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NEW YORK CITY TEACHERS' RETIREMENT SYSTEM
INVESTMENT MEETING
Held on Thursday, February 12, 2015
at 55 Water Street
New York, New York
9:40 a.m.

ATTENDEES:
MELVYN AARONSON, Chairman, Trustee
SANDRA MARCH, Trustee
THOMAS BROWN, Trustee
SCOTT EVANS, Trustee
CAROLYN WOLPERT, Trustee
SUSANNAH VICKERS, Trustee
CHARLOTTE BEYER, Trustee
THAD McTIGUE, Comptroller's Office
MARTIN GANTZ, Comptroller's Office

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ATTENDEES (Continued):

SUSAN STANG, Teachers' Retirement System
MICHAEL FULVIO, Rocaton
ROBIN PELLISH, Rocaton
CHRIS LYON, Rocaton
ALLISON TUMILTY
PAUL RAUCCI
RENEE PEARCE
JOHN MERSEBURG, Comptroller's Office
LIZ SANCHEZ, Teachers' Retirement System
JOHN ADLER, MOPI
YVONNE NELSON

0003

MR. AARONSON: The meeting is called to

order. Would you call the roll, Mr. Mctigue?
MR. McTIGUE: Good morning, Mr. Chairman and members of the Board. Welcome to the February 12, 2015 investment meeting of the Teachers' Retirement Board. I will start by calling the roll.
Mr. Aaronson?
MR. AARONSON: Here.
MR. McTIGUE: Ms. Beyer?
MS. BEYER: Here.
MR. McTIGUE: Mr. Brown?
MR. BROWN: Here.
MR. McTIGUE: Ms. March?
MS. MARCH: Present.
MR. McTIGUE: Ms. Vickers?
MS. VICKERS: Here.
MR. McTIGUE: Ms. Wolpert?
MS. WOLPERT: Here.
MR. McTIGUE: We have a quorum, sir, and we can begin.
MR. AARONSON: Thank you very much.
I would like to begin with two announcements. One is that I would like to announce that the mayor has appointed a person

from the Mayor's Office of Pension and Investments, and we have here today Mr. John Adler who is the mayor's appointee. Welcome, John.
MR. ADLER: Thank you, Mel.
MR. AARONSON: And we have some other good on welfare. Mike Fulvio, who has been with us for a number of years and part of our investment team, just became a father.
MR. FULVIO: Second time.
MR. AARONSON: And now we can get to the agenda, which I believe is going to be the public session of the Passport Funds.
MR. LYON: Good morning, everyone. I am pleased to present the performance information through year end. This is the last time that we will be presenting from this particular format because as a preview at the next meeting, in response to Board feedback and after collaborating with TRS, we have an all-new we think easier-to-use format that also includes some new information, and so we will be rolling that out to start fresh with 2015's reporting. So you will see the January 31st report in a new format, and thereafter we

will be soliciting your feedback as we can make enhancements along the way. So while many have gotten used to this format over the years, we will apologize for the change-up. We think you will find the new one very helpful.

MS. MARCH: Change is always very healthy.

MR. LYON: But nonetheless, one more time through the old format with new information.

You can see if we start with the Diversified Equity Fund handout at year end, the assets were approximately 11.3 billion dollars. You can see that the composites were relatively in line with their respective targets, but there has been some transitioning over time and we are in the process of implementing a new rebalancing process approximately over the next month, which will keep us even closer to target hopefully going forward.

And then if you flip ahead two pages to page 3, in the middle of the page where it says "Teachers' total", that's the performance

of the Diversified Equity Fund for the month, and you can see that it was a modestly negative month, down about half a percent. That's a little better than the Hybrid Benchmark, but compared to just U.S. equities which were flat, the fund underperformed, and a lot of that was driven by the fact that this fund is more diversified and includes the need for allocation of international equities, which you can see a little further up on the same page had a fairly negative month for the month of December, down about 3 percent as a composite.

If you look out to the one-year completing the calendar year, you can see the fund had almost a 9 percent return. This is about half a percent behind the Hybrid Benchmark. It was notably further behind the broad U.S. equity market, and the reason for that has everything to do with the risk posture of the fund in that the fund is intentionally more diversified to include non-U.S. exposures, which over this time period were not helpful from a return perspective, and has a meaningful allocation

to the Defensive Strategy Composite, which if you look back on the prior page, you can see for the one year-period didn't hurt too much, but again, as part of the overall idea of dampening the volatility of the fund by design, and while that may not always happen, it has largely resulted in less risk in this option over trailing say five-year time periods than simply being in U.S. equities.

Just pause there.

And then if there are no questions at this point, I will turn to the next handout which has the other Passport Fund options starting with the Bond Fund, which had about 336 million dollars at year end, and you can see that for the month, it was also in modest negative territory with a negative .35 percent return that was right in line with the benchmark, and for the one-year period, it generated a positive 1.2 percent return a little bit behind its benchmark, and of course, all of these reports that I am presenting are net of fees as well.

Then if you flip ahead to the next page, you can see the International, the Inflation

Protection and Socially Responsive options and the asset levels at the top of the page, but respectively almost 100 million, 43 million, and 97 million, and their performance, and similarly, the International Equity Fund, which is really a unitized way or a subset of the Variable A portfolio, so it reflects the composite of international securities within Variable A had a negative 3 percent return. While negative, it was ahead of its benchmark for this time period, the EAFE benchmark, and fairly in line with its benchmark for the one-year period, but it was down 4 and a half percent. So as we all know, particularly for U.S. dollar investors, with the impact of currency, international equities have had a more difficult time over the past year.

The Inflation Protection option, which recently had a manager change that we discussed, that option was down 2.3 percent in line with its benchmark, and the Socially Responsive for the month and the one-year period reflects a mix of the two strategies, but it was in positive territory and ahead of benchmark. And then the Socially Responsive

Equity Fund had a modest positive return compared to a modest negative return for the benchmark for the month, and for the one-year period it has trailed, and this is a fairly active option which its performance relative to benchmark has at times trailed but also has been fairly compelling. So for instance, if you go back two years, it was ahead of benchmark for the two-year period.

MR. AARONSON: Anybody have any questions for Chris on that?

MR. LYON: Thank you. Just a preview through January 31st, we have another handout. This is the monthly benchmark report, and you can see that in January, there was again a hard time for U.S. equities, but the pattern of international underperformance was broken out at least for the month where the EAFE Index for U.S.-dollar-based investors was up half a percent, and you can see how some of the other benchmarks for various components of the Passport Funds or subsets thereof performed, but it was a flat-to-modestly-negative month depending on which category you are looking at. Any

questions?

MR. AARONSON: You have the February 28th report?

MR. LYON: Yes. I have my predictions on that, but I keep them in a sealed envelope along with all my sport predictions as well. So that's everything that we have for the Passport Funds in the public agenda unless there are questions.

MR. AARONSON: Anybody? Any questions?

MR. LYON: Thank you.

MR. AARONSON: Thank you very much. And now we turn to the public session of the Pension Fund.

MR. EVANS: Thanks very much, Mr. Chairman. I am not going to repeat the dynamics of the returns in the market. Just if you take the flip charts, page 37, you can see the results for the Pension portfolio over the same time period. Trailing one month basis, end of December 31st, we were down .65 percent versus the benchmark of .91 percent. Twenty-six basis points ahead. Fiscal year-to-date, we are up a little over 1 percent, 22 basis points behind the benchmark.

I think it's important just to pause and look at the different pace that fiscal 2014 is working on versus the previous year. If you look over a couple of columns, fiscal year '14 ended with 17.6 percent return, and you know, fantastic results. Everybody was pleased, and we all said at the time that we may have barred from the future with all the wind at our back from the Federal Reserve and other central bankers easing trying get commerce going. That, in fact, has been the case although there has been a lot of choppiness among the various markets.

After six months of the year, only up a percent going forward, and we don't expect, you know, a huge pickup in the rate going forward. So in all likelihood, this fiscal year, which you never know exactly what this fiscal year will in all likelihood be less than our long-term expected return of 7 percent and that's normal. What we are going to need to rest on going forward is the underlying growth in earning power in our equities, the rate of earnings growth in our real estate, the rent-roll growth. And so

that's a more gradual process, and actually if it heats up too much, the markets will begin to worry about inflation and interest rates will start to go up quickly. Which gives us a backdrop for the asset allocation that we have.

If you turn to page 30 -- no, 31 -- gives you the adjusted weight. So we hold the public asset classes until they are drawn in the private assets, and this makes the adjustment. So I'm sorry. I am getting confused. We wanted page 30 like I originally said. So that's the one that does the adjustment.

If you look at this again, zero would be right on our long-term policy desired asset allocation. We are right where we want to be. We are not overexposed to the U.S. equities. If you remember, mid-year last year, we were way overexposed to U.S. equities. We were underexposed -- green is underexposed -- developed international markets in yellow, emerging markets. We have changed that equity lineup on the left. On the right, the fixed income, if we were on track in blue -- we

talked about this before -- we invest in longer term bonds. It ends up on average being kind of intermediate, but we don't invest typically in short-term treasuries, anything up to five years whereas the bond market itself is measured by the Barclays Agg, does have quite a bit of shorter term paper.

When interest rates rise -- and we expect them to rise over the next couple of years; they are abnormally low -- bonds seem abnormally overpriced relative to normality due to the unusual situation that we are in -- we think for, you know, the next period, it makes sense to look more like the Barclays Agg and less like this tilt to longer term. So you are going to see underweights in blue and overweights in gray, which are the longer term and shorter term. We will stay within the band, but we will have that tweak.

Charlotte, at our last meeting, asked a good technical question about the sensitivity to the interest rates overall when you combine both of them looking at the duration. We are calculating that. I thought I was going to have it this morning. I didn't quite make it.

I will promise it for our next meeting, but the goal is to be pretty neutral versus the Barclays Agg. We may need to tweak that gray bar a bit going forward, so with that, let me turn it over to Martin, and he will give you some highlights of the dynamics during the month.

MR. GANTZ: But first, let me address the question that you referenced from Charlotte from last month, which was the question about the impact of duration and yields on that. We have already looked at it preliminarily. I don't have a precise number for you. It's actually not that hard to do. We will have that for you. It's just a matter of getting the right index numbers. So the impact as it turns out because our -- to be very quick here, the benchmark has intentionally a longer duration and a higher yield. What we have done is we have underweighted the benchmark and put money in cash, but as Scott mentioned, the cash really is -- about half of that cash is in 2-year treasuries and other agencies, things like that. So we are getting more yield. So

2-year treasuries traded at 50 basis points.

Instead of getting zero, you are getting 50 basis points, and agencies are getting more of a bump. So we are getting yield with very little duration, so we have a higher duration in our index than the Barclays Agg with a higher yield. Preliminarily my calculations show -- and I will just confirm it -- we will have the number for you -- that even with the underweight here, we actually get the best of both worlds. We actually end up with a lower duration, but we end up with a higher yield so we will have the numbers for you. So it's actually pretty much what you want, so we will get the numbers for you but that's -- that's kind of why we have it set up the way we do, given the low absolute level of yields that we have right now, and the concern if rates go up, you do lose money.

Okay. So a couple of pages just to turn to, you may have noticed Chris went through the December numbers, so I am not going to go through that again. That's on page 27. John just handed out the January numbers. So we do have what the result of the December numbers

were.

So if you turn to page 29, taking all these numbers together, because equity markets went down, the total return for the month on the left was minus 65 basis points, bringing fiscal year-to-date return to 104. January, which is the handout, it's double-sided. The side with the full page on the top shows the U.S. equity, and the U.S. equity market was down in January, Russell 3000 was down 2 or 3 percent. Next set of numbers is EAFE emerging markets. Those were actually up. Core Plus 5 was up as well. So equity markets were down, fixed income was up. What this did ultimately we expect is that you will have probably another down month, but however, if you take a look at what's happened so far month to date in February -- and I ran the numbers through yesterday -- through yesterday, we made that up.

So February, while it's been a very bouncy ride, we have made up those numbers, and so we are at a market value that is higher than you have seen, that you see here for December. So we made up January -- the

December and January in the first part of

February. What will happen the rest of February I can't say. I have the same sealed envelope that Chris has, but I can tell you that our estimates are where we are right now is because of the good beginning of February, we have made that up.

So let me go through a couple of pages. You have been reading or hearing that the U.S. economy is doing well. Scott was kind of talking or referring to that. So we have charts on page 5 and page 6 that show unemployment rates going down, consumer sentiment going up. These are multiyear. In the case of unemployment rate, low. Employment rate high, consumer sentiment multiyear high. There has been a lot of relatively good news.

Now, if you dig deeper into the numbers, it's not necessarily as good because the jobs that are 35-hour workweeks are the jobs, high paying jobs. If you dig deeper into it, it's not necessarily as good. You know, a job is better than no job, but unfortunately, it's not necessarily as good as it would be in a

normal robust recovery.

Some really interesting charts starting on page 15. We went through this last month but it continued, so I want to show it to you again, starting on page 15. The dollar has strengthened significantly versus other major currencies. So we show on page 15 the dollar index which is versus other large currencies. It's at a decade high, and page 16 is versus the euro, and you see the euro down here is down to about 1.14 approximately where it is today, and when the euro declines, if our managers aren't hedged, and primarily they are not, that means non-U.S. equity you would expect, all things being equal, would go down, but I just showed you the January chart. If you take a look at returns, I showed you the non-U.S. equity, the first line, MSCI EAFE was actually up 1 half percent, and that's because the underlying prices of the stocks have gone up.

Just like when we hit our QE3, the ECB's version of stimulating the economy has encouraged investors to invest and may be temporary because there are other structural

issues. Just read the newspapers about Greece potentially exiting the euro, the stability of the euro structure itself, but for now, that seems to be outweighing the exchange rate issues. So far so good with that.

Another related chart is on page 17 and that's crude oil. We haven't had this previously. We are starting to show this now because of the dramatic chart, and you see it every time you walk past a gas station or fill up a gas tank. I don't have a car because I take the subway in New York City, and you see that basically in a very short period of time, the price of oil has gone down by a factor of 50 percent. There was a slight increase here and right after we went up back to 50 dollars a barrel and then went back down. So it's very volatile right now, and there was just a report that came out a couple of days ago that showed very high inventory levels, which would mean that prices, at least on a supply and demand level, would go down.

There are geopolitical reasons as well, so that might impact the price regardless of the supply and demand, but this is obviously

good news because it makes things cheaper. It also affects inflation because if you look at page 13, inflation looks like it's very low. Not necessarily if you go to the grocery store, but last print for December was 0.8 percent annualized, which is extraordinarily low, but that's because oil has an important part in what goes into CPI and what goes into the inflation calculation. So that's why you see those low inflation rates.

The Volatility Index is living up to its name. It's becoming more volatile. You see on page 18 towards the right the ups and the downs are becoming more pronounced. I would say given what's going on in Europe with the ECB and the weak economies and the Central Bank trying to jolt the economy, as well as things going on in the Ukraine and other things that we can't possibly predict that will happen going forward, the volatility probably is here for a while. I would not be surprised if you continue to see that.

And in the U.S. the issue is a different issue. When is the Federal Reserve going to raise rates? So the markets imply that's

going to be June based on forward curves.

Whether that happens remains to be seen. There is a lot of experts who say it won't be June, but short-term rates at some point will be going up. We are several years ahead of Europe. That's actually a good sign. It's a sign of normalizing investments. While in the short run when that happens or when it's expected to happen, it will increase volatility, in the long run, it's actually good for investors like us because that means we will be able to earn higher rates of return on fixed income products.

You see the 10-Year Treasury on page 20. At the time we wrote this, it was down to 1.82. I think this morning it was about 2 percent or so. So it's a very low level even though QE3 ended, and that's because the ECB is stimulating -- and stimulating the economy by buying bonds in Europe of sovereign bonds in Europe. Investors are now looking to a stronger economy, the U.S., and seeing yields are actually higher here than they are there for weaker economies, so they are buying our bond s. So even though QE3 went away, bond

prices go up and yields go down. That's probably a temporary feature, but temporary can go on for a while.

Page 21, I mentioned this last month, I will say it again, you see spreads went up in red of high yield. That's primarily because of energy. Energy is an important component of high yield. And to the extent that we have -- that energy is important in high yield and there were a lot of high-yield issuers, those bonds because the price went down, depending on the type of company, a lot of them were E&P companies, which means they were very, very tied to the price of oil, and if it cost them 60 dollars to extract a barrel of oil and they can only sell it for 40, ultimately it's going to hurt them. So spreads have widened but you will see that investment grade prices have gone up but not that much, so it's more of a high yield issue.

And I think the last comment I just want to show you is continuing on page 25, you can see it's just a picture of the last year. White is the U.S. and yellow is emerging markets. Orange is EAFE. Orange is actually

on the bottom. That's primarily because of the weakness in their economy and also on top of that the currency weakness although that underlying stock price has done well recently. Emerging markets are definitely tied to the U.S. and interest rates here as well as slowing growth that everyone is expecting in emerging markets and we have already seen.

Scott talked about the asset allocation. We have further charts on that. We have on page 35 and 36 what the actual market values were. So the market value went down in December because it was a negative month and you will probably see a slight decline of a similar magnitude in January, but I can tell you, like I said, I ran the numbers in February, so through the other day we made that up, and we are, based on my numbers, not quite but very close to that all-time high again from two months ago.

One last comment. Scott referenced this on page 37. So we are going to have the quarterly report for you next month, but we do have the December numbers here. So if you take a look on the summary page, you will see

in the CYTD, the calendar year-to-date, which is the full year of 2014, the return was 7.75. You are probably reading in P&I and other industry publications what returns are for certain pension funds. What I am seeing -- again, we will know when we see the peer results, the rankings, but the 7.75 I believe compares very favorably compared to other pension funds.

MR. AARONSON: From what I saw in the press, they have somewhere around 6 and a half.

MR. GANTZ: Right. So this 7.75, while Scott said is lower than we have before and we should expect lower going forward, it's still better than your peers. Primarily, if I can draw your attention to the top line, which is domestic equity because we have a lot of domestic equity, and U.S. equity did best. In fact, the best performer here -- it almost looks like a misprint -- on the calender year-to-date is real estate. That means REITS. You have a small allocation, a 3 percent allocation. As Mel likes to say, every basis point counts, and a 30 percent

return in a 3 percent allocation actually does matter a lot. And fiscal year-to-date, while we are only up 1 percent, REITS are up 11 percent, and REITS are tied to interest rates and because interest rates have gone down, it's done well.

MR. EVANS: Just one little -- are you done, Martin? One little thing while we are on this page. If you look at developed markets and emerging markets, you see they went straight down in fiscal year-to-date. Because we are rebalancing, because we are trying to keep a constant exposure, we are buying into that, the whole way to keep a zero weighting in those markets. So when they began to pop and now you know, international markets have been going straight up and U.S. markets have been going sideways, we are benefitting from that because we have a higher weight than we did otherwise.

So rebalancing is a passive process. It has a great track record long term, and it gets you to do the hard thing. You are buying things that are going down and selling things that are going up. So it's a discipline

that's already working for us, and we will see it particularly as we start looking at 2015.

MR. GANTZ: Any questions?

MR. AARONSON: I have. Not about -- but I would like everybody to look at page 56. It's the private equity portfolio, and generally -- I don't know if this is the custodian's probably or what, but we usually get one quarter behind in the report on the private equity and this is a half a year behind so it's two quarters. Is there any special reason?

MR. GANTZ: It's a timing issue. Next month you will see next quarter. It's a timing issue when the book is put together.

MR. EVANS: I think you are used to seeing these, Mel, when we do the quarterly analysis and we go in depth. So we will be doing that. When we do that quarterly analysis, you will be brought up on the quarters, and we also are endeavoring to have like-for-like comparisons when you look at private equity so you can really drill down and see how we are doing by vintage both relative to other PE funds and relative to

what would happen if we kept the money in

public equities.
MR. AARONSON: If you turn to page 59, Townsend Real Estate advisor. I don't know what this report is for, the date.
MS. NELSON: What was the question? It's September of next month.
MR. AARONSON: Can we ask them to put that in?
MS. VICKERS: Can you ask them to add the date going forward?
MS. NELSON: Absolutely. I'm sorry. Actually, the date is in the bottom I think.
MS. PELLISH: It's very, very tiny print.
MR. AARONSON: Okay. So I have no -- anybody else have questions?
MS. MARCH: Do you think they could supply -- not that I can't see it, but do you think that the consultants could supply or somehow we can enlarge this print even if we did it on two pages?
MS. VICKERS: Yes. We can work with that.
MR. AARONSON: Any other?

Okay. So would that conclude your report?
MR. EVANS: Yes. That was all we had for the public session. Right, Susan?
MS. VICKERS: Right. That is it.
MR. AARONSON: Do I hear a motion?
MS. MARCH: I move pursuant to Public Officer's Law Section 105 to go into executive session for the discussion regarding the purchase and sale of securities.
MR. AARONSON: Is there a second?
MS. VICKERS: Second.
MR. AARONSON: Any discussion?
All in favor for going into executive session say aye.
Aye.
MS. MARCH: Aye.
MR. EVANS: Aye.
MR. THOMAS: Aye.
MS. VICKERS: Aye.
MS. WOLPERT: Aye.
MS. BEYER: Aye.
MR. AARONSON: Any opposed? Motion carries. We are now in executive.
MS. VICKERS: I would like to distribute

a revised agenda.
MS. MARCH: I know that because I don't want to forget, I know we are starting education programs I believe the month of April. Is it possible to have some kind of tentative agenda for next month so that we can take a look at it?
MS. VICKERS: Yes, definitely. We talked about March last meeting.
MS. MARCH: Thank you.
MR. AARONSON: Okay. So we are now in executive session, and we will be doing the Passport Funds.
(Whereupon, they went into Executive Session)
We are now out of executive session, back in regular session, and Susan, can you give us a summary of what we did in executive session?
MS. STANG: In the executive section of the Pension Fund, a manager update was presented. Also the results of the developing managers Core Plus RFP were discussed. Consensus was reached, which will be announced at the appropriate time.

Updates to various RFPs and procurement issues were presented. An update on the private equity portfolio was presented and discussed.
There was also a discussion about a particular exemption for the investment guideline for a real estate investment. Consensus was reached, which will be announced at the appropriate time.
MR. AARONSON: Okay. Any further business before us at all? Seeing none, do I hear a motion to adjourn?
MS. MARCH: So moved.
MR. AARONSON: Second?
MS. VICKERS: Second.
MR. AARONSON: Any discussion? All those in favor of adjourning say aye.
Aye.
MS. MARCH: Aye.
MR. EVANS: Aye.
MR. THOMAS: Aye.
MS. VICKERS: Aye.
MS. WOLPERT: Aye.
MS. BEYER: Aye.
MR. AARONSON: Our meeting is now over.

Thank you very much.

(Time noted: 10:39 a.m.)

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 16th day of February, 2015.

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YAFFA KAPLAN