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NEW YORK CITY TEACHERS' RETIREMENT SYSTEM

INVESTMENT MEETING

held on Thursday, March 6, 2014

at

55 Water Street

New York, New York

ATTENDEES:

MELVYN AARONSON, Chairperson, Trustee, TRS
MONA ROMAIN, Trustee, TRS
SANDRA MARCH, Trustee, TRS
PATRICIA REILLY, Executive Director, TRS
CHARLOTTE BEYER, Trustee, Finance
JANICE EMERY, Trustee, Finance
JUSTIN HOLT, Trustee, Finance
THADDEUS McTIGUE, Assistant Executive Director, TRS
SUSANNAH VICKERS, Trustee, Comptroller's Office
JOHN DORSA, Trustee, Comptroller's Office
JOHN BREIT, Comptroller's Office
MARTIN GANTZ, Comptroller's Office
SEEMA HINGORANI, Comptroller's Office
JANET LONDONO-VALLE, Comptroller's Office

MARC KATZ, TRS
RENEE PEARCE, TRS
PAUL RAUCCI, TRS
SUSAN STANG, TRS
ROBERT C. NORTH, JR., Actuary
CHRIS LYON, Rocaton
ROBIN PELLISH, Rocaton
MICHAEL FULVIO, Rocaton
MATTHEW MALERI, Rocaton
ROBERTA UFFORD, Broome Law Group
STEVE BURNS, Townsend
ISHAKA BANSAL, Townsend
STEVE NOVICK, Courtland

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P R O C E E D I N G S

(Time noted: 10:04 a.m.)

MS. REILLY: Good morning. Welcome to the March 6, 2014 investment meeting of the Teachers' Retirement System of the City of New York. I will start by calling the roll.

Mel Aaronson?

CHAIRPERSON AARONSON: Here.

MS. REILLY: Justin Holt?

MR. HOLT: Here.

MS. REILLY: Sandra March?

MS. MARCH: Present.

MS. REILLY: Mona Romain?

MS. ROMAIN: Present.

MS. REILLY: Charlotte Beyer?

MS. BEYER: Here.

MS. REILLY: Susannah Vickers?

MS. VICKERS: Here.

MS. REILLY: We do have a quorum.

I'll turn it over to the Chairman.

CHAIRPERSON AARONSON: Thank you very much.

Okay. I apologize that we're starting a little late. Several people had difficulty getting here because of traffic problems.

But we're going to follow the following

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Okay. I apologize that we're starting a little late. Several people had difficulty getting here because of traffic problems.

But we're going to follow the following

steps: Today, we're going to do pension, public. Then
we're going to do the variable, public. Then we're
going to do the variable in executive session and then
the pension in executive session.
Okay. So, we're now ready, and we will turn
it over to Seema.
MS. HINGORANI: Thanks, Mel.
So, we have on here as the first item a
performance review for the quarter. And so, I just
wanted to let the trustees know that we had some
production problems and issues with these quarterly
books.
As you know, we've got a new custodian,
State Street. And we've been working out a lot of kinks
with them, this being one of them. So, we should have
those to you, though, shortly. We continue to work on
them to get them right and in right order and looking
the way you're known to see them look.
So, I just wanted to let you know that
that's the case with the public markets stuff.
Now, we do have the reports in the book for
private equity and real estate and ETIs. And what we
thought we might do is just open it up on the questions,
if you have any, rather than go through them step by
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CHAIRPERSON AARONSON: The only thing is,
please let the new custodian know that we're troubled by
this and that they should act as quickly as possible -MS.
HINGORANI: Absolutely.
CHAIRPERSON AARONSON: -- in getting it
resolved.
MS. HINGORANI: Absolutely, yes. We've been
on them every day, but absolutely. We'll pass that
message on.
Okay. If there aren't any questions, then
we'll move to the January monthly performance review.
CHAIRPERSON AARONSON: Yes.
MS. HINGORANI: Okay. So, we went through
January a bit last month, where you might remember
markets didn't do too well. We got a lot of uncertainty
out in the marketplace: emerging markets, the debt
ceiling issue, the new Fed chair.
And before we go to the January numbers
again, just a little bit about February, because that
was a much better month.
(Laughter.)
CHAIRPERSON AARONSON: Can we forget
January, then? Just leave it out?
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fact, a good month. What was going on in January somewhat got resolved in February. Where the debt ceiling is an issue, they got resolved pretty nicely, actually, where Congress worked together, which was a surprise, and resolved the debt ceiling on the deadline. No issues really there.

Then the new Fed chair was, again, some bit of uncertainty in January about what she might do or not do. And Janet Yellen had come out and said she would not move too quickly with these, you know, tapering of the bond purchases, if the economy is still weak. So, she gave that news to the market, and the market liked that.

So, let's just then look at the numbers. If you turn to Page 27. So, this is the month of January. And you see, here are the Russell 3000, down about 3 percent; the EAFE markets, down 4 percent; emerging markets, down 6 1/2 percent; Core+5 -- scroll down some more -- up 1.7 percent roughly; high yield, up about 75 basis points; TIPS up nearly 2 percent; and convertibles, up nearly 2 percent. That was January.

Now, February, I can tell you -- which is not on the next page. Stay on this page. If you want to write these numbers down.

Russell 3000 was up 4.74 percent. EAFE was
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Russell 3000 was up 4.74 percent. EAFE was

up 5.61 percent. Emerging markets, up 3.26 percent; Core+5, up 72 basis points; high yield, up 2.01 percent; TIPS, up 43 basis points; and convertibles, up 4.27 percent. So, a very strong February.

So, if you turn to the next page, 28, this breaks out how and where we made our money; in January, in this case, lost the money.

You can see there in the one month the total fund return, down 1.86 percent. So, that's for the month of January. And then if you scroll over a couple bars, the fiscal year to date, again through January, the total fund is up 8.24 percent.

But now, if you add in February, which we would estimate we're up about 3 percent, that means that the total fund for Teachers is up about 11 percent, fiscal year to date through February, which is a very strong number. As you can see for the whole fiscal year in 2013, we were up nearly 12 percent. So, we're doing well so far through February.

If you look at the next page, 29, this is how we're set up. This is our asset allocation. You can see here we're basically within the ranges across equities, fixed income. Cash is actually down. As you can see in the gray, looks to be closer to $500 million. We're down now closer to $370 million. And I can tell

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you as of March 3rd, 2014, the AUM, or the Teachers' pension plan, is now $54.5 billion. So, a very good number.
Now, we do have the manager performance numbers throughout the rest of the packet here, which we had been working out with State Street. So, we have them, so that's good. But if there aren't any questions on those numbers, I thought we could move to the next item.
We're good? Okay. Thank you.
So, we now have a risk presentation by our head of risk, John Breit. And you should all have your handout already in front of you. John will sit right here.
(Indicating.)
MR. BREIT: The little one, the four-pager.
CHAIRPERSON AARONSON: Thank you and welcome.
MS. MARCH: How are you?
MR. BREIT: Good. Thank you.
I am going to do something a little different. This is the third time I've talked to you all.
The first time, we looked at traditional measures, like value and risk and statistics on the
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assets.
Second time, I tried to look at how we look
on an accrual basis; our risk essentially being not
earning the 7 percent that we need, how that looks on an
accrual basis. But really, the best way to present the
risk is to put everything on an equal footing, when you
have different accounting.
We have some assets that are mark to market.
They are very volatile.
We have some assets that are market to fair
value. That has smoothing and lags. So, it appears
less volatile. It appears more diversifying.
And we have some assets that are accrual
basis and some that are on a cash basis and, of course,
liabilities on a cash basis.
So, what I'd like to do is pull
everything -- commitments, guarantees, whatever it is -on
to the balance sheet and mark to market.
Now, let me remind you what "mark to market"
means. There are two things that are important. One
is, it is one when an unrelated third party would pay us
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CHAIRPERSON AARONSON: It would show up for
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BREIT: Yes, yes. I am going to get to
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that. Yes, yes. Because they're rather large, yeah.

And mark to market is whether a third party would pay us for an asset or what we would have to pay them to assume a liability.

The other thing about mark to market is, we don't care about when cash flows happen. We care about the event that leads to a cash flow perhaps in the future. But rather than recognizing the cash flow as it happens, as you do with cash accounting, we recognize it immediately when the liability is incurred or the asset appears.

The other thing I am going to do that's a little different is, I am going to show you the consolidated, all five, funds. I'm doing that because I believe and hope to convince you that the risks aren't consolidated. The funds are managed separately, but virtually all your risk is held in common. And so, the best way to look at the risk is to look at all five funds together.

Now, what are the advantages? Well, first of all, it's always useful just to not be prisoners of our accounting policy but to step out and look at how the world looks if we had a different way of accounting for things. It doesn't mean we're supposed to mark everything to market for accounting purposes, but it

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gives us a useful perspective on what our risks are.
The main thing it does also is, it allows us
to compare various risks. Do we really have mainly the
equity risk, which we have on our mark-to-market assets,
or do we mainly have interest rate risk, which we have
in our liability? So, if we have a common scale, we can
start to compare these risks in a relative way.
The other thing mark to market does is -accrual
accounting has many advantages. It has one big
disadvantage. It gives no early warning. By the time
cash flows look bad, it is usually much too late to do
anything about it. Mark to market sometimes can give
false alarms, but it has the virtue of -- because it's
looking forward and present-valuing everything back to
today, that it can give an early warning.
So, with that in mind, let's turn to the
balance sheet.
(Indicating.)
And the first page is -- this is the income
we will earn next year. The city contributes to the
five plans 9 1/2 billion a year in annually required
contributions. And as Janice pointed out, I think, it
says eight and a quarter billion, but NYCERS is a
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and hospitals and so forth. So, I just call over the
city contributing that.
We will also -- and this will seem a little
strange at first blush because we just had a
presentation on how much money we made last month. Then
you have quarterly reports, annual reports. But in a
mark-to-market sense, we will make $11 billion in the
funds. Because if the market does better than that -let's
say the returns on the corpus are 8 percent.
1 percent of that is owed to the city through the
actuarial adjustment, to reduce the ARC payments.
On the other hand, if we earn less than
that, money is owed from the city to the corpus. So,
the earnings are effectively guaranteed. They're going
to be $11 billion. That won't be the cash flow, but
that's what the earnings are.
CHAIRPERSON AARONSON: That's based on the
7 percent -MR.
BREIT: Yes, yes. Right. And whenever
we're less than that, the city incurs an obligation to
make up the difference. And if they're more than that,
we incur an obligation to give money back to the city.
So, it is guaranteed.
And we have about $800 million of employer
contributions, for a total of 21 and change, and income
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would come in.
Before I leave the guarantee, you can source
the guarantee from the markets. It is called a "total
return swap." We can go to a financial institution, and
we can pay them the return on our fund and receive back
from them a fixed rate. It doesn't go out in
perpetuity, but you can go out for a total return swap
market. And the fix rate you would receive is
3 1/2 percent, not 7.
So, of the $11 billion of income, about
5 1/2 billion is coming from the city through a
guarantee of 7 percent rather than 3 1/2. So, if we
look at all the annual income, we have 5 1/2 billion
from the guarantee, 9 1/2 billion from the annual
required contribution or $15 billion of the $21 billion
essentially the city is responsible for.
This is why I think the risk is
consolidated. Your main risk -- in fact, the only risk
really that matters is the ability of the city to
continue making payments. Anything that impairs its
ability hurts your fund.
So, in a real sense, the corpus exists, and
the earnings on the corpus exist for the foreseeable
future, for at least the generation to come. They exist
to lessen the burden on the city, not to pay the
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So, the reason your risk is in common is if your fund, say, earns its 7 percent but the other funds only earn 2 percent, the city has to put in money. And that impairs your principal asset, which is the ability of the city to continue making these payments. So, you're all interconnected because you're facing the same obligator, the City of New York.

Let's look at the outflows. There's roughly $10 billion of pension benefits being paid every year across the five systems. And Bob projects these to grow, with wages and inflation, at about 3 percent a year.

There's about a billion six of non-pension benefits. These are not health care costs. These are non-pension benefits paid for by the pension funds. So, these include the VSS for the uniformed services. That's about $400 million a year flowing out. And those are fixed amounts. They are not growing, and so, over time, they diminish.

And it includes $1.2 billion in Board of Ed and Teachers' in interest on the loans from the TDAs to the pension plans. These are growing at the internal rate of return of the loans, or 7 percent loans. So, they're growing faster than other liabilities.

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And there's about $400 million of fees being paid, so a grand total of $12 billion going out. So, we have $21 billion coming in, $12 billion going out. So, the corpus is being grown at $9 billion a year.

CHAIRPERSON AARONSON: Can we stop right there?

MR. BREIT: Yes, yes.

(Laughter.)

CHAIRPERSON AARONSON: End of report.

MR. BREIT: The corpus is growing, which is good, because our hope -- our strategy, certainly the actuarial strategy, is grow the corpus up to a point where we are no longer quite so dependent on the city and are less of a burden on the city.

Now, the growth of the corpus, though, comes with a risk. I'm a risk guy. So, there's always a negative with every positive. And right now the corpus is roughly double the budget. By the time we finish this program a generation from now of building the corpus out, it would be roughly four times the annual budget, which means, say, we fall behind 1 percent, that's 2 percent of the budget. If we fall behind 1 percent by the time we're done, that's 4 percent of the budget.

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liberated ourselves from dependence on the city because we've made the guarantee worth much, much more relative to the city's capacity to pay.

So, we need two things to happen. We need to earn 7 percent from the next generation on the average to build up the corpus, and we need interest rates to rise to a level where the guarantee is not so valuable.

MS. MARCH: We need a third thing.

MR. BREIT: And a third thing.

MS. MARCH: And the third thing that we needed, we need the Street to continue to behave. And I don't mean that behavior to be the earnings, because some years will be up, and some years will be down. I mean they need to behave -MR.

BREIT: Yes, yes. Benevolence is not within our power, but everything that is, yes.

MS. MARCH: But it is within our power as citizens of this country. And we do not take the right steps to see that they behave. Because if they behave, I can accept a year that is negative earnings. I can't accept a year that's negative earnings because of shenanigans.

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7 percent, we almost don't care about -MS. MARCH: Yes, I do care about it. I really care about that. I care about that.

(Talking over each other.)

MR. BREIT: I mean, we care as citizens but not as -- from the pension. If interest rates stay as low as they are, the guarantee remains a credibly valuable asset from the city.

Next page. All right. So, now I mark everything to market. The guarantee has a present value of roughly $250 billion. The annually required payments have a value today of $200 billion. We have $150 billion of securities roughly across the five systems, and we have -- the present value of the employee contribution stream is about $40 billion, or we have $640 billion of assets.

Note that the assets we usually look at, the $150 billion of securities we manage, are not the bulk of our assets. The bulk of our assets, again making the point that we are very dependent for the foreseeable future on the financial health of the city, is $450 billion effectively coming from the city. And to put that number in perspective, the city has $45 billion of general obligation bonds outstanding, so a staggering large number.

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What about our liabilities? The pension benefits -- I'll go through the math here for you, just because it's most clear here.

We have a stream of $10 billion a year of pension benefits being paid out. Bob has them growing at a rate of 3 percent.

And the annuity provider, the longest term annuity provider rate I can find, is roughly 5 percent. So, if I went out and asked someone to assume these liabilities, it would cost us $500 billion.

The investment management fees, we have a present value of about $20 billion. Again, they are negligible compared to everything else.

The non-pension benefits have a large present value, about $120 billion, because they are growing. The leverage in your fund grows every year because it is accruing at a high rate.

So, that's the liabilities.

So, let me draw a few conclusions or insights perhaps. One is, we've never really fully expressed our strategy. But the strategy implied by what Bob has been doing and the way we're acting is that we have a generation of very large payments, get the corpus up and thereby reduce the dependence on the city.

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said, to lessen the value of the guarantee. Our current asset allocation, to my way of thinking, is not compatible with those two qualities. We need to make 7 percent, and we need interest rates to go up.

But if interest rates go up, it crushes the value of the large part of our portfolio we have in fixed-income securities. I think we need to think about what we're trying to accomplish and revisit all of our asset allocations to see if they're actually consistent with what we're trying to do.

The other thing is the liabilities -- the main thing that lessens the burden of liabilities is inflation. Wages are sticky. They never keep up with inflation. Presumably, tax revenues do. So, the burden on the city is reduced if we have a lot of inflation. So, then, why then do we own TIPS in a portfolio to protect ourselves from the inflation? Inflation is not a friend of wage earners, but it is beneficial to the ability to meet our pension costs.

Also, the mark to market, as I said, is not always correct, but it should not be ignored, either. And it's showing us this is a staggering obligation of the city. It is not inconceivable that the day will come when the city simply cannot make all the required payments. They will divert too much money from the

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budget.

We need a Plan B, suppose that should come to pass. If we just wait until it happens, it will then be a fait accompli. I know what politicians will do. They will say, "All right. We shouldn't amortize this over a generation. We should amortize this over two generations or three or four." The technical term for that is "kicking the can down the road."

We need to think ahead. All of us. This is a big issue. Is there an alternative plan before it's simply handed to us because it is too late to come up with a plan?

And, finally, I have encouraged -- I gave this virtually the same presentation to the Police fund and will do it also for Fire and NYCERS. And there, I would encourage them to think about leverage. Interest rates are low. Should we be thinking about boosting our returns with leverage? For you and Board of Ed, I would not encourage that because you're already leveraged.

I think what you have to think about is: Since the leverage is growing, at what point is it simply too much? And what can you do to prevent the leverage? Since it is growing at 7 percent, faster than everything else, what do you do to prevent -- that is -you know, the biggest risk everyone has in common is

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But you have a unique risk different from most of the other funds, which is the leverage, and that is the biggest unique risk you have. Eventually, it would be too big. Maybe it's too big already, but it's something everyone should be thinking about as a board. How do we handle the leverage? Is the asset allocation optimal? And, also, what is Plan B in the event that we don't earn 7 percent?

One last thing I will say, I talked to many, many boards over my life. And, in fact, I served on boards. I have never seen boards so dedicated to details as these five boards.

Looking at every manager, looking in detail at the assets, there are many big issues that are confronting us. My strong advice would be not to let the details distract you from those. Much of the detail work can be delegated to the professionals. It just doesn't matter really who we pick as managers. What matters is: What is our asset allocation going forward? How much leverage are we willing to take? And what is the Plan B if we don't earn 7 percent so that the city simply doesn't dictate it to you in the future?

And now, any questions?

CHAIRPERSON AARONSON: You completely

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MR. BREIT: That is my job, you realize.
I'm the risk guy.
(Laughter.)
But that's what risk managers do.
MS. MARCH: Depress you.
CHAIRPERSON AARONSON: So, do you have any
suggestions? Like, asset allocation, you said, may not
be appropriate.
MR. BREIT: Well, it's a fixed income. This
is the same little red wagon I had last go-around.
CHAIRPERSON AARONSON: We should increase?
MR. BREIT: Get out of this -CHAIRPERSON
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MR. BREIT: What good does it do? We need
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CHAIRPERSON AARONSON: We should invest in
risk-free investments? We should invest in riskier
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MR. BREIT: They're not risk-free.
Remember, risk is relative to your bogey of 7 percent.
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MR. BREIT: No, no, no. That would be risk-free if you had another $450 billion in the pot. If we actually had that much money, definitely, I would derisk the portfolio.

MS. MARCH: I have a few people who could give it to us. Not the city.

MR. BREIT: But with only $150 billion, it's a pipe dream to derisk it. How? It's not leveraged.

MS. HINGORANI: Robin and I had conversations about our fixed-income portfolio, but, you know, we're bound to have some fixed income in our portfolio by law. So, there is that. But we often talk about that.

MR. BREIT: One thing also, the basket clause -- yes, the basket clause constrains by law what we can own. It is within our power, however, to use derivatives to change the exposure and use the fixed income as collateral for the derivatives rather than as an end in itself. The obstacle there is not the basket clause, per se, but it is New York City's interpretation of the basket clause, which differs markedly from New York State's.

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consistent with New York Common and not the much, much
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Laughter.)
MS. MARCH: Very polite. Thank you.
CHAIRPERSON AARONSON: So, thank you for
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And I want to ask Seema and Susannah to
resolve the problem and get us out of this.
MS. VICKERS: We will report back.
MS. HINGORANI: We're working on it.
Thanks, John.
MR. BREIT: Yes.
MS. HINGORANI: Okay. So, the next item is
the emerging market debt education. Robin and Martin
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(Discussion off the record.)
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MR. GANTZ: Good morning, Mr. Chairman. I
just wanted to introduce myself.
I just wanted to introduce Adi Divgi -MR.
DIVGI: Good morning.
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done, assuming I don't chime in, I will tell you what
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Thank you.
MR. MALERI: Good morning.
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MR. MALERI: Good morning.
CHAIRPERSON AARONSON: Good morning.

MR. MALERI: Pleasure to be here again. I think every time I come and present before you, I am usually optimistic about everything that I present, tell them that this is my absolute favorite asset class.

So, having talked about systems, we'll probably go for a lot longer than we have this morning, but I'll try and be succinct and state everything in facts.

We created sort of a short series of slides.

This is a new asset class. There are probably some terms that you haven't heard before. And so, I wanted to just make sure that I define those first so that you understood what we're referring to.

On page 3 in the presentation, this is taken -- a few of them most widely used terms that you may not know exactly what they mean. Emerging market fixed income is an asset class. It's about 20 years old. It emerged out of the Latin debt crisis of the 1980s, and there were other countries in the 1980s that defaulted also. Those countries had their debts restructured through the Baker plan first and then the Brady plan.

We then got to a traded securities market in U.S. dollars, which was the debt of countries like Mexico, Brazil, Jordan, Philippines, so on and so forth,

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Argentina as well in that list. All those bonds obtained out of that point were denominated in U.S. dollars.

And when we refer to U.S. dollar bonds, we tend to call it "external debt" or "hard currency debt." Those two terms mean the same thing. It's largely denominated in U.S. dollars.

Now, some of the bonds are actually still denominated in things like Swiss francs or even German marks, for some of the older bonds, but they are still denominated predominantly in U.S. dollars with some other developed market countries involved. So, either external debt or hard currency debt means the same thing.

Local currency debt is exactly what it sounds like. It's the bonds of countries, such as Mexico, Brazil and so on, that are denominated in the local currency of that country.

For the last decade or so, even since the Clinton administration or Robert Rubin, they went to some of the main countries that were operating in the emerging market fixed-income world, and they encouraged them to develop their own local bond market.

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countries as they try to develop their own yield curves, their own financial markets.

So, they can borrow in their own currency rather than somebody else's currency, which actually creates a significant amount of risk for them ultimately. If the debt that you borrow is in somebody else's currency, you are then exposed to currency flows. So, a large part of the opportunity set today is in local currency bonds, denominated not in U.S. dollars.

There's also an opportunity in foreign exchange. It's just buying the currency forward of another country. If you have a particular view that that currency has fallen, perhaps will appreciate in the future, that's part of the opportunity set that emerging market fixed-income managers make use of also.

This is a strange term, "quasi-sovereign." What this is, is just -- tends to be corporations. They're either wholly owned by the government of a given country, or it could be partly owned by a given country. So, an example would be Pemex in Mexico, which is the state-owned oil company; Petrobras in Brazil; PDVSA in Venezuela; Gazprom in Russia. All these are quasi-sovereign companies.

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So, it's quite a wide sort of opportunity set. What we colloquially call the "emerging market fixed income" could be U.S. dollar bonds, it could be local currency bonds, both of which are sovereign of the state. The actual currencies of individual emerging markets put companies in emerging markets typically in U.S. dollars, whether they be state-owned or completely privately owned. So, just some of the terms that we wanted to define for you.

So, move forward on to page 4. I'm going to spend the bulk of the time, I guess, on page 4 and just sort of outline how we see the asset class and how it's evolved over the last 20 years.

As I mentioned before, it started off as an asset class that grew out of the Latin debt crisis. So, in 1990, if I had turned up and talked to you about the Mexican sovereign bond, it would have been a bond that was very recently distressed and not paying on its

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interest. It hadn't paid interest. Mexico hadn't paid interest for seven or eight years at that point in time, so a very much a distressed asset class.

As it was born in the early 1990s, grew all the way to today, the average for the whole asset class is investment grade, solid sort of mid Triple B, the average quality of the entire opportunity set, whether you measure it in U.S. dollars or you measure it in local currencies.

So, it's been a fairly significant evolution during that period of time. And we've also gone from being a purely U.S. dollar-denominated asset class in the early 1990s to just literally every year other than 1998, 2001, 2008. Every other year, other than a market crisis, the amount of local debt that's been outstanding has increased. And also, since the credit crisis, the amount of corporate debt outstanding from emerging market has increased significantly.

So the asset class has changed dramatically probably more than any other asset class that you could consider. In the universe of investments, emerging market debt is changed radically.

With that, the return expectations also changed. So, going from an asset class that's in distress all the way to something that's an average

interest. It hadn't paid interest. Mexico hadn't paid interest for seven or eight years at that point in time, so a very much a distressed asset class.

As it was born in the early 1990s, grew all the way to today, the average for the whole asset class is investment grade, solid sort of mid Triple B, the average quality of the entire opportunity set, whether you measure it in U.S. dollars or you measure it in local currencies.

So, it's been a fairly significant evolution during that period of time. And we've also gone from being a purely U.S. dollar-denominated asset class in the early 1990s to just literally every year other than 1998, 2001, 2008. Every other year, other than a market crisis, the amount of local debt that's been outstanding has increased. And also, since the credit crisis, the amount of corporate debt outstanding from emerging market has increased significantly.

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With that, the return expectations also changed. So, going from an asset class that's in distress all the way to something that's an average

investment grade, you should expect to get paid a lot less for taking emerging market credit risk today than you got paid 15 or 20 years ago. And that's, in fact, true.

In our mind -- there's a couple of valuation slides, and you can spend some time on it, if you like.

In our mind, you still paid reasonably well for taking emerging market fixed-income risk today. So, in a world where a U.S. ten-year Treasury is 270, 265, something along those lines, just the pure index in emerging market, the external debt in emerging market fixed-income index, you can get a yield of about 6. Added to that some active management, maybe some of the corporate exposure, and you can easily see 7, 7 plus in terms of a yield. You take with that some volatility, an interest rate risk.

So, the external debt part of the universe has a duration of about seven years. So, maybe that's not the perfect exposure to interest rates. If you're getting paid 7 percent and you know what your long-term return target is, you're not too far away. So, you don't need much improvement from active management to be able to get to that kind of a number.

So, the asset class today has some challenges, which I will talk about in a moment, but the
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valuation level is reasonably attractive relative to a lot of other asset classes today. It may get more attractive as we go through the process this year. I think you might see who should work for you.

There are some significant challenges in the emerging market world, and you just have to pick up a newspaper any day. The last several months, you can see some of those challenges unfolding before our eyes.

Specifically, on the credit risk side, there's a chart. If you go back -- maybe just flip back to the debt. It's page 8. If I can get you to focus on the rust-colored section at the bottom of the chart. That's the investment grade portion.

As you can see, it's been a steady march upwards, generally increases the quantities of investment grade paper. Some of the countries in the emerging market world have really taken it to heart, the advice that they got in the late 1990s to be fiscally prudent, not to borrow too much, to develop their own financial markets and borrow in their own currencies and for the most part they generally improved in credit quality.

And on average, the emerging market world as a total debt to GDP statistic is a small fraction of what the developed world's debt to GDP is. So, for the
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U.S., roughly or around about -- close to 100 percent total debt to GDP for the state. If you go to the average for emerging markets, it is in the 40s, the total debt to the total GDP of emerging market countries. And that's reflected here in the general increase in credit quality that you see on the entire universe.

There are still some low rates of credits in the marketplace. There are still some countries that are, in our mind, deteriorating and will create further headlines, Venezuela being a key country, for example, in the emerging market universe. There are lots of things going on there. They actually don't have that much debt. Now, whether they actually continue to pay on it is a question, but they don't actually have that much debt. Some other countries similar to that actually have pretty good credit metrics.

If I can take you back to page 4, the asset class overview.

So, how do people invest in emerging market fixed income? For 15 to 20 years now, most of the investment managers in this space have used one type of benchmark, which has typically been U.S. dollar-denominated. And we'll get to that in a few minutes. But against that U.S. dollar-denominated

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benchmark, we've been able to buy from all of the opportunity set, whether it be U.S. dollar-denominated bonds, local currency corporate bonds and foreign exchange. So, they've utilized this full opportunity set throughout that period of time.

So, even though you might say, "I've got an external debt benchmark," making use of the full opportunity set is something emerging debt managers have always done. And they've done so over a long period of time quite profitably.

If you compare the median manager in the emerging market fixed-income world to the benchmark, the median manager has beaten the benchmark handily over very long periods of time, with some exceptions in years with greater volatility. But you have gotten paid for taking greater risk in the marketplace and for having a much more diversified approach to the entire opportunity set.

The benchmarks themselves are a little bit inefficient in the way that they measure the opportunity. It would be nice to have one benchmark which measures everything that you do so that you take back into the benchmark more of the alpha opportunities that managers have been able to take advantage of.

But what we found is the better way to

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But what we found is the better way to

approach the asset class is to stay with the external
debt benchmark and give managers greater flexibility and
freedom to manage it against that benchmark over time.
And it's paid off. It's paid off quite nicely.
For you, as we think about sort of what the
way that you should invest in the asset class over the
next few months, staying with that sort of external
benchmark also gives you the best choice across the
widest available opportunity set of investment managers.
Perhaps we go forward one page.
The returns, it is one of the best returning
asset classes that there's been the last 15 or 20 years.
I think if we go even further back, it will show that
it's been the best. And certainly, the risk adjusted
sense, it's been very strong on the five-year period.
On the left-hand side, we refer obviously to
hard currency as the U.S. dollar-denominated part of the
opportunity set. Local bonds is the local
currency-denominated part.
And FX is the pure foreign exchange part of
the opportunity set, which is essentially buying the
money market instrument in emerging market country.
Think of it that way. On the ten-year time frame, you
see similar types of returns, very strong returns, with
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able to produce during that period of time.
MS. BEYER: This calendar year?
MR. MALERI: The ending period was
December 31st, yes.
MR. NORTH: And if you might, to what extent
do you attribute this to the upgrading credit quality of
the entire group as triggering part of the additional
returns?
MR. MALERI: I think there are two
significant drivers. One is the improvement in credit
quality over a long period of time, and the other is the
fallen interest rates. So, there is a lot of interest
rate exposure here.
So, you've gotten sort of the wind at your
back two different ways. I think as we sit here today,
we don't expect that there'll be a strong tailwind on
credit quality. We see some countries that have
actually developed some policies which might weaken
their credit quality going forward.
But I think as you approach the entire asset
class, the average of credit quality is still pretty
good. Frankly, one or two countries that make some
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So, I don't think it's a bad thing that certain

countries have problems and need to figure out solutions to those problems. Perhaps their bonds become cheaper for a period of time.

The investment managers in the emerging market debt landscape, every one of them have serious emerging market economies working on staff, but they're actually, added value. So, I wouldn't come here and tell you that the economists have added value with any other asset class that we monitor and work with.

In emerging market fixed income, there have been significant deliverers of value added over a long period of time. I really haven't been able to figure out, what drives economic development in emerging market countries and improves their credit quality over a long period of time.

So let me take you forward in the interest of time to page 10. Just to summarize, this is not an official recommendation. This is sort of where Rocaton's advice leads us in the direction of suggesting we consider developing a policy for the next few months. We would suggest that you use a U.S. dollar-denominated benchmark.

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to tell you that as we sit here in 2014, I think the returns from local currency in 2014 to the next couple of years might be challenged.

And there are a number of credit issues that are going on which particularly hit the local market. I think if you're starting off in 2014, I think a better place to start is with a U.S. dollar-denominated benchmark. Clearly, that's the currency that your liabilities are denominated in. And I think that's the right place to start off. And certainly, we can debate that.

That doesn't mean that you won't get local currency investments in your portfolio. In fact, we would strongly suggest investment guidelines for each of the managers that you consider through time have broad investment guidelines that incorporate the ability to use local currency, whether straight bonds or whether it just be the foreign exchange; have the ability to use corporate debt, whether it be entirely privately owned or partly publicly owned in individual countries.

The history of the asset class has shown a history of active management, and this asset class has shown that you really do get paid for allowing people the extra flexibility versus the external debt benchmark. It has to be actively managed. There are
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some ETFs which take a narrow slice of the more liquid part of the emerging fixed-income world. I would not suggest trying to do this in passive way.

Frankly, you can't really buy some of the bonds during the benchmark. So, I think you're always going to challenge yourself on liquidity and bid-ask spread if you decide that you want to do this passively. And I think we've seen for a long period of time, we've been paid well for taking active risk in this asset class. I don't think it makes any sense to go passive. Plus, there aren't really any passive products. So, maybe I should have started with that.

(Laughter.)

So, if you want to go passive, that's great, but you'd have to create a product for you.

The currency exposure, to the extent that an investment manager decides to buy a local bond, we would suggest not having a hedging policy. Leave the hedging as an active decision up to them. It's very expensive to hedge currencies on a strategic basis.

In the emerging market world, you will essentially pay most of your return away by hedging the currency and make it not worthwhile. So, we would suggest that they make the active decision. If they want to buy a local bond, they need to like both the

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local interest rates and the foreign exchange. If they don't like the foreign exchange, tactically, they can hedge that exposure, but we wouldn't say to do it strategically. It will just eliminate any value added -- or a significant part of the value added instruments.

CHAIRPERSON AARONSON: Before you leave this page, the program benchmark, this J.P.Morgan benchmark does not have in it Russia, China or Pakistan? It will develop -MR.

MALERI: No, it does. So, we will develop one that -CHAIRPERSON

AARONSON: You will develop one on it? Okay.

MR. MALERI: Yeah. If you turn to two pages back, it's actually a schematic of what actually is in the benchmark.

(Indicating.)

You can see that by -- we can create a benchmark that eliminates those three countries. Russia is, in this benchmark, the largest portion, 5 percent; China, 3 1/2 percent. Pakistan is de minimis.

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MR. MALERI: You know, I haven't seen the headlines this morning. It goes up/down.

I would point out that Russia is a bigger portion of the corporate landscape. So, it is of the corporate index for emerging market corporates. Russian companies represent 15 percent.

So, it's a little bit bigger of a deal there, but it doesn't change the attractiveness of the asset class by eliminating these three countries from the list. I still think the merits of the asset class down on their own would make a nice accompaniment. Certainly, given the previous discussion about returns from fixed income, I think emerging market debt is one asset class that, for a modest level of volatility, can actually contribute meaningfully from the returns standpoint.

MR. NORTH: Given that the index does not contain corporates and you are suggesting inclusion of corporates in the opportunity set for the managers, I would presume, first of all, that you would not suggest any performance-related fee structures in the contracts, given that in theory there should be extra return out of corporates.

MR. MALERI: In most -- overwhelmingly, the fee structures in emerging market debt are fixed fees.

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There are the occasional performance fee. We haven't used any of them.

MR. NORTH: And then, second, for the purposes of the board evaluation of performance, would it make sense to presume that they should be able to outperform that index by some percentage; and if so, how much?

MR. MALERI: I think that's reasonable. And how much? It really kind of depends on how loose we make the guidelines. The median managers handily beat the benchmark by more than 100 basis points over a lot of periods of time.

So, you know, I think when we set targets for manager, I think it is one snapshot of -- how to compare them is to look at how they do versus the index, but I think the median manager becomes a more applicable comparison.

MR. NORTH: Thank you.

MR. HOLT: What are the recent issue and trends by most of the hard dollar-denominated bonds issued by corporates?

MR. MALERI: There's not a lot of corporate issuance the last few years, certainly.

MR. HOLT: The last I checked into this issue, this Financial Analysts Journal and The Journal

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the big push was towards local currency issues, because
at that point in time, you saw -- if you look at Slide,
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reasons, which a dynamic market, it would change.
But I'm wondering if most of those issues
are older and the government -- or the
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more seasoned bond side versus -MR.
MALERI: They tend to be older bonds.
They've been around a while. There are some ongoing
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and how much it costs to borrow their own currency
versus U.S. dollars and what's their capital flows. So,
there's a variety of tactical decisions.
A lot of issuance in corporates for the last
several years, some of those will be really good, and
some of those won't pay their money back. So I wouldn't
embed the corporates in your benchmark. I would make
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MR. HOLT: And what kind of spread did they
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HOLT: 140 or 120 estimate? 200 basis
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(Talking over each other.)
MR. MALERI: There's a meaningful spread,
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I'd say, though, that it's not necessarily apples to
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And there's a variety of risks that you take
on in the investment emerging market corporate, just
because the bond issue is governed by New York law.
That's great. You can sue them in New York court. You
can't necessarily get assets if they're in Mexico or
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So there's a high-profile case that's been
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New York called Elliot and the government of Argentina.

And Elliot has gotten gazillion judgments against Argentina in New York courts and will take any asset that strays outside of Argentina to any countries' shores that belongs to Argentina, but it doesn't mean that they've gotten what they wanted and what they felt they were obliged to.

So, there are those risks in terms of jurisdictional issues. There are also some governance issues and some past issues with regard to finances of emerging market corporates.

And given that Wall Street is very good at finding ways to create volume of securities, some of the flow that's come out in the last couple of years will be pristine, and some of it won't. And we would probably err on the side that a lot of what's been issued might not actually work out that well. And I need to be very careful in the corporate landscape.

MR. GANTZ: Just so you know, as of February 28, our credit sector benchmark, which had an average rating of Single A, had a yield to worse of 2.84 percent, so not much -- it certainly looked in our color book there's a spread chart of yields over Treasuries, not much there. It's nearest lows, nearest highs, with an effective duration of six and a half years. So, the effective duration are very similar, much lower yields

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but slightly higher quality.
CHAIRPERSON AARONSON: Anybody else with a
question?
I think you started our education.
MR. GANTZ: And the next steps you will be
seeing from us soon. You're working on this with our
consultant, obviously, for a search, using new search
processes, we hope.
MS. HINGORANI: Yes, thank you. We will.
CHAIRPERSON AARONSON: Thank you, Adi, for
your presentation.
MR. DIVGI: Thank you for your time.
MS. HINGORANI: Okay. So, that concludes
the public session from the Comptroller's Office.
CHAIRPERSON AARONSON: So, we can now switch
to the public session from the variable funds.
(Discussion off the record.)
MR. FULVIO: We'll dive into the public -CHAIRPERSON
AARONSON: Dive right into it.
MR. FULVIO: And on the first item on the
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Okay. So, we'll move on to the performance

report for the past four funds for January 2014. So, we will start with the diversified equity fund report.
Okay. Everyone has that.
So, you could see on the first page here, at the end of January, assets in the EAFE funds stood at $11.1 billion. That's down from the end of 2013. The fund at that time was 11 1/2 billion in assets. And, again, that's just speaking to the down equity markets in the month of January mostly.
One of the other items you can see here is that the month -- the rebalancing process served to keep the funds composite close to their respective targets. So, I want to point that out, as well.
And then we'll flip ahead actually to page 3. And in the middle of the page there, you can see the Teachers' total Variable A returns for various time periods. For the month of January, the fund was down 3 percent, about 13 basis points ahead of the Russell 3000 and basically in line with hybrid benchmark return.
And then we'll flip back actually to page 2.
We can go through the composites. You'll see the passive composite was also down about 3 percent in line with the Russell 3000 benchmark.
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The defensive composite was down less than

half of the Russell 3000 during January, with the return of about negative 1.4 percent. So, that obviously contributed to the funds returns during the month of January.

The active composite also had a good month. It returned negative 2.6 percent. So, that was about 52 basis points ahead of the Russell 3000.

And then ahead on page 3, you can see the international composite was down about 4 1/3 percent. EAFE markets, they trailed U.S. equity markets in the month of January. So, that's what we would have expected to see there and this composite trailing the EAFE markets by about 30 basis points.

So, for the trailing one-year period, ending January 31st, you could see Variable A was up about 19.8 percent, so still strong equity markets of the last couple of years rolling through the performance here.

So, if there are no questions on the diversified equity fund, we'll flip ahead to the other funds.

CHAIRPERSON AARONSON: Anybody?

MR. FULVIO: Okay. So, we'll start with the bond fund, Variable B. At the end of January, assets were about $358 million. That's for the month. The fund performed positive return of 42 basis points, and
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MR. FULVIO: Okay. So, we'll start with the bond fund, Variable B. At the end of January, assets were about $358 million. That's for the month. The fund performed positive return of 42 basis points, and

that's about in line with its one- to five-year credit benchmark. That broke the one-year return to about positive 56 basis points, which does still trail the one- to five-year benchmark by about 20 or so basis points.

We'll flip ahead then to page 2, which provides the asset overview and performance for Variable C, D and E.

Variable C, the international equity fund at the end of January was about $95 million. The inflation protection fund at the end of January was about $38 million; and the socially responsive equity fund, about $63 million.

The performance for each of these funds, more towards the middle of the page, you could see for the month of January, the international equity fund, like the international composite Variable A, was down about 4.3 percent. And, again, that trailed by about 30 basis points from the broad EAFE markets. For the one-year period, the fund was up about 10 1/4 percent. So, again, strong returns for equities in general, although that return did trail the EAFE markets by about 2 percent.

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You could see for the month of January, the inflation protection fund, Variable B, returned about

negative 1.2 percent. That trailed both the CPI- and TIPS-based benchmarks. You can also see for the trailing one-year period, the fund was down about 1.5 percent, exceeding that TIPS benchmark but also lagging the CPI-based benchmarks. We would expect, and we talked about this as well, that over time there will be certainly some tracking between this fund and those benchmarks.

The socially responsive equity fund during January was down about 5.2 percent. It lagged its benchmark for January, the S&P 500, which returned at negative 3.5 percent, although you can see still for the trailing one-year period very strong absolute returns of 21.9 -- almost 22 percent, which outperformed its S&P benchmark by about 44 basis points.

Are there any questions on the January performance?

MS. BEYER: I thought we had put socially responsible equity fund into its own portfolio, managed by Neuberger Berman.

MR. FULVIO: Susan, do you recall if that transition occurred?

CHAIRPERSON AARONSON: Separate account?

MS. STANG: Which part?

MR. FULVIO: Separate account.

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MS. STANG: That is happening sort of as we speak.

MS. BEYER: So, the returns for January continue to be the mutual fund, because that's where the money was?

MS. STANG: Yes. In January, absolutely, it's happening, yeah.

MR. FULVIO: So, I think it will be in the March report likely.

And maybe one thing we can do is, if there's a partial month that it was on its own portfolio, we can still refer to the mutual fund performance, just to understand how the fund would have performed for the whole month.

If there are no other questions on January, we could flip ahead to February.

MS. MARCH: Let's.

MR. FULVIO: So, February was to the upside and more than made up for the down market in January with regard to U.S. and non-U.S. equity market.

You can see the Russell 3000 returned about 4.75 percent in January. The EAFE markets were up about 5.6 percent. And the diversified equity fund's hybrid benchmark, which we would expect to track pretty closely to the diversified equity fund, was also up about

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4.7 percent. So, all in all, that's stronger market, February.

The one- to five-year credit benchmark for the bond fund was up about 22 basis points. Again, EAFE markets were up about 5.6. So, we could expect a stronger month for the international equity fund. And you could see there below the mutual fund proxies for Variables D and E. The Neuberger fund was up about 6 percent, and the PIMCO fund was up about 2.6 percent.

Any other questions on the performance?

That concludes our account for the public session.

CHAIRPERSON AARONSON: We're now ready to move into executive session?

MS. MARCH: I move, pursuant to Public Officers Law, Section 105, that we go into executive sessions to discuss purchase and sale of securities.

CHAIRPERSON AARONSON: Is there a second?

MS. BEYER: Second.

CHAIRPERSON AARONSON: Is there any discussion?

Seeing none, all in favor?

(A chorus of "Ayes.")

We're now in executive session.

(Watermark)
(Watermark)
(Watermark)
We're now out of executive session. And
can we have a summary of what was done
in the executive session?
MS. STANG: In the executive session of
the with the same consultant -MS.
MARCH: Back in the '80s.
CHAIRPERSON AARONSON: A couple of
generations ago.
Any other business.
MS. HINGORANI: No. That's it for us.
MS. MARCH: I move that we go out of
executive session.
MS. BEYER: Second.
CHAIRPERSON AARONSON: Do we need a list?
MS. MARCH: We should get a list.
(Brief discussion off the record.)
MS. MARCH: I move that we go out of
executive session.
CHAIRPERSON AARONSON: Do I hear a second?
MS. BEYER: Second.
CHAIRPERSON AARONSON: And is there any
discussion?
Those in favor of going out of executive
session say "aye."
(A chorus of "Ayes.")
Okay. We're now out of executive session.
And can we have a summary of what was
done in the executive session?
MS. STANG: In the executive session of the

variable fund, a presentation about the structure of the international equity fund was received and discussed.

In the executive session of the pension fund, an update on the specific investment was presented.

A presentation on the real estate investment was received. Consensus was developed. This will be announced at the appropriate time.

And, thirdly, a presentation on the 2014 plan for the emerging manager/MWBE program was received and discussed.

CHAIRPERSON AARONSON: Any other business before us?

Do I hear a motion to adjourn?

MS. MARCH: I move that we adjourn.

CHAIRPERSON AARONSON: Do I hear a second?

MR. HOLT: Second.

CHAIRPERSON AARONSON: Any discussion?

Seeing none, ready to vote? Should we adjourn?

(A chorus of "Ayes.")

We are now adjourned.

(Time noted: 1:49 p.m.)

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Do I hear a motion to adjourn?

MS. MARCH: I move that we adjourn.

CHAIRPERSON AARONSON: Do I hear a second?

MR. HOLT: Second.

CHAIRPERSON AARONSON: Any discussion?

Seeing none, ready to vote? Should we adjourn?

(A chorus of "Ayes.")

We are now adjourned.

(Time noted: 1:49 p.m.)

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, February 5, 2014, 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 20th day of March, 2014.

JEFFREY SHAPIRO

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