Having ICOR being evaluated by the people they are monitoring continues to be troublesome to me.

So I would just encourage you to continue to think about whether that really is the optimal place to be putting compliance.

Thank you.

CHAIRPERSON JONES: Okay. Thank you. Seeing no further questions, thank you for your presentation.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Thank you.

CHAIRPERSON JONES: Now, we will move to summary of Committee direction. Yes.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Mr. Chairman, I believe an item was pulled from consent.

CHAIRPERSON JONES: No, it wasn't pulled. I'll get to that.

CHIEF OPERATING INVESTMENT OFFICER TOLLETTE:

Okay.

CHIEF INVESTMENT OFFICER ELIOPOULOS: Mr. Chair, I just have one Chair-directed item. It's with respect to the agenda item on our Global Governance Strategy. And the Chair directed that staff bring back, sometime in the near future, a item for the Investment Committee to discuss, an ad hoc committee and investment consultant around governance and sustainability.

CHAIRPERSON JONES: That's correct.

Okay. Thank you very much.

We now will move to public comment and we have

Mr. Michael Flaherman. And as I mentioned earlier in the agenda Item 4c was a consent item. And we do not have comments at that stage, but you're now welcome to make your comments on Item 4C, and then you wanted to make comments as the public comment. And you will have three minutes for each of those items. So if you go all the way to the right -- your right. And the clock will start when you start to speak and you have a total of six minutes total.

MR. FLAHERMAN: I was really disappointed by what happened with Ms. Webber. You know, Mr. Jacobs is an effective advocate. He was a litigator for many years. No matter how illegal or even outrageous the behavior of his client, he's going to get up and say -- make an argument for why it was legal. And it's pretty transparent when he says, oh, it was legal, but don't worry we're bringing back a regulation.

And it was disappointing to me as a beneficiary and as a former member of the Board to see it as well, because what was the point of cutting off this woman. I suspect I think that many of you don't know actually that Susan Webber is actually one of the most important financial commentators in the United States.

I don't think I've ever talked to a financial journalist at any great length without them actually bringing up the fact that they read her avidly. In other words, she is the sort of central clearinghouse on a number of issues, private equity being the one that has the most nexus to this organization, and opinion maker.

Similarly, all of the -- many of the members of the staffs of the congressional committees that are responsible for finance read her avidly. She is read avidly at the Securities and Exchange Commission among the staff.

It was a mistake to cut her off. As far as I could tell actually, she was actually kind of praising you, which I don't think I've ever heard her do, and -- you know, and I also want to be clear. I'm not a shill for her. I've actually had very heated disagreements with her at times actually, and some of which actually related to some of her criticism of this organization.

But, you know, I was the one, as you may know, who brought up the fact that there are no regulations permitting time limits on public comments. And it's been disappointing to me that nothing has happened with it until today, where it got called publicly, and in a way that was embarrassing.

And -- you know, and there is -- there's an age old legal doctrine I think that you all need to reflect on, which is -- you know, which is -- I took Latin for many years, so I'll say it in Latin, right, tacitus consensat importat[sic}, which means silence implies consent.

If you sit here and an action is taken and you say nothing, then the world is left to believe that each of you supports that action. And that's very disappointing. Thank you.

CHAIRPERSON JONES: That completes the public comment. We will now conclude this open session meeting and move into closed session in 10 minutes. Give the audience time to move out.

(Thereupon California Public Employees' Retirement System, Investment Committee meeting open session adjourned at 2:05 p.m.)

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

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

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

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

IN WITNESS WHEREOF, I have hereunto set my hand this 18th day of August, 2016.

JAMES F. PETERS, CSR
Certified Shorthand Reporter
License No. 10063