0001

NEW YORK CITY TEACHERS' RETIREMENT SYSTEM
INVESTMENT MEETING
Held on Thursday, June 2, 2016
at
55 Water Street
New York, New York

ATTENDEES:

JOHN ADLER, Chairperson, Trustee, Finance
MELVYN AARONSON, Trustee, TRS
DEBRA PENNY, Trustee, TRS
THOMAS BROWN, Trustee, TRS
CHARLOTTE BEYER, Trustee, Finance
DAVID KAZANSKY, Trustee, TRS
SUSANNAH VICKERS, Trustee, Comptroller's Office
JOHN DORSA, Comptroller's Office
MICHAEL SOHN, Trustee
THADDEUS MCTIGUE, Deputy Executive Director, TRS
LIZ SANCHEZ, TRS
SUSAN STANG, TRS
RENEE PEARCE, TRS
DAVID LEVINE, Groome Law Group
SHERRY CHAN, Chief Actuary
MILES DRACOTT, Comptroller's Office
SCOTT EVANS, Comptroller's Office
ROBIN PELLISH, Rocaton
JOE NANKOF, Rocaton
MICHAEL FULVIO, Rocaton
RONALD SWINGLE

0002

P R O C E E D I N G S

(Time noted: 9:57 a.m.)

CHAIRPERSON ADLER: Good morning. Welcome to the Teachers' Retirement System investment meeting of June 2, 2016.

Thad, would you call the roll?

MR. McTIGUE: John Adler?

CHAIRPERSON ADLER: Here.

MR. McTIGUE: Thomas Brown?

MR. BROWN: Here.

MR. McTIGUE: David Kazansky?

MR. KAZANSKY: Present.

MR. McTIGUE: Debra Penny?

MS. PENNY: Here.

MR. McTIGUE: Charlotte Beyer?

MS. BEYER: Here.

MR. McTIGUE: Susannah Vickers?

MS. VICKERS: Here.

MR. McTIGUE: Michael Sohn?

MR. SOHN: Here.

MR. McTIGUE: We have a quorum, sir.

CHAIRPERSON ADLER: Thank you very much.

Okay. We'll start, I think, with the Passport funds. I'll ask Rocaton to take it away.

0003

MR. FULVIO: Good morning, everyone. I usually start out by addressing the quarterly performance report. We did circulate that in advance. We reviewed the March performance last meeting. We're happy to go into the report if there are any questions.

CHAIRPERSON ADLER: Any questions for Michael on the first quarter quarterly report?

MR. FULVIO: I'll move ahead, then, to April. You might recall at the last meeting we talked about the April performance for the market, so I'll give you a quick reminder. The U.S. equity markets, proxied by the Russell 3000 index, were up about 62 basis points for the month.

We saw in the non-U.S. market, the proxy we used for your plans returned, there is a composite of developed markets and EM, emerging markets, with a return for the combination of the two about 2.5 percent.

The developed market portion of that was up about 3 percent for the month, with the emerging markets up about, just short of half a percent for your custom benchmark.

So, what that meant for the diversified equity fund for the month was a positive return to

0004

the tune of 75 basis points. So you outperformed the Russell 3000 index by -- basis points. The hybrid benchmark during that time period was up 93 basis points.

For the month, what we saw was the actively managed composite in the U.S. kept pace with the Russell 3000 in the international portfolio. That portfolio was up 2.1 percent versus that 2.5 I referenced earlier. And the defensive strategy composite returned 20 basis points for the month.

For the year to date returns for the fund, about 1.4 percent, and that did slightly trail the Russell 3000, which was up 1.6 percent during that time period. And for that overall year to date time period we've seen the international equity composite contribute the overall returns of Variable A on both an absolute and relative basis.

Over that time period the international composite was up about 2.4 percent, outperforming the composite benchmark. The actively managed U.S. composite has lagged the Russell 3000, 1.6 percent return.

But we've seen strong returns from the defensive composite, return of 1.9 percent. And

that also contributed in both absolute and relative terms. That proxy was only up 1.6 percent.

For the bond fund at the end of April, the fund stood at about $328 million. The fund was up about 17 basis points for the month, in line with its benchmark, bringing the year to date return to just shy of 2 percent, and about a quarter percent ahead of its 1 to 5 year credit benchmarks.

I referenced the international composite earlier, so I'll note that the international equity fund as a whole was up about 2.1 percent, slightly behind the 2.5 percent return of its benchmark, bringing the year to date number to also 2.1 percent, in line with the broad market proxies.

The inflation protection fund at the end of the month was about $44 million in assets. It had a positive return of about 2.5 percent, in line with its benchmark, and also ahead of CPI for the month.

Year to date that brought the fund return to 5.1 percent, versus the custom benchmark of about 5 and a quarter percent, and the CPI year to date about 36 basis points.

The socially responsive equity fund had

$118 million at the end of the month. It had a positive return for the month at about .2 percent, slightly trailing the S&P 500 index. The year to date return for that fund as a whole was 1.4 percent, about 30 basis points behind the S&P return of about 1.75.

Any questions on the April performance?

(No response.)

With that, we can look ahead to May. May was another positive return for equity markets in the U.S. The handout shows those returns separately. You can see the Russell 3000 index was up about 1.8 percent for the month, bringing the year to date, calendar year to date, that is, positive 3.4 percent.

On the international side, the developed and emerging markets within your program, we would have expected that composite to be down about 1.5 percent, for the calendar year to date return of positive 60 basis points.

The defensive strategy benchmark was up about 1.15, not quite keeping pace with the U.S., but positive nonetheless. And the overall hybrid benchmark for the diversified equity fund was also up 1.2 percent for the month; calendar year to date

0007

about 3 percent.

Just below that you can see the proxy for the bond fund, modestly negative for the calendar year to date return of 1.6 percent through May.

And below that the international equity fund benchmark, you can see the different components of the international composite benchmark I referenced earlier, developed markets down about 78 basis points during the month, developed non-U.S. small cap benchmark modestly negative, 11 basis pointsl. And the custom EN benchmark down about 4.6. It was a tough month for emerging markets, although calendar year to date still a strong performer at positive 4.6 percent.

The underlying strategy for the inflation protection fund just below that, you can see had a modest positive return of about 40 basis points for the month, with a calendar year to date return of about 5.4 percent. Those returns are generally in line with the custom benchmark, and as I mentioned earlier, continue to be well ahead of the CPI.

The underlying strategy for the socially responsive fund was ahead of its benchmark, the

0008

S&P, with a return of 1.96 for the month, and calendar year to date of 2.8 percent.

Any questions?

(No response.)

That concludes the performance update. We can dive into asset allocation if there is nothing else.

MS. PELLISH: Everyone should have the 2016 pension allocation recommendation. This was also sent electronically during the past week. This has been very much a collaborative effort between Rocaton and the Bureau of Asset Management, along with significant feedback and input from the Board.

I will start out, but this is, again because of the collaborative nature of this effort, Scott and his team will chime in; and my colleague, Joe Nankof, who's head of our asset allocation team, was involved in the details of this recommendation. He will lead us through the details.

Let me start out by looking at page 2. I'm going to highlight the themes of this recommended policy. There are lots of details, lots of asset classes, lots of numbers. But I

0009

think it's important to start out by taking a step back and thinking about, What are we really trying to accomplish with any changes that we're recommending to the asset allocation policy for the Teachers' pension fund? And there really are a few key themes. I think you will recognize these themes from prior discussions on this topic.

The first is focused on fixed income. And in this recommendation, and in prior recommendations, we talked about improving downside protection provided by the fixed income composite, by extending the duration of the fixed income allocation.

And this is done, this can be done in a variety of ways. But in this particular recommendation what we have suggested is that aggregating the Core+5 fixed income program, which as you know is separated into governments, mortgages and credit components today; is suggested by reallocating a portion to long government.

So essentially we're keeping the credit component of the Core +5 program intact, in terms of the structural design. We're keeping the mortgage component intact in terms of structural design. But we're suggesting the government

0010

portion of the Core+5 program be extended to a long duration, to again improve its ability to provide downside protection in the event of significant equity market downturns.

None of these recommendations are going to occur overnight, or should occur overnight. And this is particularly true in the case of extending the duration of the long government, and changing the structure of the Core+5 program. So we have a schedule in here that illustrates how the implementation might be accomplished.

And we will come back to the Board with a detailed and final implementation schedule. But that schedule is highly likely to look somewhat like the illustration we included in this deck. And most importantly, it will likely include triggers or criteria to transition to long duration government bonds, that we'll be using both times.

So over time we want to move to a long

duration posture. And that time based schedule might be accelerated if yields rise more quickly than expected over the next few years. So we can talk about that as we go through the deck.

The next theme I wanted to mention is the theme of modestly enhancing portfolio return

0011

expectations. So, we are significantly constrained in the returns, in the expected returns we can reach for, by a few factors. One is just our expectations, and I think this reflects consensus expectations largely, about what capital markets are likely to produce over the next interim time period, five to seven years.

Expectations for public stocks and bonds are in the low to mid single digits. So that just acts as a barrier to what we hope to achieve.

In addition, somewhat unique to this fund and other funds within this state, are the basket clause restrictions, which limit how much we can invest in private asset classes, in non-U.S. equities, and in other asset classes outside of traditional stocks, public stocks and bonds. So that limits what we can do.

And then, finally, and perhaps most importantly, our risk tolerance limits and appropriate limits in the amount of return that we can reach for, because we want to be mindful of the level of volatility and downside risk that we're taking on in any asset allocation policy.

But, in an effort to try within all these constraints, to try to enhance portfolio

0012

return expectations, we are recommending a reallocation of some, a relatively modest percentage, of U.S. equity allocation that's currently in the policy to non-U.S. equity. And we're also suggesting that some equity linked asset classes, specifically REITs and convertibles, be eliminated over time.

And then, finally, another theme is to better balance portfolio risks, otherwise known as diversification, to offset the equity risk which currently and going forward will continue to dominate the risks of the portfolio. It's very difficult to get away from the overwhelming dominance of equity risk in this portfolio, and in any portfolio which has a significant allocation to equities.

But in an effort to further diversify the portfolio, better balance risks, we're recommending a reasonably significant increase in the allocation to private real estate. We also think that, again, the use of long duration fixed income will help better balance risks.

Finally, and equally importantly to everything that's been highlighted thus far in this discussion, we would like to see the asset

0013

allocation policy be reviewed more frequently by this body; and that greater frequency we think should be something like an 18 to 24 month review cycle. So that we can continue that, confirm that these targets that we put in place continue to be appropriate in the context of changing market conditions and risk tolerances.

This is not to say that the target allocation policy will change every 18 to 24 months. But the process and discipline of going through our assumptions, going through market conditions and going through our expectations about what risks and opportunities may occur over the next few years is an important discipline to assume every one and a half to two years.

That seems very frequent, given the three to five year cycle we've been on, but it's becoming the industry standard and I think very important for this Board to adopt.

With that, unless there are any questions, I will ask Joe Nankof to go through the details.

MR. NANKOF: Thanks, Robin.

Turning to page 3, to establish a baseline in terms of what target policy allocations

0014

are, and also looking at how that compares to, how current allocations dated as of March 31 in this table compare to that. This highlights another reason why the more frequent cycle of review makes sense.

You can see already, if you compare the current targets to the actual allocations, that there are allocations today that have not yet reached the target that we already established. So what will change from one year to the next, or every two years, will not only be market conditions, potential risk tolerance, but also we'll evaluate where we stand relative to the targets we established the last time we did this.

Here you can see private equity, private real estate, infrastructure, we're not yet at the targets that exist.

Over all, the current policy had a 63 percent target allocation to equities and equity-like asset classes. When I say equity-like asset classes, we're talking about real estate and infrastructure being equity-like asset classes. All the other asset classes within this bucket are publicly traded equities, whether they're in the U.S. or non U.S.; and private equity, of course.

0015

We're at a 37 percent target allocation to fixed income of various types, as you can see on this page. I will note, though, that the current allocation for U.S. equity in actual allocation as of March 31 is closer to 34 versus a target than 31; a function of the fact we've not yet reached the target we have set for ourselves in private equity or real estate. U.S. publicly traded equities is a place-holder for the yet to be funded allocations to those asset classes. And that's why we're above our target in U.S. equity today.

We're also below our target in opportunistic fixed income, which is set at 5 percent, we're at 3 percent. And also below our target in TIPS. You can see here we've also broken out the Core+5, even though there's a target of 18 percent, you see it broken out into the different pieces of Core+5, into their component parts; government bonds, credit or corporate bonds mostly, and mortgages.

When you look at the bottom you can see the basket clause contains currently about 18.6 percent of the portfolio, and the target allocation brings us up 21.8 percent.

As Robin already indicated, we think

0016

valuations in the marketplace today do present a challenge to achieve a 7 percent or greater return over the long term, our return expectation over the next ten years for this allocation, target allocation, or actual allocation in the low 6s. It could be 6.3 percent for the actual and target respectively.

Are there any questions on the baseline, where we are today, in terms of the targets or the actual allocations?

If not, if it's okay, we'll move to page 4 and look at the recommended policy, and comparing the recommended policy to the current targets.

Consistent with all of Robin's introductory comments or summary remarks, you can see some of the changes we're recommending. These are consistent with the discussion we had last month at this meeting, where we talked about the fact that U.S. equity market valuations, given the very strong performance we've seen in the last many years, the financial crisis, and we've noted this on the last page.

The last five years of the U.S. equity markets, gains have been 11.6 percent annualized. That's well in excess of what the long term

0017

reasonable expectation would be; which has left us with the problem that U.S. equity valuations seem particularly stretched, and challenging us to generate returns in the U.S. equity markets.

We're recommending we reduce our target allocation below 30 percent, to 29 percent in U.S. equity; and increasing our non-U.S. emerging markets allocation, target allocations, by 4 percent total, 3 and 1 percent respectively. At the same time, eliminating the target allocation to REITs.

And that's consistent with the fact that we're recommending a significant, meaningful allocation increase to privately invested real estate, including infrastructure, which you can see going from today 6 percent up to 11 percent; 5, 4 and 2 respectively, core opportunistic and infrastructure.

Private equity is remaining unchanged at 6 percent as a target. We're currently at 5.1, as mentioned earlier. And then you can see -- so the total increase in public or private equity, including real estate, goes from 63 percent to 67 percent, an increase of 4 percent.

We were able to increase our allocation

0018

to equity and still reduce the overall risk expectation of the portfolio, by virtue of the fact we're allocating to these long duration government bonds, Treasuries, as a ballast or offset to the risk in the portfolio.

So that enables us to achieve a greater expected level of return, 6.7 versus 6.3 percent, as you can see at the bottom, over the next ten years, with less expected volatility or risk, 11.3 versus 11.8 percent. So a commensurate decrease in risk. So the risk adjusted return has improved meaningfully as a result of these changes.

You can see some of the changes in fixed income, eliminating emerging market debt, as talked about in convertibles, the government bonds, which are going up 10 percent; and also increase duration within government bonds, eventually reaching an 18 year duration target. We have a transition schedule we'll review in a minute, to highlight how we expect to gradually move into those longer duration Treasuries over time.

We're talking about notching TIPS, notching in opportunistic fixed income, and high yield and bank loans going up about 3 percent in total; bank loans being separated out in high yield

0019

as a 3 percent allocation.

So, we've gone through pretty much all the details on this page. There's a fair amount of numbers here. I will pause for a second to see if there are any questions about any of the specific allocations we have recommended, changes or otherwise.

CHAIRPERSON ADLER: I have some questions.

You guys talked extensively about the increasing duration of the fixed income portfolio. But it seems to me the other major change here is that you are also essentially tripling the allocation to government bonds as compared to credit and mortgages.

I wonder if you can talk about the rationale for the weighting, as well as the rationale for the duration?

MR. NANKOF: Yes. So I think, if you look at -- relative to the current actual allocation, which is at 5 percent, John, on page 3; we're at 5 percent today. We're doubling, the target allocation of 10 percent is double where we are already today.

CHAIRPERSON ADLER: I was talking about

0020

it as a percentage. You're going from essentially 22 percent of the actual allocation to 62 percent of the projected allocation, that's how I came up with the tripling.

MR. NANKOF: As a percentage of investment --

CHAIRPERSON ADLER: Of fixed income.

MR. NANKOF: That's fair, I think what we would say is that, we would look at it more as a percentage of the total portfolio. Treasuries offer the greatest diversification benefit of any publicly traded asset class we can invest in; at least proven over time to offer that diversification, and the downside benefit that we highlighted in prior meetings and again today.

So from our standpoint, and at the same time, if we're increasing our allocation to equity light asset classes in an effort to improve the long term return expectation of the portfolio, it seems prudent to increase that allocation to Treasuries and give ourselves a more balanced portfolio, particularly in light of current market valuations.

So I think we're very comfortable with this approach, and I think the allocation of 10

0021

percent still doesn't seem outsize relative to the benefit it offers to the portfolio level.

MR. EVANS: We agree with everything Joe

just said.

John, another way to look at it is, we're trying play defense with the Core fixed income assets; but you have a couple things different today. The mortgages are offering you very little extra yield relative to what they normally offer, because of the government's involvement in the mortgage market with quantitative easing.

You also have in the investment grade market lower than average spreads versus Treasuries; and also, lower than average liquidities. The bond market has changed, and investment brokers are not carrying the inventories of investment grade bonds that they used to.

So they actually should have a higher spread than historically, and they have as low a spread as they've ever had. It's not good value.

And the place where you're able to play defense is in the longer duration Treasuries, which give you the most leverage when the market is down.

So, what we have done is taken some

0022

capacity and put it in higher yield bonds. You can see allocations are part of the increase to riskier assets, going to higher yield bonds where you are getting normal to actually above normal spreads, and you're getting paid for the extra risks you take.

So we like the combination of these. We've managed in an environment where the U.S. market is very, very fully valued. And we're constrained by the basket clause to move out of the U.S. market, reduce our exposure to U.S. markets, get more efficient use of the fixed income markets and improve the risk-return characteristics of the whole portfolio.

Very, very unusual and difficult time to do asset allocation. I wholeheartedly agree with Robin that we need to come back and look at it in 18 months. This can't, in this environment, hold an asset allocation like this forever. But we do like the trade-ff and agree with Joe's response.

MR. NANKOF: There's another way to look at it, I will add quickly. Government bonds and mortgages are all the highest quality bonds, they're generally, think of them as triple A credit, U.S. government backed. Today you're at

0023

13.6 percent. The target allocation is to 13.5 percent. There's actually no difference in the very highest quality components of the portfolio, which offers the greatest diversification benefit. The mix and duration of those will change, we think will benefit the overall portfolio risk return picture.

So we're not changing materially the actual triple A portion of the portfolio.

CHAIRPERSON ADLER: One follow-up related, which is, your chart indicates that we have $576 million under the mortgage program in ETIs. Will this reduction in mortgages to 3.5 percent affect the ETI program?

MR. EVANS: No, it won't affect the program at all. We continue to move as aggressively as we can to find opportunities in ETI. We have 1 percent allocation, not fully utilized that allocation. That's the first place we will go in finding mortgages.

It's been a very successful program, and we will continue to be aggressive there. We'll simply reduce the agency mortgages and so forth. Those vehicles, as you know, are completely insured by SONYMA. So we don't have much credit risk, very

0024

little credit risk with them.

CHAIRPERSON ADLER: Other questions?

MR. NANKOF: Other questions on the recommended policy? There's a few more details related to the policy, including the transition plan for long duration government bonds, as well as the place-holder mechanism for the allocation that we are suggesting, the target allocations relative to where we are today.

We have illiquid investments we're suggesting, specifically real estate, to increase. You can't make those investments immediately. So we make them over time. We need to have a mechanism for where to hold the money in the interim until we make allocations.

MR. EVANS: To interject here. Everything we talked about before the actual allocations to the asset classes, this is, we're formally bringing this for your approval.

Joe will start talking about the place-holders. These are our current thoughts about it. We're still speaking about it. We'll come back to you for a formal approval on the execution plan when we come to talk about the asset classes individually, talk about the IPS.

0025

We will attempt to, working with you, it's your document, streamline these IPSs a little bit; with your indulgence, try to streamline them across the systems so there's some consistency. Teachers will have its own policies, but we'll use this opportunity to try to streamline the IPSs, make them a little clearer.

At the same time we will talk about the place-holders, Joe will give you his thoughts.

The other thing, before you go, Joe; we are recommending an allocation to fully utilize the basket. Our allocation will take us all the way to 25 percent. We've not done that in the past. We always left a couple percent, so we didn't go over the basket.

We've spoken with the lawyers about this, what would happen if we tripped the basket, suddenly went over 25 percent? We believe as long as we have a solid plan in place quickly after we breach the 25 percent, that regulators would work with us, moving slowly to get back within compliance.

Because of the nature of these asset classes, it's tough to make your full allocation anyway, as Joe had spoken about, and will take some

0026

time to do it. So we don't think there's a reason to allocate below the basket. We fully need the 25 percent to get assets out of U.S. equities and into areas where we can diversify the portfolio.

CHAIRPERSON ADLER: Charlotte has a question.

MS. BEYER: I want to clarify the footnote on page 4, as well as 3. "Includes securities lending pool." Can you clarify how that -- the modelling.

MR. FULVIO: We didn't model that any differently. That's just to note those assets are included there, within that line.

MR. EVANS: The collateral for the securities lending operations. So, when we lend equities we get back 102 or 105 percent --

MS. PELLISH: U.S. is 102.

MR. EVANS: Thank you. The numbers are in my head. You get back a little bit more in collateral while the assets are out on loan. They would be in government bonds --

MS. BEYER: Thanks.

CHAIRPERSON ADLER: Joe, will you talk about page 5 or beyond that?

MR. NANKOF: I was going to move to page

0027

5, but not off page 4 until all the questions are asked and answered.

CHAIRPERSON ADLER: Any more questions on page 4?

(No response.)

MR. NANKOF: So page 5. As we noted several times, even today, and then with the recommended new targets, there will be illiquid investments targeting, not yet fully invested in.

And you can see the actual allocations as of March 31.

The recommended new targets are in the next column, which we just talked about. And then we come up with adjusted allocations, which in the middle section, we refer to as place-holder allocations, adjust the recommended new targets to reflect where the money would be held in the interim until those allocations are achieved.

So, I'll just use an example, the simplest example. We mentioned private equity, the PE header. You can see that the $556 million which is not yet allocated to private equity would be held in U.S. equities. Just follow the minus 5.6 up, move your eyes up, and you can see it would sit in U.S. equity until it's funded in private equity.

0028

And you can do the same for any one of these. So real estate, which is about $3.5 billion, a bigger number because you have a higher target to real estate, that would be held in a combination of REITs and fixed income, which we're saying is credit and mortgages.

So those, the 8.78, the 8.78 and 17.57, those add up to 35.13 that's not yet funded in real estate.

MS. PELLISH: So, as Scott mentioned, this is not definitive at this point, and we're still discussing it. But the general principle here is that, as asset classes are drawn down over time, we want to have place-holders that in aggregate reasonably closely mimic the characteristics of the asset class that is moving closer to its target.

And that's hard to do for a thing like private real estate. But REITs are sort of similar, although they carry a lot of equity risk. And credit and mortgage bonds have some similar income-producing characteristics to private real estate.

So it's an art more than a science, and so there may be modifications to this as we have

0029

more time to develop the implementation plan. But that's the guiding principle. And it's most obvious in the case of private equity being held in public equity. That is a fairly clear match for real estate because it's harder to mimic the characteristics.

MR. EVANS: We're just beginning to talk, and what Rocaton has here is a starting point. We have a lot of REITs, they have properties that are very similar to private REITs, except for the leverage and the fact that they're mark to market and don't travel the same path.

We're looking at them as potential proxy for private equity. We're also looking at convertibles. We have a convertible portfolio, we have some good convertible managers who've done a fine job. And so, we think we should start with convertibles to see if they can serve as a place-holder as we put allocations to work.

Just two examples. High yield can serve as a proxy for all five, but it's not that liquid. And we'll have to talk through that as well.

More to come when we come back to you for each asset class, we'll be specific about the place-holder as part of the IPS, and that will be a

0030

chance to sort of formalize the placeholder.

We wanted to show you where our thoughts were at this point.

MS. PENNY: So, private equity, we already had 6, so we only used 5.1 percent is actually allocated. What is the pacing for that? How long do you anticipate it will take to go back up to 6?

MR. EVANS: We haven't gotten to 6 yet. Private equity is tricky to put money in, because you put money in, they don't call it down for three to four years. And then it depends on the markets on when they pay it out.

So for the private equity funds we've had for some time, we get money coming in. So that's why the private equity guys, when they come to you, the consultants, will have a whole pacing plan that averages it all out.

And what you're left with, if you're under the allocation, and you're almost always under the allocation, it sits there in the Russell 3000. And so, literally money waiting to be called, is sitting as extra holdings in the Russell 3000.

One of the reasons, parenthetically,

0031

when we're talking to private equity managers, we don't like the fact that their performance bogey doesn't have something to do with the Russell 3000. Every time they come in to talk, we talk about the need to put in structural reform.

So their incentive to have returns, getting performance carry, only if they exceed performance of the Russell 3000.

Here we have $556 million of uncalled allocation to private equity that's sitting in the Russell 3000, usually in index funds.

MS. PENNY: So we're always concerned with fees in private equity. Do we --

MR. EVANS: We pay unbelievably low fees for Russell 3000 indexing. I hesitate to mention how low they are in public session. The fees are not a concern in the Russell 3000.

When they go over to private equity managers, whole different ball game. They get paid a ton of money. We're happy for them to make a ton of money as long as the teachers who are benefitting from this program are also making a ton of money.

So that's why we continue to talk to them about a better balance. We're making some

0032

progress, more on that later. Limited partners like ourselves are not in a strong negotiating position at this point in the market. It doesn't stop us from banging the table.

MR. BROWN: You have an implementation plan, you'll be coming back to us every month on the process and discipline, as Robin said, according to -- I know it's difficult, you can't say how long it's going to take to get from 5.1 up to the target of 6 percent.

Robin mentioned the process and discipline. If we can get the implementation plan updated every month, we would be comfortable with that, see how it's going and where the assets are going, moving to, and a pacing plan.

MR. EVANS: Tom, we're always on an implementation plan of this. I would suggest to you that it would make sense for us, after you formally adopted the allocation, for us to come back to you, as we come back to the other systems, say, private equity. Here is our game plan for private equity, here's how we're going to structure the private equity portfolio, here's what the place-holder would look like, et cetera.

Fixed income, same sort of thing.

0033

Here's what our Treasury portfolio will look like, here's what the duration portfolio looks like, here's what the IPS says. Get that game plan nailed down.

Part of this can be done in the CIM, part can be done in a follow-on presentation at this meeting. But after you do that, I think the implementation plan just becomes part of the normal routine of the portfolio management. There is that period of time when we're adopting this new allocation and rethinking --

MR. BROWN: Alter events.

MR. EVANS: We can talk about that. I don't think there's, I doubt there will be a special need each month to come in. Certainly if there's something big, peculiar to Teachers, we would absolutely come in and talk about it. But it would be our hope to come back with an implementation plan for the asset classes.

Your implementation plan for private equity, in terms of how we structure the portfolio, is going to be very similar to NYCERS and Police and Fire.

And so we would go through that with you, all at the CIM, and then could follow-up on

0034

things that would be unique to Teachers, and that way efficiently focus on specific issues that you would like to discuss about your IPS or about the structure of the fund.

I'd say this would most likely come up, Tom, in emerging markets, where the systems all have different desires on how to participate in the emerging markets, different preferences for which markets they would like to participate in. So that one I can see we would make an overall pitch, which might be fine for those who are not customizing.

But I will guess both Teachers and NYCERS are going to want follow-up discussions on emerging markets, because you spend a lot of time creating a customized mix. That would be a good reason to come in and have a special discussion here.

MR. BROWN: I heard Robin say 18 to 24 months, so I'll put on my calendar January 2018?

MR. EVANS: Market dependent.

MR. NANKOF: We also think that it's not only best practice for there to be a pacing schedule to be established and evaluated annually. So the pacing schedule for private investments does not necessarily need to coincide with the asset

0035

allocation review that's every 18 to 24 months. Pacing schedule, meaning that, if we eventually want private equity to be at 6 percent and we're only at 5.1, what does that mean for commitments, given our assumptions on how money comes back, how existing investments get called down?

It might be trickier in the case of real estate and infrastructure, where we're only at 3.6 percent combined and we're going up to 11 percent. That's a more complex schedule to come up with, given that we're so far from where we want to be.

And you can make commitments too quickly in the case of some private markets, and have vintage year concentrations you don't want. So we might say we want to get to our target as quickly as possible. But wait a second, let's be careful about investing too much in a particular market at exactly the wrong time.

If you made that decision in 2006 or 2007, it would have been a difficult market environment to put a lot of money in the ground in real estate, regardless of what the strategy was or who the manager was.

So we say, let's come up with a carefully paced schedule to get from where we are

0036

to where we want to be. And then, in between the annual pacing scheduling reviews and updates there would be a review of where we are, if we expect to make X millions of dollars of commitments in a year in real estate, every quarter, every month, where are we relative to that annual plan?

MS. VICKERS: If I can add, I think it's important to realize that a lot of this pacing discussion should be based into the discussions we have around the recommendations. We had some of the other conversations that we're having regularly. So we have annual plans that will come after the asset allocation. And that's a natural place where we can speak about this stuff.

And then when we make the recommendations, in the appendices there are specific reports that are implications for the Teachers portfolio. So that would be a natural place to how this fits into your plan.

MR. EVANS: Just a reminder, I know you guys know this. We have been meeting with you annually to talk about pacing for the private asset classes. What we're going into, we're also going to meet with you annually on public asset classes; because what I'm finding is there is not a natural

0037

opportunity for us to review the active/passive mix in U.S. equity. Any tilts toward large cap or mid cap doesn't get talked about.

And so, what we'll be doing, if you will, as Susannah said, our first step after the new allocation, an annual pacing discussion by asset class starting right away. We'll handle the IPS and so forth. We'll review that annually, and then come in on an interim basis for anything special that pertains to Teachers. And if it's something general, we can handle it.

MS. BEYER: If we wanted a report card as fiduciaries on how we did, when do we look at the report card, and what's on it? Let's say we endorse and go forward with the implementation plan, it starts happening, the pacing schedule is going six or eight months from now.

Is it possible to have a report card on how we did? What would it look like, and when do we get it?

MR. EVANS: How would you distinguish the report card you're looking from the normal reports we give you that show how we're doing relative --

MS. BEYER: That's what I mean. Let's

0038

say eight months from now we're looking at the floating diamonds and performance returns and all that. That may be too short a time frame. Is there another way to have a report card on this?

And I'm really looking more to Rocaton. How would you come back and say "We did a fabulous job of recommending this to you?" Nine years from now --

(Laughter.)

MS. BEYER: You know the old joke, you have to wait 99 years, obviously.

MR. NANKOF: That's a very fair question. It's not an easy one to answer.

MS. BEYER: I know.

MR. NANKOF: It doesn't negate the virtue in trying to answer a tough question. So, we'll offer a couple of thoughts, because -- first of all, say, bad outcomes don't necessarily suggest that it was a bad decision. So, if the markets perform poorly, you can make a good decision. For example --

CHAIRPERSON ADLER: Is that true for good outcomes, too?

(Laughter.)

MR. NANKOF: Unfortunately that's true

0039

for all money. If you move money from U.S. Equity to non U.S. Equity, which is part of what we're suggesting here, and U.S. Equity outperforms non-U.S. Equities in the next 12 months, we wouldn't say you made a bad decision to do so. It just happens to be that the outcome didn't align with exactly where you moved the money for that one year period.

That's the first point. What we have done for some clients in terms of report cards, we can give you lots of statistics about expected returns and volatility. We can translate that into a range of possibilities for the next one year, three years, five years, ten years. And we can measure over the next one year, measure where did we fall in that range? Were we at where we expected to be, at the expectation, below expectations, above expectations? Where were we within the range for different time periods?

And we've done this for clients. Recently I remember a client where we made a recommendation on asset allocation four years ago. We looked at where the total return was versus the expectation and the range, and where all the asset classes were relative to the range of expectations.

0040

That's one version of a report card, I think it's a useful way.

If you just say we expected 6 percent and got 5, that ignores the entire range of possibilities we contemplated going into that decision. So that's one that I would offer that we could report on on a regular basis, looking across different time horizons, which we found to be useful in recent discussions with clients.

And I will leave it there.

MR. EVANS: If you all remember, I think it was the March CIM, Miles Dracott showed you exactly that analysis. We went back to the 2011 asset allocation, looked at the expected returns, the range of expected returns. This was on an aggregate basis across all five systems.

And that showed you, where have things turned up relative to the range expected? And many asset classes we were at or above expectations. And in the international equity asset classes in particular we were well below expectations. That was no surprise to people. Hopefully you can see where it was on the range, still within the range.

The other thing you can do -- I know what Rocaton's opinion is here -- but I've seen in

0041

other boards I've been involved with where they face just this problem. We spend all this time on an asset allocation, we have all these bells and whistles and teams of people tweaking the portfolio, how did the asset allocation do?

One easy way to compare it, and some of the most sophisticated pension funds and institutional investors in the country do just this -- they start with a reference portfolio.

The reference portfolio looks just like our low cost portfolio that we showed you, which is, if we decided to pay the least fees we could possibly pay and simplify the organization as much as we have, a 65/35 stocks and bonds portfolio, that's kind of a reference point you can use for how the asset allocation is doing, that we've given you, relative to that, from a risk and reward standpoint.

You take a look at that, and then within the asset allocation, how are we doing allocating relative to our targets? And then, how are the managers doing relative to the benchmarks? So there's an extra layer of performance attribution that some people find helpful.

It's actually already embedded in the

0042

reports that you get. We haven't focused on it a lot, it's sort of a trial thing. But if you look at the target 35 portfolio on the diamond charts, that is a 65/35 index portfolio. And it shows you just where it would come out relative to the other major pension funds, how it came out relative to our target and so forth.

So both are things that are suggested here, tools we already have, we can formalize them a little bit. I actually would recommend that we formalize a reference portfolio and refer to it in our performance attribution.

MR. KAZANSKY: So, as long as we seem to be in an extended Q and A session. Joe is talking a little about real estate, and that's something I asked about when talking about the budget and how we account for this huge REIT that we're going to make from where we are currently to where we want to be, somewhere around 9 -- percent, including infrastructure.

I'm of the belief that the way we're doing real estate now isn't going to get us there -- so I know that there's definitely direct investing that we can do, and use the size and scale of not only us, but other systems as well, to

0043

really make some changes in the way that we do real estate investing -- we don't always have to jump on this fund or that fund.

So I was wondering, I'm asking if perhaps over the next few months as we get ready to come back and see where are in September, here at Teachers. Would you be able to put together a presentation for us on how you think specifically in real estate we're going to make this huge leap?

What opportunities are out there that we haven't been taking advantage of currently that we could, as far as direct investing or anything else? We talked constantly about Borealis as being this ideal of where we want to be.

So I would love a presentation in September outlining how we're going to deal with --

MR. EVANS: David, you've put your finger on exactly the place that, relative to our current structure at BAM, the recommended allocation is most ambitious. We believe we can get there. We agree with you we'll have to take a very hard look at the way we invest in real estate, the resources we're deploying.

When I came to you earlier about the budget, the budget did not encompass or envision an

0044

expansion in our real estate staff or change in the structure of how we do things.

But it's a very reasonable thing, it's also on our list of things to do. We wanted to see whether the boards were interested in such an ambitious change in the allocation. We think it makes sense. All five consultants think it makes sense, four and a half.

(Laughter.)

We're still working on one. These guys have always been very much behind us. And it will stress the current mode that we have.

And so, I'd like to have the ambitious goal and then to get to work on trying to work on a battle plan and come back to you. I hope that I'd be able do it by September, but we certainly will get right to work on it and come back with a proposal.

This will be common to all five systems, because if I get approval, and I'm well on the way to getting approvals for all these new allocations, they'll be aggressive allocations to real estate everywhere --

MR. KAZANSKY: I know we also talked about this topic previously, which was, when we

0045

move out of a particular asset class like REITs or eventually convertibles, as is listed here; I know we asked about what happens to the managers of those particular asset classes, and that whether or not they're under contract just with us or with the City itself, and if after we, let's say get out of REITs, we have an epiphany that we we want to get back into REITs, how that all works out.

I know we briefly discussed it maybe a month or so ago. Is there any update on that? Is there any concern for us --

MR. EVANS: Certainly with our contracts with each of these managers, we have the flexibility to terminate managers if we no longer needed their services. It's not a contractual problem. We have a lot of decent managers in the spaces, so we don't have big problems that we're looking to get out of quickly.

I think, reasonably, if they're included in the parking spaces, which we haven't yet decided if they're included in the parking spaces, we won't be terminating folks in this space any time soon. And so I think it's kind of a theoretical problem.

We would be probably slowly shrinking the size of the portfolio, unless the portfolio

0046

continued to grow and we input new assets into the asset class. But I think it would be a gradual process.

MS. VICKERS: If I recall, part of the concern was on the public side, where we had to reissue an RFP if we terminated a relationship with a manager.

So I think what Scott is saying, we keep them in the pool if they are a recipient of the parking plan; so we can continue the relationship without having to reissue an RFP.

MR. EVANS: I really don't see us turning them off completely and then turning them back on. I would see very gradually that we can see itcoming. If it looks like we'll get to a point where we'll bring them down to zero, we would either leave a small piece as a parking place so we always had it, or create a pool, as Susannah mentioned. I don't see a big problem there.

Both these asset classes are decent asset classes. They don't dominate as we tried to put together the asset allocation. So they shouldn't necessarily be targets. But they're decent vehicles to use as a proxy, we think. We're still studying.

0047

MR. KAZANSKY: One other thing that raised an alarm with me was the basket. Now, if I understood what you said correctly, you seemed comfortable if we went over. I'm not comfortable with going over and finding out what happens.

MR. EVANS: We would never go over on purpose.

MR. KAZANSKY: Right. Nevertheless, on purpose or not on purpose, I'm concerned. Because the law says we can't go over. And so, I want to make sure if we're getting to a point where we're knocking on the door of possibly going over, that if we're having either an emergency meeting or if it's scheduled, that we sit down and figure out what we're going to do.

I would hate to be wrong about our expectation of what they are going to do to us if we go over the basket, and we're all sitting here with full knowledge --

MR. EVANS: Part what we could do -- I'm thinking on the fly -- is to work out a preordained plan of how we would remediate an overage on the basket clause. How would it happen? If we're up there at 24.6 percent in basket securities, and the public markets suddenly hit an air pocket and we

0048

have the denominator effect, the basket securities suddenly become a larger percentage of the portfolio, throwing you over.

In speaking with counsel, the OGC at BAM, including Kaye Diaz, our general counsel, we believe that having a solid remediation plan would be sufficient, that we wouldn't have to have a fire sale of private equity assets, which would be the worst possible situation.

So, we can formalize that discussion if you like, and even present a sort of "what if" scenario. It is a theoretical worst case thing. We would obviously, if we came close to 25, talk a lot about how do we keep it from going over.

But I think it's a problem we should have, because the cost of it is holding too much in assets that we believe have inferior expected returns and correlation statistics. So we should fully utilize the ammunition we're getting.

MS. VICKERS: This is a decision before the Board, not that we are planning to go over the basket or we want to go over the basket. It's that we're not artificially limiting ourselves below the basket as a matter of policy.

(Talking over each other.)

0049

MR. KAZANSKY: The actual asset allocation says that the basket is 25.1.

MR. EVANS: I'm not sure how Rocaton came out with the .1.

MS. VICKERS: Rounding.

(Talking over each other.)

MR. NANKOF: There are assumptions about what goes in the basket. There are certainly very clear-cut rules about what goes into the basket. There are others that are more assumptions, if you will. And those are outlined on page 10 in the appendix.

MR. EVANS: There's been some change in interpretation -- 25.0.

MR. NANKOF: I want to make one other point. That was a point I wanted to make sure we made, though, that, notwithstanding the fact the target, the recommended target allocation, we'll say within rounding is at the basket of 25, and we know the place-holder allocations referred to are, say, a work in progress. It may not be exactly where we land, but it's probably a good guide, close to where we land.

The adjusted targets in the interim only put us between 20 and 21 percent. So we're not

0050

anywhere near the basket initially. And we should agree to put in place a monitoring system that reports to the Board, and a remediation plan, if you will, if you get close to the basket in the future, which you don't anticipate any time soon.

MR. EVANS: Just to be clear, the recommended allocation of asset classes is 25.0. That would be a technical violation to have an allocation that goes over. We'll double check how we got here.

MR. NANKOF: Rounding issues.

(Talking over each other.)

MR. KAZANSKY: We'll give some manager 20 less dollars.

MR. EVANS: When I look at page 10 -- it has things since counsel -- the fractional portion of Core+5 is showing up -- the ruling is that Core+5 Treasuries, investment grade fixed income and mortgages are all non basket.

MR. KAZANSKY: You guys are going to work with Valerie and the folks here on all the baskets, so everybody is on the same page.

MR. EVANS: Yes. That's exactly how it got thrown off.

MS. BEYER: If won't be 25.1 anymore.

0051

MR. NANKOF: Are there any additional comments?

MR. KAZANSKY: Sorry to monopolize, I'll ask one more thing. So, for private equity, I cannot personally say enough about the progress we're making as far as transparency and as far as trying to eliminate the 2 and 20 concept that is out there.

But one area that irks me, and I'm sure it does my colleagues, are fees on committed capital that hasn't been put to work. And so, I am aware that there are some systems out there that are having some success in eliminating that.

I would really like to see if there's a way for us to be able to make some progress in that area. I know that certainly we don't want to be so restricted that all the best managers want nothing to do with us.

But I also believe that the progress that we're making seems to be in line with the progress other systems are making. And they're making somewhat strides in other areas, I'd like to see us do that as well -- fees on committed --

MR. EVANS: I absolutely agree with you, paying on invested rather than on committed is

0052

moving things in a positive direction.

There are other things that move in a positive direction as well; lowering the fees, lowering the base fee, lowering the carry. More importantly, structurally, eliminating the catch up. The catch up is a huge cost to, I think it probably far outweighs the cost of the invested commit. And it awards mediocrity.

And so, some PE firms have a catch up, most of them do, and there are a few that don't. And in the real estate area it's --

The other thing that irks me is the hurdle rate. These hurdle rates are not correct hurdle rates. The hurdle rate ought to be, How much money do we make for you relative to what we would have made if we just left the money in the public equity markets?

And so, it should be different for every partnership, it should have to do with when they pulled down the capital. That's why we show you the PME spread, which looks just at that. It pulls down the capital at the exact same time that the funds are pulling down the capital.

It asks the question, What would happen if we just left the money in the Russell 3000? And

0053

you can see that by the spread. If it's not positive, they're not making money relative to where they should. Their carry ought to be based on that, not on some artificially low thing.

So we're working all of these, we talk to managers. As you can appreciate, it's a question of negotiation and giving in some places and not others.

What I'm looking for is, How do we reduce the share of inadequate returns that's going to managers? I want the managers to earn a fair share of returns that are in excess of what we would have earned in a fair comparison. And so, a lot of what we're talking about is how we restructure this.

We're all working on this. Public pension funds, everybody has an interest. Some are more vocal than others. But it's not a square deal in any of the private assets, especially real estate and private equity.

And, so even though we're going to increase our exposure to real estate, and the real estate guys don't make the headlines as much as the private equity guys, they're better at keeping their mouths shut. But the problem is just as bad,

0054

and the structure just as egregious.

So we're working on all of them to get us to a better place. I have the same problem with hedge funds, which you guys don't have to worry about. The hedge funds also don't have adequate hurdles.

So we're all over this, and we'll continue to report to you. Hopefully we'll have some good news on the overall balance of the structure.

MR. KAZANSKY: Thanks.

CHAIRPERSON ADLER: Other questions?

MR. NANKOF: The only thing we haven't covered specifically, Robin was suggesting we move too quickly.

(Laughter.)

Is on page 6. And that is -- you already referred to it, so I don't need to go into detail on it; the idea that we will transition from the current duration that you have in the Treasury in the Core+5 portfolio, about 11 years, to the 18 year duration. And we don't want to do that all in one day or too quickly --

The idea that this table outlines is that we want to make that transition fully by the

0055

end of 2017, so within, figure 18 months. And that we would do it quicker if we find there's an opportunity that the yield advantage of longer duration Treasuries warrants us moving more quickly. So the more yield you get from long duration Treasuries, the more we want to own long duration Treasuries, and that's what this schedule essentially outlines.

I will stop there and make sure there aren't any questions on that concept or specific --

MR. EVANS: I would add that our bias is in putting this in place fairly quickly, but not too quickly, as Joe said. We're not going to run out there -- but the likelihood that we would have a big adjustment in the markets we feel is more highly likely in the beginning part of the three to five year period, rather than ten.

So we want to have the defense in place -- it's important to get it in place in fairly short order, probably no slower than --

MR. NANKOF: That was all the prepared remarks. Again, happy to entertain any questions about this last part or any part of the discussion we had thus far.

(No response.)

0056

CHAIRPERSON ADLER: Any other questions or comments?

(No response.)

I think the question for the Board is, Do we have consensus about moving forward with this asset allocation recommendation? Taking into consideration the discussion and the points that Trustees have raised this morning?

MR. McTIGUE: Because this is a policy issue, I believe the ultimate adoption of this would need to be done in a regular board meeting.

Obviously you can get consensus today, but it's a policy issue and it would be continued at the regular board meeting.

(Talking over each other.)

CHAIRPERSON ADLER: First let me see if there's consensus.

MS. PENNY: John, before we get consensus, can we ask Sherry how she feels about this?

MS. CHAN: I had a conversation earlier; and I think there isn't much concern on the actuarial side as far as the discount rate and current assumptions for that. It lays out really clearly the five and ten year rate, what they are.

0057

It is very much in line with my long term 30-year rate. And the volatility again isn't much of a concern.

My office had presented some numbers earlier about what this does on 5 to 10 year basis, as far as contribution goes. And on the extreme, it's about 20 to 30 percent change in the contribution rate, which, depending on if you are the lower end or upper end, is about 10 to $12 billion over the course of ten years.

And those are the extreme cases. And I don't have much concern for it. I think if I did I would raise them.

(Laughter.)

MR. EVANS: She's not been shy at all during this process.

CHAIRPERSON ADLER: Any other comments or questions?

(No response.)

Can I get a show of heads nodding that we have consensus on moving forward?

(Indicating.)

Okay. Thank you very much.

Thank you, Scott. Thank you Robin and Joe. This has been a long process.

0058

MR. EVANS: While we're in public session, let me say what a pleasure it's been to work with Rocaton. They really have been a thought leader and been very, very helpful to BAM and our developing.

MS. PELLISH: Thank you.

CHAIRPERSON ADLER: I think that concludes our business for the public agenda today.

Is there a motion to move into executive session?

MS. PENNY: I make a motion to move, pursuant to Public Officer Law Section 105, into executive session, for discussions regarding the purchase and sale of securities, and updates on specific investment matters.

MR. BROWN: I second it.

CHAIRPERSON ADLER: Any discussion of the motion?

All in favor of the motion to move into executive session say "Aye."

(A chorus of "ayes.")

Opposed? Abstentions?

(No response.)

That concludes public session for now.

(Discussion off the record.)

0059

(Whereupon, the Board entered executive session.)

CHAIRPERSON ADLER: That concludes the executive session. Is there a motion to exit executive session and go back to public session?

MS. VICKERS: So moved.

CHAIRPERSON ADLER: Is there a second?

MS. BEYER: Second.

CHAIRPERSON ADLER: Any discussion?

(No response.)

All in favor of the motion to exit executive session please say "Aye."

(A chorus of "ayes.")

Opposed?

Abstentions?

(No response.)

(Whereupon, the Board returned to public session.)

CHAIRPERSON ADLER: We're back in public session.

Susan, would you make a report out of executive session?

MS. STANG: In executive session, the variable funds, two manager updates were presented. Renewal of several executive contracts were discussed. Consensus was reached, which will be announced at the appropriate time.

0060

There was a presentation and discussion on Variable B. Options will be explored.

CHAIRPERSON ADLER: That concludes our business for today. Is there a motion to adjourn?

MR. KAZANSKY: So moved.

MS. VICKERS: Second.

CHAIRPERSON ADLER: Any discussion?

All in favor of the motion to adjourn please say "Aye."

(A chorus of "Ayes.")

Opposed? Abstentions?

The meeting is adjourned.

(Time noted: 11:52 a.m.)

JEFFREY SHAPIRO

0061

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

I, Jeffrey Shapiro, a Shorthand Reporter and Notary Public, within and for the State of New York, do hereby certify that I reported the proceedings in the within-entitled matter, on Thursday, June 2, 2016, at the offices of the NEW YORK CITY TEACHERS RETIREMENT SYSTEM, 55 Water Street, New York, New York, and that this is an accurate transcription of these proceedings.

IN WITNESS WHEREOF, I have hereunto set my hand this 6th day of June, 2016.

JEFFREY SHAPIRO