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NEW YORK CITY TEACHERS' RETIREMENT SYSTEM

INVESTMENT MEETING

Held on Thursday, September 7, 2017, at 55 Water Street, New York, New York

ATTENDEES:

JOHN ADLER, Chairman, Trustee
THOMAS BROWN, Trustee
DEBRA PENNY, Trustee
ANTONIO RODRIGUEZ, Mayor's Office
SUSANNAH VICKERS, Trustee, Comptroller's Office
DAVID KAZANSKY, Trustee
MELVYN AARONSON, Teachers' Retirement System
JOHN DORSA, Comptroller's Office

REPORTED BY:
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ATTENDEES (Continued):

SUSAN STANG, Teachers' Retirement System
PAUL RAUCCI, Teachers' Retirement System
MICHAEL FULVIO, Rocaton
ROBIN PELLISH, Rocaton
DAVID PALKOVIC, Rocaton
THAD McTIGUE, Teachers' Retirement System
VALERIE BUDZIK, ESQ., Teachers' Retirement System
LIZ SANCHEZ, Teachers' Retirement System
SAM RUMLEY, Office of the Actuary
RON SWINGLE, Teachers' Retirement System
RENEE PEARCE, Esq., Teachers' Retirement System
DAVID LEVINE, ESQ., Groom Law Group
SARA CHAUDHRI, Teachers' Retirement System
DAVID ENRIQUEZ, Comptroller's Office
CYNTHIA COLLINS, Mayor's Office

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MR. ADLER: Good morning. It's the first day of school. I think it's appropriate that we have our first meeting of the school year on the first day of school Thursday, September 7, 2017.

Welcome to the Investment Meeting of the Teachers' Retirement System of the City of New York.

Thad, will you please call the roll.

MR. McTIGUE: Thank you, John.

John Adler?

MR. ADLER: I am here.

MR. McTIGUE: Thomas Brown?

MR. BROWN: Here.

MR. McTIGUE: David Kazansky?

MR. KAZANSKY: Present.

MR. McTIGUE: Debra Penny?

MS. PENNY: Here.

MR. McTIGUE: Raymond Orlando?

Susannah Vickers?

MS. VICKERS: Here.

MR. McTIGUE: We have a quorum, Mr. Chairman.

MR. ADLER: Thank you. Okay, so I am

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going to turn it over to Michael and Robin to take us -- I'm sorry, I do want to mention one thing -- thank you, Thad -- before. We are going to add to the public agenda, the pension co-investment discussion with BAM. So if you just make a note of that, unless there is any objections. Very good. So that will come at the end of the public agenda, okay. Thank you.

So turning it over to Rocaton now for the performance review.

MR. FULVIO: Well, no better way to start off the new year than closing out the performance of last year's fiscal year very quickly, so we circulated the quarterly report of the Passport Funds.

I am not going to endeavor to flip page by page with you, but if you want to turn your attention to Tab 5, page 23. And I apologize the page numbers look a little bit cut off down at the bottom left, but that looks like the first page of the flash report as of June 30, 2017. I will hit some really high-level comments on that.

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At the end of the fiscal year June 30, 2017, the Variable A Funds stood at $14.8 billion. Fiscal year return was about 18.1 percent. That led the Russell 3000 Index return of 18.5 percent. The hybrid benchmark returned 18.6 percent. The Variable B Funds with assets about $389 million ended the year with a positive return, positive 6 basis points. A modest, but roughly in line with the one to five-year government credit benchmark. The Variable C on the International Equity Fund ended the year with about $129 million in assets with positive return of about 21 percent, just shy 21 percent. And that was enough to outperform its custom developed and emerging market benchmark which returned 20.6 percent. The Variable D Fund, the Inflation Protection Fund, ended the year with assets of $54 million returning about 1.4 percent which was just behind CPI, which last year was about 1.6 percent. The Socially Responsive Equity Fund Variable E ended the year with $165 million in assets and like the Variable A Fund had a

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return exceeding 18 percent. The actual return is 18.4 percent and that was enough to beat the S&P 500 return.

So if there are no questions on the last fiscal year or the June report, we can move forward with July. Hearing no objections, I will start out by just saying the strong performance of equity markets continued past June to July. Equity market returns were led by emerging markets which the custom benchmark in your case, which excludes a few countries, was up nearly 5 percent in July. So that served to aid the performance of the variable funds. The U.S. by comparison was up about 2 percent during July and so the Diversified Equity Fund's return for the month with assets now exceeding $15 billion. Return for July was positive 2.1 percent. That helped to out perform the Russell 3000 which was up about 1.9 percent. That brought calendar year-to-date return for the fund to about 12.1 percent, which is exceeding the Russell 3000 which was up about 11 percent.

MS. PELLISH: So just to interject here,

what's really moving the total return of the Diversified Equity Fund relative to the U.S. equity market is the performance of the international equity market. So we have seen that for a number of years detract from relative returns and now we are seeing it -- we are seeing the opposite effect where for the year-to-date period, we can see that the international equity -- this is calendar year to date, but seven months of 2017 we see that the international equity composite is up almost 19 percent, which is about 800 basis points ahead of the Russell 3000. So we held on during the period of time when it had a negative impact and now we are seeing a positive impact. Sorry.

MR. FULVIO: And I would make a brief comment just to say that we have seen the contribution from active management also help on a relative basis for this fund. And that's both within the U.S. and the non-U.S. composite year to date. We will talk more about that later.

The bond fund at this end of July had

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assets of about $39 million positive return to the tune of about a third of a percent in July. Total fund there was up 1.4 percent calendar year to date. The International Equity Fund as Robin mentioned before with strong, particularly strong performance by non-U.S. markets, that fund was up about 18-1/2 percent year to date on the heels of another strong month of July, which that end was up 3.2 percent. The Inflation Protection Fund with assets of about $55.6 million, a little over 1 percent during the month and the calendar year-to-date return of about 1.6 percent. And the Socially Responsive Equity Fund is $170 million in assets. That fund was also up about 1.7 percent, slightly behind the S&P. Year to date that fund up over 11 percent.

So if there is nothing else on July, we will make a couple of brief comments about August in which we saw generally positive results again across the board, although much more modest than we saw in July. The Russell 3000 Index in August was up about 20 basis points. The International Composite benchmark up about 12 basis points. Defensive doing a little bit in both of those, up about 30 basis points. All told, we estimate Variable A Fund was up about 20 basis points for the month of July, bringing the year to date somewhere in the range of 12-1/2 percent. And then as far as looking a little bit deeper at the international equity markets, developed markets were essentially flat or slightly negative during the month. Stronger performance from emerging markets were up over 1 percent during August and strong returns on an absolute basis compared to all these other numbers I read for the underlying strategy. Inflation Protection Fund, that was up about 60 basis points for the month of August. And you can see the underlying strategy of the Socially Responsive Equity Fund down a little bit, over 1 percent. So we will be back in October with the August results.

Any questions?

MR. ADLER: Questions for Michael? Okay, thanks.

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So next item is divestment policy considerations.

MS. BUDZIK: Does everyone have the handout?

MR. ADLER: This handout is the same one that was e-mailed, right?

MS. PELLISH: Correct.

MS. BUDZIK: So I will start that off. And just by way of background, you know, in the spring the board requested that staff gather information on divestment policies that are out there with an eye towards potentially adopting a divestment policy at TRS and that initially dovetails nicely with our overall review of the IPS. And depending on what we end up with divestment, it would be part of the investment policy statement. What you have in front of you is kind of we pulled information from the policies that we were able to locate. Significantly we only found on line 2 divestment policies that apply to public pension funds. Easier to find at least online was divestment policies in the endowment universe and they did have some useful information, so we included information from those endowment policies here. What we are looking for today, I mean in addition to just general information on divestment policies, what they tend to include is some sense or direction from the board on a couple of key elements and that would allow us to draft a policy for the board to consider to start drafting a policy.

So I am now on Slide 3 here. And we have kind of identified what five elements that are kind of present in all of the policies that we reviewed. One is what we referred to kind of a beliefs statement or the principle behind the divestment policy. The other is a trigger for divestment review, what types of issues, concerns rise to the level where you would consider divestment. Requirements for engagement, all policies that we review had some discussion of that. And then the fiduciary impact analysis, which the board is familiar with and the requirement for monitoring and review.

One thing we would note in 4 and 5 is

that's the law. If we do nothing on divestment, you still have 4 and 5 -- you still have to go through a fiduciary analysis and monitor any divestment decision. So in terms of what we call the beliefs statement, essentially that would usually be the entity is going to acknowledge its fiduciary duty and then articulate its view of divestment as a strategy to achieve whatever the goal is, you know, that is triggering the divestment discussion. And there I would say what's interesting is, uniformly the policies that we reviewed disfavor divestment at least as an initial response to whatever your goal is and usually it's a company that is engaged in an activity that concerns you, you think is socially injurious, you are not comfortable being an investor in that company or supporting that activity, let's get out. I think uniformly they were saying that they don't believe divestment is an optimal strategy.

So what we have here are two -- we have an excerpt from TIAA-CREF and CalSTRS kind of

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sums it up. Not an optimal strategy and it's not the best means to produce long-term value for the participants. And then the CalPERS policy we won't read the whole thing, but it does -- the third bullet divesting appears to almost invariably harm investment performance and there is evidence it's an ineffective strategy for achieving social or political goals. So I would say that would be a consideration for the board whether -- I would say from the beliefs statement, what that flows into is the requirement for engagement because the entities out there believe that divestment is not necessarily an effective strategy. You might start with an engagement initiative if you -- to address whatever concerns you might have.

So the other elements that we talked a little all policies reflect is it's the trigger. And here -- and I will go back to the public sector funds and the endowment and David, if he wants to chime in here at any point. They are subject to different legal standards. The public sector funds we have --

they are all fiduciaries, but we are an ARISA fiduciary. And ARISA is a fiduciary that's generally considered to be the strictest fiduciary standard. We have the exclusive benefit rule. An endowment doesn't have the exclusive benefit rule.

MR. ADLER: Did you say we are an ARISA fiduciary?

MS. BUDZIK: We are not an ARISA fiduciary, but we follow the ARISA standard. Although not subject to ARISA, we do follow the ARISA standard.

MR. LEVINE: We do look to ARISA as guiding principles for us.

MR. ADLER: But we are subject to the New York State standards which is modelled after ARISA.

MR. LEVINE: We are not subject to ARISA, for the record.

MS. BUDZIK: But we follow the ARISA standard and I would say there is a general consensus that we would be held to that standard if we were ever challenged on something. So in that regard, I would just

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say the trigger is between -- between what the endowments focus on versus the two public funds.

And here I am going to go to look at Slide 6 and 7 together. Primary distinction with the two California funds is they do have an element of financial injury that is not as prevalent in the endowment universe. So on page 7, you will see that CalSTRS is in the middle there. They have the trigger of -- the entity, the company, or companies that you are looking at, they have to trigger one of these 21 risk factors that they have articulated. Those risk factors weren't developed for divestment purposes. They are developed overall for reviewing any investment. It has to trigger one of those risk factors for a sustained period of time and just to bring to your attention to the extent it becomes an economic risk to the fund or a potential for material loss of revenue exists. CalPERS simply has a standard that to divest, you have to determine it's imprudent to hold the investment. So there, again, there is a financial injury element to the analysis that you don't see as much in the endowment world.

MR. ADLER: Can we discuss this? So what's interesting to me is -- so I have been thinking about this in terms of the divestments that we have already carried out at Teachers. And what's interesting to me is that several of the divestments, principally private prisons and coal I think private prisons, we did earlier this year if I am not mistaken and coal was either last year or the year before. What's interesting about it is that so the CalSTRS says a potential for material loss of revenue exists and one of the justification for doing private prisons and coal was that the holdings were so small -- I am looking at David because I think he wrote an opinion about this, the holdings were so small that whether or not to divest was immaterial. And so it's kind of an interesting contrast, right, that essentially CalSTRS is saying that, you know, it has to be having violated one of the risk factors and then pose a potential for material loss of

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revenue. I think what we would say in our case in those two is we don't have this listing of risk factors. What we would say is that there were reasons, economic reasons, that we thought that private prisons and coal posed a risk to the fund, but that the amount that we held was so small that making the decision to include it or exclude it was not material. So you know what I am saying.

MS. VICKERS: If I can just chime in on that, because I think we lacked this formalized process. What we have sort of done is skip elements 1 through 3 and rely only on 4, the fiduciary and the financial impact analysis, to look at sort of after the fact what this might do to the portfolio. We haven't in a formalized way gone through the triggers. We haven't gone through an engagement process, so the Comptroller's Office feels very strongly that incorporating these earlier steps is a great idea. Hopefully it will get us to the same conclusion, but we should be going through this more robust process with all of our

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discussions.

MS. BUDZIK: In reviewing, to be clear, the divestment that the board has pursued potentially could have ended up in the same place. It would have been a little slower.

MS. VICKERS: And we didn't do it in a formalized way.

MS. BUDZIK: More structure.

MR. ADLER: I do think there is a consideration, for example, when you think about private prisons. I don't believe that there was any engagement with private prison companies prior to the proposal for divestment and I am not saying that's -- but that's what's in some ways --

MS. VICKERS: I think because what corporate governance thought, and I think it's baked into here somewhere, is that whether the engagement would be futile.

MR. KAZANSKY: The size of the holding and what they do, whether it was even necessary or possible.

MS. VICKERS: It was the business model we objected to and so the thought -- and we talked about engagement, but some of our corporate governance folks thought it wouldn't be worthwhile to kind of engage with them because they are not going to change their core business model and their core business model is what we had a problem with.

MR. ADLER: I am agreeing that's why we didn't, but in some ways it's counter to what the steps are.

MS. BUDZIK: Yes and no. Engagement if we look at the policies that are out there, some are stricter. The most liberal policy is Stanford that had, in what Susan pointed out, engagement is required unless it's futile. You would want to document it's a waste of time.

MR. LEVINE: It's basically constant evolution. And given we have had some divestment activity we have done a good process in the past, but trying to create a good framework going forward.

MR. ADLER: I am not disagreeing with that. But I think if you look at all the divestments that we have actually carried out going back to gun manufacturing before I got here, you know, again engagement with gun manufacturer on you should stop selling guns would certainly be futile and engagement with coal companies is stop mining coal, right, so there is an issue.

And in fact there is some reference here -- oh, yes, on page 6 it says "Policies generally require identification of a specific company or companies, rather than proposals directed at an industry or general activity." And the truth is that most -- at least all the divestments on the books that I am aware of directed at industry, not at specific companies for their specific practices.

MR. LEVINE: Although I think when it was done we actually went and looked at the individual company, the impact on the fund as a net impact.

MS. BUDZIK: It was company specific certainly, yes, the impact and the analysis. And it's how you define industry, the energy sector versus one narrow.

MR. ADLER: Yes, absolutely.

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MS. BUDZIK: And there were three -- I think there were three coal companies.

MS. VICKERS: And all the resolutions I think named specific companies, but we then expanded it.

MR. FULVIO: Including the Iran, Sudan specific companies.

MS. BUDZIK: And there was a long engagement process prior to getting to those companies that the systems divested from.

MR. ADLER: Did we divest from companies around Iran and Sudan?

MS. BUDZIK: We did.

MR. DORSA: Yes.

MR. ADLER: And that was the initiative of the board or required by legislation?

MS. BUDZIK: Board, it was board.

MR. ADLER: Can I just ask another question out of my ignorance, which is: Those companies, are we still divested from them or have we taken any of them off the list due to monitoring that they are no longer in Iran or Sudan?

MS. BUDZIK: So relative to Teachers the

holdings should have been de minimis, if they are at all. Because with the Iran, Sudan, so it identified companies that had significant business operations in those two countries. And I think Iran was specifically targeted, the energy sector. I am making up the number, but let's say there were twenty --

MR. ADLER: Twenty companies.

MS. BUDZIK: There were many. There was a letter-writing campaign, at least I believe there were several letters sent to each company, how they are addressing the risks associated with doing business in those countries. And ultimately the divestment only was for the two companies that did not respond; one was Gazprom, so that's Russian and the other was PetroChina which is China. So TRS' holdings there should have been pretty small.

MR. DORSA: It was oil and natural gas rather than gas --

MS. BUDZIK: Okay, sorry.

MR. DORSA: -- just to clarify.

MS. BUDZIK: So your question are we

still divested, they may be out of Teachers just based on --

MR. ADLER: On the countries.

MS. VICKERS: There was some point I wanted to bring up about monitoring, but let's get to that section.

MS. BUDZIK: Yes, and we can go in another just things that we found interesting although the endowments in some respects they are looser standards, they are not; they can be strict too. The University of Pennsylvania had to be a moral evil and the most common standard in the endowment universe is what's known as the Yale standard developed in 1962. It's a book still available on Amazon if everyone is interested.

MR. ADLER: Now you are promoting books.

MS. BUDZIK: Significant health, safety, or basic freedom. We would say another interesting aspect of the Yale standard is that clearly it explicitly provides that a company doing business with a company that you have an issue with will not meet that standard.

MR. ADLER: You mean secondary?

MS. BUDZIK: A secondary. So if you are divesting from tobacco, you are not going to divest from companies that sell cigarettes.

MR. ADLER: That sell what?

MS. BUDZIK: This is kind of a ridiculous, example but tobacco you wouldn't divest from the bodega that sells the cigarettes.

MS. PELLISH: We actually got into that discussion with guns, so the question is: Do you sell gun retailers which was considered I think --

MS. BUDZIK: Right. So that kind of goes to -- we can circle back where we would look for a little direction from the board in terms of do they want something, that's more strict or a policy that is more liberal. Engagement, we talked about the engagement. Again, every policy that we review favors engagement with the -- with we will call out Stanford there unless it's futile. We won't spend time on the fiduciary analysis. We are familiar with that and that's for TRS, that's all other things being equal. You know, as we indicated to date our -- the divestment initiatives have been small enough that it's not that challenging to meet that standard.

One thing that we thought was interesting and, you know, for the board to consider CalSTRS in particular, their investment policy specifically excludes investments tied to indices and it focuses on direct investments and they actually exclude a limited partnership to co-mingled funds. So the more passive investments, they exclude that from their divestment.

MR. ADLER: It strikes me as curious really because if you think about it, in our case something like 85 percent of our public equities is through index funds. And to say we are going to divest from X, but not through index funds, you know, is really a -- what do you call it, a smoke screen, a fig leaf.

MS. VICKERS: It's also on the other side if our philosophy is that we want to invest in the index and if we keep chipping away at our definition of what the index is, that's also contrary to our -- what's the opportunity cost and what's the impact of creating a custom index that differs from the index, what are the costs or risks of that?

MR. ADLER: But I do think, Susannah, that's the whole point of fiduciary analysis is to weigh the costs of doing it. But to say upfront, as this policy does, that we are going to exclude the index without doing that cost benefit analysis strikes me as not something that I would support at least. That's because if we are going to -- again if we are pursuing a divestment for some specific reason, I mean, just to give you an example if we were to say we are going to divest from private prisons but not through the index, you know, I would imagine that if not 100 percent, 95 percent of our private prison investments were through the index. So what kind of divestment is that?

MS. VICKERS: No. It's a question that has to be weighed because the more divestments we do, the more we chip away at that sort of strategy of investing.

MR. ADLER: I will also just note that in our case because our indices are separate accounts, we have the ability to do that.

MS. VICKERS: Oh, yes, absolutely.

MR. ADLER: Which in the pension fund now we talked about this I think, some of the TDA Index investments are not separate accounts, right? Some of them -- like the thing we just did with Vanguard.

MS. STANG: So the only one -- the major one that is still in a co-mingled fund is getting moved to a separate company, the MSCI EAFE Fund, index fund. And we need to move it to a separate account in order to get rid of the last thing to divest, so that's in process.

MR. ADLER: Didn't we just switch the balanced fund?

MS. STANG: When we switched Variable B, the bond fund, to the balanced fund as of January 1st of next year, 2018, that will be in a mutual fund. So we will not be able to -- it will just be 70 percent bond index, 30 percent stock index and we won't be able to do anything.

MS. PELLISH: That's a very de minimis percentage, but we don't have flexibility.

MR. ADLER: We have flexibility within our indices that are in separate accounts. To the extent it's not in separate accounts, I understand you are saying it's de minimis. Then there we don't have flexibility.

MS. PELLISH: Right.

MS. BUDZIK: Then monitoring and review, so clearly the policy we would probably formalize the monitoring and review process. They are -- they kind of run the gamut by regularly they are vague standards to more specific time frames for monitoring.

So actually one point, and this I am on Slide 11, CalPERS has specific monetary loss thresholds which trigger reinvestment from something that you divested fund. We think that changed to a half when we got the more recent policy. It's anything that they divest from is -- the review is every five years and then requires an affirmative vote of the board to continue with the reinvestment. A previous draft had a threshold that if the review indicated losses of X, you were back in if it appears to exceed. But we would have certainly recommended the policy, have a formalized review protocol. We would recommend something maybe along like every three years, which ties in with the IPS review.

MS. VICKERS: And just to get people thinking, we have been looking at this very closely at BAM. We have been trying to figure out with some of the new systems and compliance efforts that we are undertaking and how this fits in. And there are some challenges to what we have been monitoring in the way that the reporting comes, so BAM is definitely I would posit the one to oversee it. And we are going to come back with requests and recommendations probably in the coming weeks to all the boards about how we can kind of streamline and improve that process.

One of the most important things is when

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we did a divestment and draft a resolution, that what it says we are supposed to be monitoring is monitorable because we found that maybe that isn't always the case.

MS. PELLISH: Can I just go back to a point we made before? So we talked about index funds including and using index applying these divestment policies to index funds versus not, but I think a more difficult conversation is whether we exclude any limited partnerships. So that would exclude the entire asset classes for many divestments.

MR. ADLER: So I remember we talked about this in some of these divestments and, you know, when we are listing specific companies, then that's applicable to I think all asset classes. In other words --

MS. PELLISH: Currently.

MR. ADLER: -- currently and conceivably you can have a partnership, limited partnership, where you divested where if you decide to invest in/buy, take it private that we had decided to not invest in, divest from, but I think because we have these side letters and opt-out rights we can probably out opt out of such a deal. I think where it becomes stricter is where it's an industry. So let's say some new private prison company springs up or let's say one of our limited partnerships creates a platform for new private prisons to roll up private prisons, but anyway that would be something that I think again we would want to opt out of such a platform if it was industry based.

MS. BUDZIK: And I am just assuming: But to date any of the investment initiatives, none of those investments were present in.

MS. PELLISH: No. And it's a low-risk probability, but still --

MR. ADLER: I think as I recall in the coal, this is probably what you are talking about in regard to difficulty monitoring. We had the list of companies, specific companies, and then we set a standard for any company that derived I think more than 50 percent of its revenue from coal. And that's not something you necessarily know, although we can certainly communicate to our limited partnerships. And if the limited partnership came to us with a deal and said we are going to purchase this company and it's involved in coal mining, among other things I think we can say to them we have too much revenue derived from coal and they say it's -- no, it's only 40 percent.

MS. VICKERS: Right, or this kind of coal or that kind of coal.

MR. ADLER: Anyway, I understand the challenges. But I would argue that if we are doing something that's based on an industry, that that could apply across the board. Obviously if it's specific companies because if the company's practice is that it's the company's practices, that might be limited to specific securities in that company.

MS. BUDZIK: I believe with private prisons, if I remember correctly, the resolution read "If when private prison company, that would come back for the board for consideration for review and it would go through the analysis." So that's one way to do it.

So next steps, we did want to get some sense from the board on what the feeling was on probably those first three items. The so-called beliefs statement, if it's accurate that the board -- essentially divestment is -- a last resort that you would typically go through in engagement process on the engagement language we can add, although I am not -- the sense I am getting from the board is that they would -- unless it's futile, the sense I am getting from the board is they would like that.

MS. VICKERS: I would -- because we have already done it. We have a section on monitoring if we can send that to Valerie, if it's appropriate.

MR. ADLER: So the part of this that I think is trickiest is the beliefs statement, because I think that really does need to reflect the board's view. And is the concept here that it would be that would be a belief statement just related to a potential divestment or a broader belief statement? Because there has been some talk about doing an investment belief statement, so you are thinking about something or you are thinking of something narrower or part of a broader?

MS. BUDZIK: Well, it's narrow in the sense that it's focused on divestment as a strategy or action that the board might take. And the policies that we reviewed, they did all have -- they articulated the view that it's disfavored. Not that it will never happen, but that the standard -- that it should really be a high standard before you get to a divestment proposal because of the potential impact on returns, your fiduciary duty, and that I also think that the TIAA-CREF language particularly fits pretty well.

That's on page 5 and it has those four points. It eliminates your standing rights as a shareholder, forecloses further engagement. Minimal impact on what the company is doing, so you are really not addressing your problem. You are throwing up your hands and saying I am out of here and it could result in losses and negatively affect performance, which is not to say that divestment is off the table; it's that it is.

MR. ADLER: It's a high bar?

MS. BUDZIK: It's a high bar.

MS. PENNY: Coming up with this policy will help us, because so often we come across members who want us to divest from something or other and having a clear policy that we will refer to will definitely make it helpful for us.

MS. BUDZIK: Sometimes you see statements that we are investing in companies; we are not necessarily approving or supporting what they do. We are investing because we have benefits to pay and we need to generate the funds to pay those benefits.

MR. ADLER: Which is part of our overall investment beliefs. I mean, our unstated overall investment beliefs and part of -- also part of what it makes me think is that whether we want to do a standalone statement of investment beliefs vis-a-vis divestment or whether that should be part of the broader statement of investment beliefs that we -- that, you know, which we haven't discussed here, but that that be something the trustees want to consider adopting.

MR. KAZANSKY: Well, I think for the moment since this is kind of what we are focused on, I think it makes sense to put together a beliefs statement just solely on divestment. And when we build a beliefs statement overall if that's what we are going to do, hopefully that just gets incorporated.

MR. ADLER: Okay, that sounds good.

MS. PELLISH: Can I just ask a question since you referred to the TIAA-CREF belief statement? Is there anything in the board's reaction -- the question to the board: Is there anything in this TIAA CREF statement that you think would not be reflective of this board's beliefs and something that you would be uncomfortable? And if you don't want to respond right away, that's fine. But I think trying to get a sense of how to proceed so if there is anything that you object to in this statement, that would be useful to know.

MR. KAZANSKY: No, I mean, on its face it's pretty on point, pretty clear.

MR. RODRIGUEZ: So I guess this is coming from thinking about the -- look, ultimately the thought process behind divestment saying that you are ultimately limiting an opportunity set for in this case either your index or an asset manager, I understand that principle, I understand that principle pretty well. I think the wording in this essentially says that it makes it kind of writ that in some cases, you know, for the divestments that we have done, again the idea is that we believe that these -- the entire industry either should not exist in its current form or again engagement is futile that ultimately the industry by itself should not exist.

And so -- but in some cases we did some analysis where we feel that ultimately that performance or that the actual -- that it would not compromise our ultimate investment strategy. These are very, very, very small divestments that we have done so far. Not saying we are going to do something larger, but the tracking error has been particularly minimal. And I would argue that's -- Russell 3000, that is 3,000 companies, you can get diversification with far fewer companies. I think that it ultimately if I had this as a policy I would never divest anything, that ultimately I think that the bar -- if we set this as the bar, then I would not be comfortable ever divesting again. I guess that's kind of what I am feeling from this write-up.

MS. VICKERS: What about balancing some of this language with other language? Like the first bullet from CalPERS, you know, we can kind of expand on that and how we see fiduciary responsibility and the impact on the portfolio through that PSG, if you will, lens.

MR. RODRIGUEZ: I think I find it -- if there is a way to balance it a bit, because I do think this language as a principle precludes divestment entirely. That's my feeling on it, that if we are saying it does not offer an optimal strategy for changing the policies and practices of companies, also that it would result in losses and increase costs.

It has minimal impact, I believe that. I actually do believe that. And I am not talking about my personal beliefs on divestment. I am talking about if this is the policy, from what I am -- how I am reading it, the bar is set to the point that I would be uncomfortable divesting from anything at any time.

MS. BUDZIK: This is an excerpt of one provision. The TIAA-CREF and theirs is in -- they don't have a divestment policy. It's actually embedded in their proxy policy. They do acknowledge there are instances where divestment is a policy and potentially appropriate. Subject to the fiduciary review, again but it is a high bar.

MR. KAZANSKY: And I believe it should be a very high bar. And I, for one, get upset when we spend more time talking about whether or not we are going to divest from a company that we have a few million dollars in than whether or not we are going to invest in other kinds of stuff that we normally invest in. I mean, ultimately we haven't done a lot of divestment to date. The divestment that we have done recently has really been de minimis. And, you know, I think having a good solid policy is a good move and I think setting a very high bar is a smart move, because I am confident that there is a group of people out there who would like us to divest from every single industry that exists currently from one reason or another.

So I definitely think we should have a high bar where we can say to those folks listen, you may have a point, but we have a policy and a process that is very strict and very laid out and it makes sense for us to review whether or not this even makes sense to consider. And I think the higher the, bar the better. I think -- I don't think anything in here precludes us from divesting. I think it just makes it a more -- makes it what it should be, which is an absolute last resort for what we are supposed to do as a board.

MR. RODRIGUEZ: I understand that. My feeling, I think we should have a high bar and my personal belief is that we really shouldn't

I mean generally. But I was just thinking if you are comfortable, if we are comfortable with this being the bar being -- the way I read this, really we should never divest. And so folks reading it differently, but that was my takeaway when I read this portion.

MS. VICKERS: I think we also all agree there should be a very high standard. And as fiduciaries we have to have the high bar, but I don't think we are going to adopt this verbatim. Do you want to volunteer to work on it a little bit, which --

MR. RODRIGUEZ: I think this one in particular, because maybe it's adding bullet points or what have you. I think I have expressed that.

MS. VICKERS: I mean, I think that this is maybe the core of what we are getting to. And if there needs to be some editing, there could be editing. But I am comfortable with using this as a basis.

MR. ADLER: I think it's fine. We are not making any decisions here except to consider a divestment policy and I think that makes sense.

I just want to point out one thing about the implications of this, which is that for all intents and purposes our use of a permissible countries list is a divestment. We have divested from Russia and China and other countries that are not on our permissible countries list, so one could argue -- I am not making that argument, but I think one of the implications of this is that if we subjected that policy to this proposed policy, I am not sure that we would maintain that list, you know what I am saying. So I just think that's something we should consider that we call it permissible countries list, but what it's really doing is creating a divestment list. When we are investing in emerging markets, we are saying we are not going to invest in these set of countries.

MR. KAZANSKY: But we have had moments where investment opportunities have been brought to us where we said this is fine even in these companies, especially in the private markets.

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MR. ADLER: Correct. But in the public market we have never done that, to my knowledge. But, anyway, just something to throw into the pot as we consider this policy.

MS. PELLISH: So, Valerie, in the review process, therefore, would the permissible countries list be applied and have to adhere to the review process?

MS. BUDZIK: I mean, would it have to? I mean, I would argue it probably should.

MS. PELLISH: Because it would fall -- as John is saying, fall into the bucket of divested securities?

MS. VICERS: Right. As we are doing with some other boards, there is a different process for coming up with a permissible countries list. So maybe -- and I thought we talked about it maybe in the beginning of our IPS discussion, that the permissible countries list because we have had to come for exemptions, maybe it could be looked at and revisit the policy of using that list or how we came to that list or what went into that list. So we can either bake it into this or maybe the permissible country screen needs its own discussion and policy.

MR. ADLER: We will put that on our to-do list.

Okay. So do you feel like there is enough direction here to move forward? And I know Antonio has been volunteered.

MS. PELLISH: He didn't accept the challenge.

MR. RODRIGUEZ: I did. But, John, thank you for articulating what I was trying to get out inartfully. Again, this is saying you should never exclude anything from your opportunity set. That is what I am seeing this policy as saying, that ultimately mechanisms to limit your opportunity set are essentially invalid. And so that's what, to me, I was getting at.

MR. KAZANSKY: I think invalid as much as unadvisable, right, and then it's our decision to determine whether or not in this particular case it makes sense.

MR. ADLER: So I just think we should keep that in mind as we craft this policy is the point that, you know, even calling it inadvisable doesn't make me terribly comfortable from a fiduciary perspective. Because if the board does something that's inadvisable, then that probably lays us open to challenge and so...

MR. KAZANSKY: That's why I will leave the wording to the professionals.

MR. ADLER: What we are really doing is trying to create a policy that makes our decision advisable, as it were. I don't know if that's the right term, but whatever the term.

MR. LEVINE: Having a clear process for determining whether it's decided to be appropriate.

MS. BUDZIK: In certain respects I would say it's what follows after the beliefs statement is that, you know, we do recognize there are instances where whatever company is -- that's the substantial social injury trigger, so it's not never. It's just, you know, slow down and you do have the trigger, the bar is high.

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MR. ADLER: And I do think frankly that the process of running this proposed policy through reverse engineering in terms of the decision we have made, whether it's specific divestments we have taken or policies that we have adopted, is something that we should do. Not adopt it in a vacuum, but look at it in terms of even if we haven't had this process to date, but seeing to it that the process would not preclude us from taking decisions that we have taken in the past that we think are appropriate.

MS. BUDZIK: Correct. Correct. So I guess there is direction and then we are getting input from Susannah and Antonio and our goal would be at the next board meeting to have a draft.

MR. ADLER: I would say if you could, do it by then. When you are saying Antonio and Susannah, is there a Teacher member who would be part of it?

MS. BUDZIK: Oh, they are part of it, but they have specific items.

MS. VICKERS: I volunteered to put in a

piece.

MR. ADLER: And Antonio has some specific item.

MR. McTIGUE: Rewording on the TIAA-CREF.

MR. ADLER: Terrific. Any other comments or questions on the divestment policy? Let me just commend the staff for the work that you have done on this.

MS. BUDZIK: I mean, Miss Sara Chaudhri she is sitting there on the bench, but she did a lot of work gathering the policies.

MR. ADLER: Great. So now I think we move to our final item that we added at the beginning of this agenda, which is the discussion about co-investments.

MS. VICKERS: So I will introduce David Enriquez. For anyone who doesn't know him, he is a senior member of our private equity team. Alex Done worked with him in developing this educational presentation. Alex is leaving today, probably on his way to the airport for a well-deserved vacation over the weekend.

So take it away.

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MR. ENRIQUEZ: So let me introduce myself. I joined the team at the Bureau of Asset Management about a year and a half ago. And just to set the discussion in context: You may recall at the December CIM when Alex presented the annual implementation plan for private equity he had mentioned, and I think we had a slide in there indicating, that the BAM team has been doing market study work and we were going to come back to the trustees for some preliminary views and findings. And so that's what we did at the August summer session, so that's sort of the spirit of the materials that we want to present to you today.

I think also, you know, having participated in the August session I would encourage you to interrupt and ask questions, make this as interactive along the way as possible. So I think, you know, you will see on Slide 2 the key topics that the team is focused on are listed there. What we want to cover today is what is a co-investment; how large is the market opportunity, what are the

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potential strategic and financial benefits to the systems, as well as what are the challenges. And that's kind of been the focus of our work so far.

Just to kick it off with what is a co-investment: As many of you now know, and also just reference there have been a number of manager commitments as you may recall in the past twelve months where we have had co-investment sidecar vehicles, so we do have some experience in co-investing. But they are equity or credit investments in private companies and really assets alongside the general partner where the general partner will manage, monitor the investment, determine exit timing, sit on the board. And the limited partner co-investor is a minority equity investor alongside our manager. One of the key advantages -- when we talk about size of the market and give you our estimate of the market size, one of the key advantages and key drivers is at least in private equity they are typically with zero management fee and zero carried interest. In the other asset classes,

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they are at significantly reduced fees and carried interest. So they are fee-favored strategies or an asset class. One of the key distinctions is unlike fund commitments where we as a large LP or significant LP can have some influence over the timing of the closing because you will have sometimes multiple closes in a co-investment, it's an investment in a direct company or infrastructure project where it's driven by the deal timing and, more or less, a mergers and acquisition process. So as a minority equity investor, we have less control over the timing.

I will just pause there for any questions. Okay, I will keep moving along.

So within a co-investment marketplace, there are three types of co-investments. We put them in these broad categories. The first is what the markets call a co-sponsored deal where an LP is essentially working side by side with a general partner in originating, sourcing the transaction, conducting due diligence. And there we would call this sort of a six-week time period just to give it an

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estimate. And then we have a co-underwritten deal where the general partner is working on the deal, they are processing it, and they have gone through a level of due diligence, and then they will invite a limited partner to join them in and co-invest. And that timeline could be four weeks or longer. And then there is something that we call, the market calls, a syndicated deal. And that typically is where the general partner has made an equity commitment to invest or acquire a company and they take -- for example, let's say they are writing $100 million equity. They may do 80 million themselves, they will reserve 20, and either close to closing the transaction or actually after they sign and fund, they will take the $20 million and syndicate that to LP co-investors.

The important thing to mention is the time difference period can differ based on when you are getting in on the deal. So going down the column you get involved very early as a co-sponsor and you get involved very late as a syndicated co-investor, but the decision-making time frame is always going to be tight. It's just either going to happen earlier in the process or at the end of it. And when we looked at the co-investing activities of NYCERS of the five systems, it's not as if we have not been co-investing at all. From a private equity perspective, just a reminder I think it was in the summer of 2015, before my arrival, the board approved a private equity sub-allocation to co-investing, which I believe was up to 15 percent of private equity. As we mentioned, we do have some sidecar vehicles. But when you look at the four private market asset classes, there have been a level of co-activity. So, as I mentioned, in private equity we have -- historically we have been LPs in co-investment funds that just co-invest in a co-mingled fund. So we are just a straight LP and then we have also done sidecars. Yvonne and the real estate team, they have six real estate co-investments in the real estate portfolio. And they have evaluated north of ten and they worked with their specialist consultants to execute on those transactions. Infrastructure, they have been invited to co-invest in a number of transactions. And they have evaluated them, but they haven't chosen to pursue the co-investment yet. And Wesley and private debt or opportunistic fixed income team, they are evaluating the marketplace and what would be the best approach for their asset class. So there is a level of exposure and experience already within BAM.

As you will see on the next slide, Slide 7, when you look at what our public peers are doing and as you see the bar chart here, these are bars based on total assets under management. We are at NYCRS kind of standing alone, taking a kind of ad hoc approach. So the private market our approach has been if a GP invites us to co-invest, we may choose to evaluate the opportunity. We have sidecars, but we don't have a defined systematic program. All of the other public pension plans listed here, they have a program and what we have learned is there is a range of

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approaches. Some do it in-house where they have their internal team work directly with the GPs on co-investing. Others will have what we call an outsource model, where they hire a manager and allocate capital. It could be a separate account or we have seen something called a club structure, where some will have three or four public plans working with a professional co-investment platform and they will manage that capital and then allocate to the four or five plans. And then others take a some sort of hybrid approach where they are doing something in between those two.

Then we took a shot at trying to quantify the market opportunity you will see in Section 2 on Slide 9. There has been a lot of market interest and chatter and focus on co-investing. The challenge is unlike fund commitments, there is no requirements for GPs or LPs to report to any regulatory authority how much co-investment they are offering or how much co-investments they are making. So these are market estimates. So what our

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approach, what we did, was McKinsey & Company published an annual private equity study and they were estimating the co-investment market and they also use a term called "shadow capital" represents anywhere between 10 to 12 percent of total capital raised. And so what we did was we applied that 10 to 12 percent range to capital raised in 2016 for the four private market strategies. And you will see as a total, it's about a 60 to $70 billion marketplace.

So that's our estimate and, you know, this is kind of rough numbers, but I will try to take a step back and what I point out is the significance is twofold. One is that the total market is 60 to 70 billion. And even in each of the four classes, the co-investment markets, first they are deep enough that you are able to be highly selective. If these were small markets, selectivity is a key element. And the second point is as a large public plan, you know, we are kind of in the top five. And, as you know, we make large commitments in private markets kind of on a

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fund basis. It's deep enough to -- it's deep enough for the five systems to deploy meaningful capital because if it wasn't deep enough, then you wouldn't be able to move the needle or efficiently invest.

MR. ADLER: I think this kind of understates the market because you are just talking about one-year capital rates.

MR. ENRIQUEZ: This is an annual basis.

MR. ADLER: If you are saying in general funds raises across three or four years, you are really talking about at any one time the market is probably at least three times this.

MR. ENRIQUEZ: That's a very good point. And I would say I did find some studies and a couple of articles where they were mentioning that the size of the market was almost say 5 to 7 percent of capital raised maybe 10 or 12 years ago.

And I will get to a slide because it's been driven by -- and maybe this is worth just addressing that now. LP demands to GPs for lower fees, right, and the response from our managers and the industry has been well, we will offer, you know, co-investment on a no fee, no carry basis for a small piece of equity. And what the GPs discovered -- and this is a key question because we are sort of why would GPs do this, why were they providing fee-favorable, no-carry investment opportunities and they are doing it for a number of reasons. One is it provides them to manage their portfolio from a risk point of view. So let's say in a given investment having 15 percent exposure to one asset they will say we want to be a 10, so they will reduce their commitment and syndicate as co-investments that remaining 5 percent so they will use it as a portfolio management tool. So as we do diligence, some of the large cap managers that I have worked on -- since I joined the team, a lot of the big managers have learned this from the financial crisis; they have too much exposure to one asset that could significantly impact the portfolio, so they using it as portfolio management. And they also found that, you know, from their perspective they want to build strategic long-lasting relationships with their big LPs, right? So by offering co-investment, that becomes fee favorable for the LP and at the same time -- and this is something that it's sort of an intangible that we address later on. At the same time instead of interacting like from the investment staff, instead of interacting every three or four years on the fundraising cycle where they are out marketing and we do our diligence and present to the IC and then come to the CIM, when you are doing co-investments you are interacting on individual deals during that three or four-year period when they are in their investment period. So then from a GP's point of view they spend more time with the investment staff and they develop stronger relationships, which is also a benefit for us as an LP which I can get to later. So they have found that strategically it makes sense for them and that's their sense of why the market has broken and why the GPs continue to offer co-investment.

MR. KAZANSKY: If we get into a private

equity deal of ten years and the first five are the investment period, does the co-investment have to happen within that investment period of those first five years or can it happen at some point later on; you know what I mean?

MR. ENRIQUEZ: Right, it depends on how a program is set up. I will give you an example. Are we in public session?

MR. KAZANSKY: A hypothetical would be wonderful.

MR. ENRIQUEZ: I will give you a hypothetical or how some other LPs do it. Some LPs who have like a dedicated program, they allocate let's say just for round numbers $100 million to co-investment. They are able to source to potential transactions, you know, decline transactions, accept transactions regardless of the length in the fund's investment period because there are multiple managers in their portfolio relationships. I think that's different from like a sidecar vehicle where your co-investment opportunity lives simultaneously with that fund, so there

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is the difference. So if you have a co-investment program that gives you that maximum flexibility, then you could -- you are not locked into an investment period and you are not locked into a manager because --

MR. ADLER: But a manager is not going to bring you -- if you are not an LP with that manager, they are not going to bring you a co-investment opportunity, are they?

MR. ENRIQUEZ: No, that's right.

MS. VICKERS: But the co-investment opportunity could be separate and distinct from the fund.

MR. ADLER: Understood. Let me ask this question: Let's say you are an LP in Fund 4 which has a four-year investment period but for whatever reason you decline Fund 5 and then in Fund 5 they got a deal they are looking for co-investors, might they bring you that deal if you have your own co-investment?

MR. ENRIQUEZ: I think it depends on facts, on circumstances if an LP declined Fund 5.

MR. ADLER: There may be a reason for

it.

MR. ENRIQUEZ: There is probably a reason. If you don't have conviction in the manager going forward, you are probably not going to want the co-investment. We talked to LPs recently where they are in Funds 2 and 3 of a manager. They missed 4 due to the financial crisis, but they continued to do co-investing with them and they are coming back into 5 which is marketing at 18. They are planning to go into 5, so I think it depends.

MR. ADLER: Understood.

MR. ENRIQUEZ: But I will keep going along, so feel free to interrupt. So on the next slide, that's where I had addressed a little bit about why GPs are offering co-investment and this was a survey. There was also a survey on the left bar chart, Preqin 1, of the sort of databases and resources when you do market studies. They did this survey and you could see there is a positive or upwards trend in terms of GP interest in offering co-investment for the reasons that -- some of them I touched on this on Slide 10.

So the next slide, as BAM did work doing some desktop research, talking to our peer institutions, talking to other LPs who were not public plans, we tried to get a sense of who is co-investing. And what we summarize on this slide is basically nearly every type of LP is actively co-investing. And the reason -- we will get into it, because there are significant financial and strategic reasons why. But they are taking all different approaches for many different reasons based on their strategy, the type of institution, which asset classes they are looking at. But Slide 11 just sort of, you know, kind of summarizes it's a widely implemented strategy among the limited partner members.

So Section 3 we will just dive into what are the potential strategic and financial benefits. The first one is the ability to outperform. And since I am on the private equity team, just to give you a sense from a perspective, our estimate based on industry

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research and looking at some of the returns from co-investment strategies is a delta compared to just private equity funds. There is like a 400 to 800 basis point potential for incremental returns from a co-investment strategy and that's driven by two things. One is you have a no fee, no carry tailwind. So immediately what you normally see as the gross net spread of fund returns, you would just eliminate that. And then the second which, you know, the BAM team has learned in talking to co-investors and other LPs is being highly selective. The key is to be selective in the investments that you make. You know, the typical approach is, you know, in terms of the standard for being highly selective, the way we see it using round numbers if you source 100 invitations from your GPs to co-invest. You would want to go into due diligence on 20 percent of them and probably invest in 3 to 5 percent.

And one of the things I would say to highlight is, you know, you also have to think -- these are also from your GPs or let's say your primary report GPs. The private equity investors, they themselves are spending months, if not years, trying to source and acquire companies. And we always see this when we do fund due diligence, they will show us -- they always show us the deal funnel. So they start with 300 companies they are tracking and they go into due diligence to like maybe 40 or 50. They submit bids on twenty and acquire five. So co-investors benefit from almost that initial filtering of the GP. So your GPs are highly selective. They generate opportunities in co-investments for LPs and then an LP has the opportunity to be selective on top of that with your own filtering device.

MR. RODRIGUEZ: David, I have a question on the first, on the ability to outperform. On the 400 to 800 basis points, are they risk adjusted? Your estimates on return, is that just because each individual deal by itself is going to have a mean return with a large kind of variance if it's just individual deals, so is that risk adjusted?

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And the second question is: How much of that estimate is strictly fee related? Because the no fee, no carry is a very large portion of homework, I can imagine. Was it C and benchmark says something like 300 basis points --

MR. ENRIQUEZ: Gross to net spread.

MR. RODRIGUEZ: -- of the difference? So I was wondering: Where did that estimate come from?

MR. ENRIQUEZ: It's a great question. It's something we struggled.

MR. KAZANSKY: First great question of the year.

MR. ENRIQUEZ: The way we get to this rough estimate of 400 to 800 basis points is we kind of took a multiprong approach. And there is a study that Prequin did, which I mentioned before they published, where they compare co-investment funds because there are funds where they have a dedicated strategy where all they do is minority equity co-investment. They are not buying companies themselves; they are co-investing alongside

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GPs. So you will often find with this platform, that has like a primary fund-of-funds program like BlackRock or HarbourVest or others. So they have the GP relationships and they get invited so they will co-invest. So Preqin did a study where they looked at publicly available data of co-investment funds versus just normal buyout funds and that's where there was a spread of call it 200 to 600 or so basis points. And then we had other multiple sources where we looked at our own view of like in our e-portfolio gross-to-net spread what we typically see and then you had just performance. Because when you look at some of these co-investment funds who are out marketing or have their returns available, we sort of estimated it's a fairly wide range. It's 400 to 800, double the lower end. But we don't have an exact number in terms of what would be the driver. If -- I think a significant portion of that is no fee, no carry because like I read a really interesting article where they said there is no such thing as an average investment; it doesn't exist because everything is all over the place. But if you look at average numbers, and there is a study here that we have an appendix, if you invested in the same average private equity investment and you got rid of the management fee and carry, then you are immediately starting with about call it 2 to 300 basis points of uplift, but the challenge is there is no such thing as an average investment. And from our perspective of BAM and doing the market study and the research, the key is being selective.

MR. BROWN: Is the due diligence different in co-investments? I would assume if it's a single investment instead of investing in funds --

MR. ENRIQUEZ: It is. We list that.

MR. BROWN: How is this different?

MR. ENRIQUEZ: I mean, there is only a few bullets. But on Slide 20 there, it's one of the key challenges to co-investment.

MR. ADLER: I don't have a Slide 20.

MS. VICKERS: Slide 15.

MR. ENRIQUEZ: Slide 15. So it is very different and I can speak to it kind of from a personal basis just because I -- before I joined the Bureau of Asset Management, I was an M&A -- I worked in M&A advisory, so working with private equity firms on acquisitions and sales. And started out as an M&A lawyer, so I come from the transactional side.

So co-investing involves two types of due diligence. It's direct asset due diligence, so it's looking at a company, income statement, balance sheet, doing financial analysis on the company. But it also, which is very important, involves what is our bread and butter which is manager due diligence. So, for example, as you may recall when I first joined we just did a re-up commitment to Vista Private Equity, the big tech buyout fund. So like if Vista --

MR. ADLER: That's okay. That's an existing manager.

MR. ENRIQUEZ: So you want to look at co-investment opportunities that are directly in the core of what your managers are doing.

So if a tech buyout fund were to offer us a co-investment opportunity, that is an enterprise software going private where they have that track record and it's the right partner who does it. And then we also layer onto that due diligence on the company and that's what co-investment involves, two skill sets. Manager fund due diligence kind of meeting with direct asset due diligence.

MS. VICKERS: Which is different that direct asset due diligence is not necessarily part of what we do.

MR. ENRIQUEZ: It's a different skill set. And that's -- and what I would mention, since this is public session I won't use names, when you do look at the BAM investment staff, in each of the private asset classes there are senior members who have direct experience, whether it's on the lending side or the advisory side or the banking side or the investing side where they have experience, doing the kind of asset specific due diligence that co-investment requires. So there isn't a -- from a profile of the team, there isn't like a complete disconnect.

MR. ADLER: So like just to put a fine point on that: If a private equity manager with expertise in enterprise software came to you with a great deal for furniture retail chain, you would like kind of askance where they are not doing their bread and butter, but outside their --

MR. ENRIQUEZ: Yes. And when we talk to fellow LPs, other institutions, a lot of times they will have an initial checklist where it's sort of kind of a two-page memo internally where it's is this core to the strategy, who is the partner on the deal, what's that partner's track record generally and then within the subsector, and then that may be the first filtering device when you start out with a hundred opportunities and you eliminate eighty of them. Oftentimes as we learn that's not core to this manager's strategy, that's not their strength, we would rather do this type of deal with someone who has more experience because there is too much risk there.

MR. ADLER: Can I just ask another I think related question that you may think it's unrelated, we will get to this, which is: Isn't there a concern that where managers have no specific criteria for what takes co-investment and what doesn't, that they basically are bringing -- not you per se, but bringing co-investment opportunities for deals where maybe they don't have 100 percent conviction and they want to lay off their risk, so if they think this deal is a home run they are going to keep the equity for themselves; if they are not so sure or maybe they think this will be a single or a double, they will say let's get Mikey over here?

MR. ENRIQUEZ: I remember Mikey. He died eating Pop Rocks.

So there has been questions around that. So there was a study that was published by Josh Lerner up in Harvard Business School talking about what they call adverse selection, which is your point --

MR. ADLER: Yes.

MR. ENRIQUEZ: -- where, you know, the

GP is in control. There is information asymmetry, they may have a bias to offer for co-investment the riskier, less attractive opportunities and keep for themselves the ones they have a higher conviction in, so Lerner study created a lot of concerns for LP and co-investors.

There was a study that just was published in November of '16 by three authors Braun, Jenkinson, and Schemmerl, and a summary of it is on Slide 21 in the appendix.

MR. ADLER: Again, we don't have the appendix.

MR. ENRIQUEZ: But I do have a hardcopy of the study. It's an academic study, so I can share. I have five copies and I can e-mail them. They took the approach of looking at a longer period of time. They went from 1981 to 2010. They looked at 13,400 deals from about 465 funds, so that's the initial opportunity set. And then there were about a thousand co-investments and what they did -- and geographically split it was 61 percent U.S., 30 percent Europe, and the balance 9 percent other. And what they did, they compared the performance of the co-investment opportunity to the funds that didn't get offered for co-investment. And what they found was there was no adverse selection. The return -- I am going off of memory, but it's in the study. The co-investments generated 1.71 percent on a multiple basis and the fund ones generated 1.75 or 6, so there was no like statistically significant difference between performance. And so that study, which was more comprehensive, kind of refutes the more previous academic study.

And these are academic studies they use their databases, but from our perspective what we see is it's in the GP's interest I mean to have, you know -- I think it's different like you were saying if there is a GP -- or maybe you weren't saying this. A GP who offers co-investment to somebody who is not an LP, then your red flags are going up. But with respect to an existing relationship, our view based on what we learned so far is the GPs have the incentive to offer -- not to kind of dish off to LPs higher risk investments and this academic study seemed to support that. But I think even buttressed by the performance of co-investment funds that are out there, they have been able to outperform the straight private equity fund benchmark.

MR. ADLER: On a net basis, because I wondered about that.

MR. ENRIQUEZ: Yes, I mean, from what I have seen on a net basis.

MR. ADLER: Okay.

MR. KAZANSKY: Why sour the relationship with a bad co-investment.

MR. ADLER: Well, bad or not as good, you know, whatever. I mean, I don't think these guys are -- you know, have larger hearts than anybody else on Wall Street. I think they are out to maximize their own earnings. I am such a skeptic.

MR. ENRIQUEZ: I agree. It's not a matter of generosity that they are offering co-investment, but I think it's -- sort of from a GP's perspective, it's relationship building and enhancing that relationship which increases the likelihood of, you know, the more you get to know us if you work with us on a co-investment and you are in Dallas or Missouri looking at a manufacturing company not with the head of investor relations, right, who is our contact on fundraising but with the deal partner who works on auto manufacturers, then you get to know the team in a different context. And that it's sort of, as I mentioned before, it's -- again, it's on Slide 10 -- from their perspective, strengthening the LP relationship with multiple touch points creates more of a relationship where it's more likely that you will continue as an investor in the fund.

And there is also -- you know, it's worth pointing out there is also opportunities; we have seen this and heard about transactions where you could be what they call a strategic LP co-investor. So, for example, if there were -- and I don't know the details because I am not on the infrastructure team, but I know they reviewed a number of

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co-investor opportunities like an infrastructure project, investment opportunity in the metropolitan area or in New York State where having New York City as a co-investor enhances that investment consortium or that manager's ability to either win the mandate or to execute on it. We have seen that happen. We have heard of instances where some of our GPs, they have done that where they are buying a portfolio company in Asia and they want to make sure they get Temasek or GIC, one of the Asian sovereign wealth funds as a co-investor. Or the same thing in Canada, there was one GP they had an asset they were buying in an Canada and they got a couple of big Canadian pension funds involved who were very active in co-investing. So there are opportunities where you could be strategic as well.

MR. LEVINE: In some cases they want control, but they don't want certain tax structures where they have too much ownership. The LP can be a more valuable partner than having a club deal where they have to deal with other firms that are doing that type of valuation. So it could be good for types of tax planning and management planning, so that's a whole another reason for why to do it which ties into why this over club deals.

MS. VICKERS: I don't know if this is applicable, but I just recall from recent discussions with another manager that we have a relationship with they talk about differentiation of their revenue stream. And it's good for them to have different kinds of relationships and different kinds of products and deals. They are not just for all the same lens.

MR. ENRIQUEZ: So I think I hit the point on outperformance.

I think just quickly, I want to be mindful of time, on Slide 13, the other potential benefits of co-investing, it provides a pension fund system or any city LP with active portfolio construction. What we mean by that: As we monitor let's say in private equity, we monitor the portfolio and you look at the geographic distribution of investments, industry distribution,

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sub-strategy. And by "sub-strategy" would be say buyouts, growth, special situations turnaround. To the extent that, you know, the economic environment or the investment environment provides opportunities, you know, that we would like where we identified where we may be underweight, co-investment allows you to invest capital that are immediately in the ground. Unlike committing to a fund where you commit to a manager and they have whatever, a three, four five-year investment period and you don't have control over where they go. If you are a general buyouts manager, where will the initial investments be in distribution manufacturing healthcare business services. But if an LP is monitoring a portfolio and you say, you know what, we are very underweight in health care or we have too much exposure in Western Europe, co-investment allows you to invest capital and immediately address and sort of tactically do that. Not that anybody is a market timer or you can time anything, but in a slow -- as we are in a slow growth/high-valuation environment, as we explore this opportunity, you know, do you want -- do the systems want to consider being in a system where you can make tactical decisions that can be more opportunistic and more advantageous.

MR. RODRIGUEZ: Kind of following up on that, because this is far out to the future, but with fund investing we also usually get -- annual planning folks get a feeling who is coming to market pretty soon. So even though it's not perfect, you do have kind of an idea of what the flow of funds is going to be. With co-investments deal flow, I can imagine there is much more variability in deal flow and the opportunity to kind of plan out is a little bit less able to kind of plan than with kind of the fund investment. So when you give discretion, it's sort of fairly wide bands on your year to year co-investment program.

MR. ENRIQUEZ: I would think about it this way: If an LP were taking what I call an opportunistic approach where you are waiting to be invited like to co-invest in this company or this infrastructure project, then

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you are right. I think it's a question of but if the programs that we have learned about in the marketplace, whether they are public plans or private plans or sovereign wealth funds, what they do is they actively source. So they will go to their existing GPs and say, you know, we have a co-investment program, we are interested in these types of industries, these type of transactions, and this equity check size.

And the way we -- what Alex and the private equity team when we talked about this, based on what we learned so far I think the right way to think about it is how could a co-investment program like for private equity complement the existing fund portfolio. Like it doesn't exist in isolation. It shouldn't be a, you know, you will build it as opportunities come in. It should be let's look at the PE fund portfolio and then how can this enhance returns. And that's this point about being tactical and being a portfolio construction tool. It would allow the systems to say okay, we need more exposure to this

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geography, this subsector or this PE strategy. Just like in the annual implementation plan where I think even last year we sort of recommended, or the consultants recommended to us as well, leaning into certain strategies like turnaround special situations then, you know, a co-investment program allows you to further execute on those types of plans. So I don't think it should be something that's seen in isolation. It should be something that's within the control of the systems. And I think -- on Slide 13 we have covered some of the other potential benefits.

Just real quickly on enhancing the fund investment portfolio, the way we think about that is the point I made before: When you are working on a co-investment with a manager, you are side by side with their deal team on a specific real estate project infrastructure investment or company and that allows the relationship to develop over time. So when they come back to market for a fund commitment, we as an investment staff can conduct more rigorous due diligence because we

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actually know how they have underwritten these assets. We are not just getting the quarterly update or the annual meeting presentation. We were in due diligence with them and it allows us to be more efficient, because we have spent more time with them beyond a traditional fundraising cycle.

Fee efficiency we covered. Only one thing I would note is that private equity is generally no fee, no carry, but that doesn't factor in a vehicle or program that may be set up that would incur some fees, right? Like if we were to do co-investing directly from the GPs, the invitation we get there is no fee, no carry. But some of the other plans we would get whether they are outsourced or partners, there is some incremental fee involved because you are using third-party resources as an extension of staff.

And then lastly putting us on level playing field, that others are like other plans are doing it and it also allows us to be competitive in terms of securing the allocation size that we want in our fund commitments. I think as we have all experienced in the past twelve months or so, a lot of high-performing large funds have had very quick closes. And I know the team's private equity and I am sure other asset classes, it's always been a tough negotiation to make sure we secure a large enough allocation. And co-investing would be one incremental way for us to do that.

So on the challenges, we have identified three, you know, main ones worth highlighting. And the first is sourcing high-quality deal flow. I think that is sort of a key fundamental starting point for a successful co-investment program and that's something we would be able to do with our primary managers. We did a quick internal review and the have a vast majority -- at least within private equity, the vast majority of our key private practices do actively offer co-investments to our LPs. Deal selection and execution, I think I covered kind of starting with a hundred opportunities you would probably due diligence twenty and then, you know, close on three or five. And also the point that was raised earlier about it requires two different types of skill sets in due diligence; the fund manager due diligence which we do regularly, as well as direct asset company real estate infrastructure due diligence.

MR. ADLER: Can I just ask a follow-up question?

MR. ENRIQUEZ: Yes, please.

MR. ADLER: You mentioned earlier we have people in each asset class team who have that experience to do both types of diligence. So would that mean that if we were to move towards creating a dedicated co-investment program, my assumption is that you would need to add staff for that and the expectation would be that you would come back if a program were approved with a request for funding for additional staff?

MS. VICKERS: I think sort of the overall recommendation if the board wishes us to go back and sort of come up with more detail would include that, you know, depending on what way the board wants to do. It would depend on more what kind of additional staff we would need.

MR. ENRIQUEZ: I guess to address the question, the way I would characterize it is our existing team there is -- within each of the alternative private market asset classes, there are senior professionals who have experience with direct assets whether it's investing, lending, financing. So they have the skill set to look at corporate balance sheet or real estate or infrastructure. But from a resources point of view just to give you a benchmark or perspective, one of the large sovereigns has a team focused on co-investing and the co-investment team, they do it internally. It's 22 professionals. That's just for co-investing. When you look at the platforms like the third-party managers that have dedicated co-investment funds, the teams may range from, whether they are North American-focused or global, like 15 to 30 professionals and that's from the analyst list to up to the senior managing director level. So, yes, resources is, you know -- so we have a starting team in terms of being able to manage programs and do analysis, but it's definitely more resource-intensive, you are right.

MR. KAZANSKY: And I don't want to use the word, but I can't think of another one: But the tradeoff may be whatever we are putting out there as far as salaries to bring on this new team, we would be saving that and receiving more because we are not spending money on fees?

MR. ENRIQUEZ: Right, and --

MR. ADLER: -- excess return.

MR. ENRIQUEZ: Based on some of the research that we have done on a high level, there are different approaches. Some do it in-house and this is -- and I know we are in public session, but this is public. I think the Canadians, for example some of the Canadian pension plans, they do it in-house, but they also have a totally different compensation system where they pay close to market.

MR. ADLER: I would say they pay market.

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MR. ENRIQUEZ: They pay market. And then others partner. And by partnering it's like, you know, you form an SMA or a fund of one and then you have a team from a platform, a third-party platform, that works with the LP on a separate account to mine the co-investments, execute side by side. And oftentimes -- and it goes different ways. Sometime that is LP, I am thinking of public systems in the U.S. Sometimes they will retain discretion over the investment decisions while still working on third-party. And others, they give discretion to that third-party co-investment manager. So there is really a range of approaches. I think my preliminary view, as we look at it, is there is different approaches. I think they are all -- all these issues are solvable. It's just a question of what makes sense for any given institution.

MR. ADLER: Artfully done.

MR. ENRIQUEZ: Thanks.

I think the third challenge that we highlighted, I mentioned this when it kicked

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off, they are often driven by a mergers and acquisition process or transaction process whether it's real estate, infrastructure, debt, or private equity is decision-making. We as a system and at BAM, we are designed for a fund commitment process which kind of ranges -- call it six to seven months like from when we start due diligence, move forward, go to IC and finally close. Co-investments speaking from a private equity perspective where you are investing in operating companies, co-investment as I also mentioned before they can typically be like a six to eight weeks process, right, where you making multiple decisions in a very compressed timetable. So you get an invitation to a transaction, you are often asked to sign a nondisclosure agreement within 24 or 48 hours, so then you can receive more information on the company. The GP will typically ask for a preliminary, are you interested in doing diligence and looking at it or are you passing within another 24 or 48 hours, and then you get access to -- if you move forward, you get access to the data room, several weeks of due diligence, you know, reviewing documentation, working with a GP. We may meet with a management team or participate in management presentation and then you get to, you know, preliminary investment decision, final investment decision, signing, closing. And so it's different than the way we are architected for a fund investment and that's just the nature of that asset class. So that was one thing we wanted to just sort of highlight as one of the challenges.

And I guess to conclude: From a private markets perspective, BAM and certainly predates my arrival working with you, the trustees and the other trustees of the four other systems, to kind of take an approach to private markets, we are trying to reposition to have higher performance at the lowest possible fee structure working with BAM and the OGC team. And when we look at the private markets portfolio, we have relatively mature private assets in equity and real estate and growing assets in private debt and

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infrastructure. We do consider co-investment as the potential logical next step to drive returns as well as reducing the fee burn. So as we wrapped up our work this summer in preparation for the August session, what we would like to do is continue doing more work around the co-investment market opportunity and potential available structures and approaches and then come back to the boards in the fall or winter with a point of view and a recommended approach.

Happy to field any questions.

MR. BROWN: Great presentation.

MR. ENRIQUEZ: Thank you.

MR. ADLER: Thank you. Okay, I think that concludes our public session.

If there are no other issues for public session, I would entertain a motion to exit public session and go into executive session.

MS. PENNY: I move pursuant to Public Officers Law Section 105 to go into executive session for discussion regarding specific investment matters.

MR. ADLER: Thank you. Is there a

second?

MS. VICKERS: Second.

MR. ADLER: Motion made and seconded. Any discussion? All in favor of the motion, please say aye.

Aye.

MS. VICKERS: Aye.

MR. THOMAS: Aye.

MS. PENNY: Aye.

MR. KAZANSKY: Aye. All opposed, please say nay. Any abstentions? Motion carries.

(Meeting went into Executive Session.)

MR. ADLER: Okay, so I think that concludes our business for the executive session; is that correct? So can we have a motion to exit executive session and return to public session?

MS. VICKERS: So moved.

MR. ADLER: Second.

MS. PENNY: Second.

MR. ADLER: Great. Motion made and seconded. Any discussion? All in favor of the motion to executive session and return to public session, please say aye.

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Aye.

MS. VICKERS: Aye.

MR. THOMAS: Aye.

MS. PENNY: Aye.

MR. KAZANSKY: Aye.

MR. ADLER: All opposed please, say nay. Any abstentions? Motion carries.

Okay, we are back in public session. Susan, would you like to report out on executive session?

MS. STANG: Certainly.

In executive session, several manager updates were presented as well as a discussion of a composite within Variable A. Consensus was reached on one issue which will be announced at the appropriate time.

MR. ADLER: Great, thank you very much.

If there is no other business for public session, a motion to adjourn would be in order.

MR. KAZANSKY: So moved.

MS. VICKERS: Second.

MR. ADLER: Any discussion? All in favor of the motion to adjourn please say aye.

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Aye.

MS. VICKERS: Aye.

MR. THOMAS: Aye.

MS. PENNY: Aye.

MR. KAZANSKY: Aye.

MR. ADLER: Any opposed, please say nay. Any abstentions? Motion carries.

[Time noted: 1:09 p.m.]

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C E R T I F I C A T E

STATE OF NEW YORK)

: ss.

COUNTY OF QUEENS)

I, YAFFA KAPLAN, a Notary Public within and for the State of New York, do hereby certify that the foregoing record of proceedings is a full and correct transcript of the stenographic notes taken by me therein.

IN WITNESS WHEREOF, I have hereunto set my hand this 17th day of September, 2017.

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YAFFA KAPLAN