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           NEW YORK CITY TEACHERS' RETIREMENT SYSTEM
 2
                       INVESTMENT MEETING
 3
                 held on Thursday, September 4, 2014
                                at
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                          55 Water Street
                         New York, New York
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     ATTENDEES:
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    MELVYN AARONSON, Chairperson, Trustee, TRS
     THOMAS BROWN, Trustee, TRS
     SANDRA MARCH, Trustee, TRS
    PATRICIA REILLY, Executive Director, TRS
     THADDEUS McTIGUE, Deputy Executive Director, TRS
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     SCOTT EVANS, Trustee, Comptroller's Office
     SUSANNAH VICKERS, Trustee, Comptroller's Office
    JOHN DORSA, Trustee, Comptroller's Office
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     CHARLOTTE BEYER, Trustee, Finance
12
    JUSTIN HOLT, Trustee, Finance
     CAROLYN WOLPERT, Trustee, Finance
    MARTIN GANTZ, Comptroller's Office
13
     DAVID MORRIS, Comptroller's Office
14
    YVONNE NELSON, Comptroller's Office
     JOHN MERSEBURG, Comptroller's Office
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    CHRISTOPHER PAK, Comptroller's Office
     JAMES DELGAUDIO, Comptroller's Office
    EVAN NAHNSEN, Comptroller's Office
16
    PETYA NIKOLOVA, Comptroller's Office
    TATIANA POHOTSKY, Comptroller's Office
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    MICHAEL GARCIA, TRS
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    LIZ SANCHEZ-PAZ, TRS
    RENEE PEARCE, TRS
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    SUSAN STANG, TRS
    ROBERT C. NORTH, JR., Actuary
    CHRIS LYON, Rocaton
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    MICHAEL FULVIO, Rocaton
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    ROBIN PELISH, Rocaton
    DAVID LEVINE, Groome Law Group
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                      PROCEEDINGS
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                                    (Time noted: 9:45 a.m.)
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                 MS. REILLY: Good morning. Welcome to the
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     September 4, 2014 investment meeting of the Teachers'
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    Retirement System of the City of New York. I will
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     start by calling the roll.
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                 Mel Aaronson?
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                 CHAIRPERSON AARONSON: Here.
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                 MS. REILLY: Charlotte Beyer?
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                 MS. BEYER: Here.
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                 MS. REILLY: Thomas Brown?
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                 MR. BROWN: Present.
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                 MS. REILLY: Sandra March?
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                MS. MARCH: Present.
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                MS. REILLY: Scott Evans?
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                MR. EVANS: Present.
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                 MS. REILLY: Carolyn Wolpert?
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                 MS. WOLPERT: Here.
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                 MS. REILLY: Susannah Vickers?
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                 MS. VICKERS: Here.
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                 MS. REILLY: We do have a quorum.
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                 I'll turn it over to the Chair.
                 CHAIRPERSON AARONSON: Okay. So, I'll ask
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     this on the record. What's the order of public
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     session?
                 MS. STANG: The public session for the
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    pension fund, followed by the public session for the
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    variable fund, followed by the executive session for
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     the variable fund, and finishing with the executive
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     session for the pension fund.
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                 CHAIRPERSON AARONSON: Okay. Ready?
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                 MS. VICKERS: The Comptroller's Office is
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     ready to present. I'll turn it over to Scott and
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    Martin.
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                 MR. EVANS: Thank you very much.
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    pleased to be here today to present the quarter ending
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     results of June 30 and to report the whole fiscal year
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     results for fiscal year 2014.
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                 As you know by now, the fiscal year turned
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     in pretty imppressive long term absolute results,
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     17.62 percent; which bettered the policy benchmark by
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     about 36 basis points. This, of course, is the period
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     ending just before I started in July and --
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                 CHAIRPERSON AARONSON: Let me just jump in
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          I didn't introduce the fact that Scott is here
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     and has taken over the role of chief investment
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     officer for the Bureau of Asset Management. We
24
     welcome you.
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                 MR. EVANS: So you are going hear from the
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     staff about the components of that 17.6 percent
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     return. That all happened before my arrival. And
     then we're going to talk about the July, and the theme
     is, it's all going to be all downhill from there.
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                 (Laughter.)
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                 Because as soon as I got here the markets
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     started going straight down. They rebounded in
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     August. But I'm going to turn it over to Martin to
 9
     give the play by play on the year briefly, from
10
     economic terms, with the focus on the current
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11 situation that sets the stage for you to hear about 12 the performance of the various components. And as 13 always, we'll be happy to take your questions. 14 Martin? 15 MR. GANTZ: We have extra copies if anyone needs copies of the quarterly report. 16 17 So before I get started, I just want to 18 mention, Mr. Chairman and Teachers Trustees, I hope 19 you had a good summer. 20 We, as the CIO mentioned, will be showing 21 you really, really good numbers on an absolute and 22 real basis. So we have a lot to be proud of as 23 accomplishments, we've done very, very well. 24 But I first want to start with what 25 happened over all as a backdrop of the year and the 0005 1 quarter, and then, as Scott said, go over into what 2 happened since then, in July and August. 3 The year started off rocky because, if you 4 remember, a year ago, the Federal Reserve announced 5 that they were going to be tapering -- that started in 6 the lexicon, tapering. The Fed was purchasing, part 7 of the quantitative easing program known as QE, \$85 8 billion a month of Treasuries and agency 9 mortgage-backed securities. 10 They announced that the economy was in 11 recovery, or getting better, and therefore they were 12 going to slow down the taper of \$85 billion. We're 13 now at a point where most expect that the tapering 14 will end, go down to zero in October or November. 15 We're down to nearly completing it; although the Fed still has \$4 trillion of this on their balance sheet. 16 17 Because the market had a volatile reaction 18 last summer in June, which is the prior fiscal year, 19 back in June was the reaction. But ironically, 20 starting July 1, everything calmed down for our new 21 fiscal year, fiscal year 2014, and the market seemed 22 to accept it and risky assets did much better. What I 23 mean by risky assets, equities, high yield bonds, everything other than Treasuries. 24 25 So all markets did well. And in fact, as 0006 1 we expect --2 CHAIRPERSON AARONSON: Alternative markets 3 did well? 4 MR. GANTZ: Yes, especially well. 5 So, in fact, the riskier markets did the 6 best, as we'll go through a little bit later. 7 The interesting thing was, when the Fed 8 announced that they were going to be tapering, the 9 expectation was, well, supply and demand; if the Fed 10 is not buying Treasuries, the price of Treasuries will 11 therefore decline and the yield will go up. 12 That's what happened, beginning the fiscal

13 year, the ten year Treasury. If you turn to the color
14 book, look at the ten year Treasuries, you can
15 actually see this on page 20 of this book
16 (indicating).

If you look at page 20, these twin peaks over here are when the market -- these twin peaks over here are where Treasury yields react to the Fed's announcement and expectations of the market, ten year yields and long range started rising, did 3 percent. You can see it bounced of 3 percent.

That second peak, if you notice, was exactly at the end of the last fiscal year. And in anticipation of that, interestingly, rates have gone

down. It's been a little bit of a conundrum, because the economy is strengthing, wire rates are going down when the Fed is in fact pulling away from purchases.

There's no easy answer. In fact, going into 2014, most economists' consensus was that rates would go up in 2014. That has not been the case at all, as ten year rates are hovering near 240 basis points every day; but certainly well below 3 percent, and it certainly hasn't gone on up.

On the way up it has gone down. Why? There's no one answer, but there is a confluence of events. Number 1, the federal deficit has gone down. So it was a trillion dollars plus several years ago, now it's half of that or less. And because of that, the supply of new Treasury issuances is down.

So the simply fewer new Treasuries coming out, so the Fed pulling back has had less of an impact. Still, 4, 5, \$600 billion is a large number, but nevertheless not over a trillion dollars. So it's supply and demand.

You also have central banks outside of the U.S. purchasing U.S. Treasuries. The Treasury puts out a report of ownership of Treasuries, and central banks have been buying Treasuries. And other investors have been buying Treasuries. Why? Because

Europe is several years behind the U.S. in economic recovery.

And so, because of the stimulus in ECB, long term yields in Germany have hit record lows. The ten year is in the one percent range. And frankly, even periphery countries, countries that have serious, much more serious problems than Germany or the U.S., such as Italy and Spain, they have lower yields or similar yields to the U.S.

So investors on a comparative basis are looking at a stronger economy in the U.S. and higher yields on risk free securities, and then buying the securities.

14 Lastly, you have the fact that hot money,

fast money of whatever stripe, was piling into the trade, assuming that rates would go up, so they were shorting Treasury contracts. When that didn't happen and they had to cover their shorts, that further moved prices up and yields down.

At some point rates will go up. I've said that for years. It hasn't happened yet, but by the way, it's benefitted the fund. But when rates go up you will see more volatility and lower returns in Fixed Income, and likely spread over to other risk asset classes as well. But that has been a very

important driver of what is going on.

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Other important factors, obviously, include macro economic factors which, while they're extremely serious, to name a few, different areas of the Middle East, Russia and the Ukraine. But it seems to affect the market for a day or so, then it's in the news and everyone knows how serious it is, the market in the U.S. is doing well. And frankly, when we go through it later, talking about July and August, the S&P 500 recently went over 2,000 for the very first time, at a record high.

So, now investors are shrugging it off, the fact that the Fed buying program is ending, for now they're shrugging it off, the geopolitical risks.

And the other factor is that the recovery in the U.S. compared to previous recoveries is -- in other words, the estimate by the GAO is in the 2 percent range of GDP, which is far below.

If you take a look at this book, the color book -- consumer sentiment on page 6, this chart here, it looks the same, and what does that number 79.2 mean?

All I can tell you is, compared to where the economy was in prior recoveries, the 79.2 is very, very low. In other words, that number should be over 0010

100, based on prior recoveries. What that means is, what people are feeling when they do the surveys, they're not feeling the recovery.

And so, you have economic growth, but it's not as strong as people are expecting; but nevertheless, it's way ahead of Japan and Europe, and therefore on a relative basis has done very, very, very well.

CHAIRPERSON AARONSON: On that point, we talk about the 2,000 S&P, always more sophisticated -if not a nominal high, a true high, what would the S&P be at this point?

13 MR. GANTZ: That's a good question. 14 in 2000, if you adjust for inflation, take a look at 15 the ten year number in the book here -- if you take a 16 longer term number, turn to the Russell 3000, page 19, 17 the Russell 3000 over the past ten years returned 823, 18 and over the past fifteen years returned 503. 19 So, on a nominal basis, if you take out 2 20 percent or so, it still returned positive numbers. It 21 wouldn't be 2000 on a real basis, but it still would 22 be an all time high; but it wouldn't be 2,000. 23 CHAIRPERSON AARONSON: Part of the reason 24 why people aren't happy, sophisticated people know --25 MR. GANTZ: It's also the employment. 0011 1 Employment, by the way, if you take a look at page 5, the unemployment rate in the low 6s, and the page 2 3 before, weekly unemployment claims under 300,000. 4 the recovery we're in, the way the government counts 5 the unemployment rate, unfortunately -- they do count If you go on the website, you can go to the 6 7 Department of Labor website, they actually have different flavors of employment. 9 And the headline number most people refer 10 to is something called the U-2 number, which excludes people who are discouraged from working, it excludes 11 12 people who are out of the work force. The true 13 unemployment rate is well into the double digits, if 14 you include everyone. And that's why the consumer 15 sentiment number is not where it should be. 16 MS. MARCH: The consumer sentiment number 17 is, they're actually asking real people the question. 18 And real people have not felt anything in terms of a 19 recovery -- if you ask the other group of people, 20 consumer confidence would be through the roof. 21 MR. GANTZ: Real wages have not gone up, 22 so middle class people feel it. That's reflected in 23 that consumer sentiment. 24 MS. MARCH: Absolutely. 25 MR. GANTZ: For the June quarter, it was a 0012 1 We will talk about that as I go very good quarter. 2 through the numbers. 3 If you turn to see what the total fund is, 4 as Scott mentioned, on page 7, it was a great quarter, 5 returning over 4 percent, pretty much on top of the 6 benchmark. For the year, which is the full fiscal 7 year number, the return of 17.62 on an absolute and relative basis versus the benchmark, and I'll go 8 9 through that. 10 So you see on the left, on page 7, the 11 quarter did very well, and we'll go through that 12 difference in a moment. But that is a very strong 13 number, and obviously the year was a fantastic year on 14 an absolute and relative basis, in the mid 17s. 15 And for the Actuary, the ten year number 16 is over 7 and a half percent. 17 MR. NORTH: Thank you, Martin. 18 MR. GANTZ: Where are we as of June?

19 We'll update this, but if you turn to page 9, as of 20 June we were upper end, you see in green on the 21 bottom, U.S. Equities, and that helped us, because 22 equities did really well.

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So our overweights to underweights added value, as I'll show you in a moment. You were overweight the sector that did the best, U.S. Equity. 0013

You were underweight the sector that didn't do the best, Core+5 and TIPS.

MS. BEYER: Martin, back to page 7. Am I reading this right, in terms of the standard deviation, that the five year period for standard deviation was somewhat higher than our benchmark would have indicated, we're then on seven years it's lower, which is sort of like -- and then even on the one year.

MR. GANTZ: That's a good question. pointed out to our new -- we have a new custodian, State Street, rolling reports going forward. But we noticed that too. Part of that had to do with the returns that they were given from Bank of New York. So we're working that out. The longer term numbers are fine and we added them.

But if there is a correction we will send it out to you. We're working with them on that.

MS. BEYER: The longer term, really, the 7 looks very nice.

MR. GANTZ: You will see when I get to the Core+5 numbers about volatility, as well. But that's something we're looking into, it had to do with the transition, still working on it. If there's a correction we'll let you know.

So we were at page 9, the overweights and underweights worked to the fund's advantage. To show you that, the next three pages have attribution for the quarter, the year and three years. The summary is on page 13.

I want to draw your attention to this chart on 13. The top is the allocation effect. allocation effect shows you what the effect was on the fund for being overweight or underweight versus policy. We were overweight U.S. Equity, U.S. Equity did really well. If you look at the 12 month column under Total Teachers, that allocation effect added 78 basis points; 46 of that is because we were overweight U.S. Equity, that's 46 basis points being in the right place.

And if you go down a little further, it says Total Structure, that's Core+5. We added 42 basis points by being maximum underweight. similarly for TIPS, we added 15 basis points. So that worked out well, and we'll talk a little more about

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     that going forward.
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                 As far as the selection effect, that
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     refers to how managers did versus individual
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     benchmarks. For the most part that's being driven, as
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     you see in the 12 month and three year, several
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     quarters, by the private equity program.
                                               That will
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     pretty much explain those.
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                 MR. EVANS: In other words, the fact that
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     the portfolio was overweight relative to policy
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     domestic equity, underweight Fixed Income, in a rising
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     equity market, was more than offsetting manager
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     underperformance on balance; slight underperformance.
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                 MR. GANTZ: And the other performance was
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     in the private equity --
                 MR. EVANS: You can see where it was on
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     the bottom of page 13.
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                 MR. GANTZ: An important page I want to
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     show you, something you should be very proud of, is
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     page 14. This shows how Teachers did versus other
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     large public funds; this is, funds greater than $10
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     billion, your peers.
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                 On the left shows the quarter. You were
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     in the 17th percentile, and that places you in the top
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     quartile. The one year number you were in the 38th
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     percentile, that's 17.62, you're the blue dot in the
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     picture above. And for the three, four and five year
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     numbers, you are ahead of median; in fact, the five
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     year number is top quartile.
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                 So you've done very, very well, not just
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     on an absolute basis, but versus your peers.
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                 MR. EVANS: One thing to note here, since
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     we probably have more public equities than many of the
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     peers, the wind has been at our back when the equity
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    markets have been rising relative to other systems,
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     the way the structure of our fund is. So if that were
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     to reverse, that wind would be in our face.
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                 MR. GANTZ: That's a basket issue we will
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     address at some point.
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                 MS.
                      MARCH: It was not signed?
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                 MS. VICKERS: Not yet.
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                 MS. MARCH: But it still can be signed?
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                 MS. VICKERS:
                              Yes.
                 MR. McTIGUE: It's not delivered yet.
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                 (Discussion off the record.)
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                 MR. EVANS: We've had exactly the type of
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     markets what would cater to the portfolio structure we
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     have. So we would hope that we would be showing well
     relative to the field --
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                 MR. GANTZ: We'll talk about a rebalancing
     in a little bit, but I want to bring my equity
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     counterpart to talk about it.
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                 MR. MERSEBURG: Good morning, everybody.
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     If you would please turn to page 19, you will see a
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     summary for U.S. Equity. And the U.S. Equity returns
     for both the quarter and fiscal year were quite
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     strong, and Teacher returns were very close to the
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     benchmark, at over 25 percent for the fiscal year.
                 CHAIRPERSON AARONSON: I know that there's
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     friction between the actual investments and benchmarks
 5
     because of costs of investments and so forth. We also
     do securities lending. And doesn't the securities
 7
     lending overcome the friction in comparing the
 8
     benchmark --
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                 MR. GANTZ: It does, but because
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     securities lending is not shown in the returns of the
11
     public markets or in those manager account returns
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     shown in the overall total fund, it is not
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     attributable to the numbers you see.
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                 MR. EVANS: But you're absolutely right,
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     Mel, when passive managers make their case that they
     have very low cost, you will get income from
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17
     securities lending. Usually for a big fund like us it
18
     would more than offset the cost of running an index
19
     fund. But as Martin points out -- that would assume
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     you were lending a large part of the portfolio.
21
                 MR. GANTZ: The income number would be in
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     back of the quarterly report.
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                 MR. MERSEBURG: Moving on to page 20, you
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     see the small cap returns. And for the fiscal year,
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     the small cap return beat the benchmark by a
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     significant 693 basis points.
                                    That's really
     attributable to the one small cap manager.
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                 Moving on to mid-cap on the next page, the
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     S&P 400 index underperformed the Russell mid-cap a
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     bit.
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                 And then, following page 22, you see that
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     the Russell 1000 investments were ahead of the
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     benchmark.
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                 And then on 23, we see that the Russell
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     3000 index accounts closely tracked the benchmark, 3
     basis points ahead for the fiscal year.
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12
                 Then on page 24, we have emerging
13
     managers, and they also closely tracked the benchmark.
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                 Does anybody have questions on U.S.
15
     Equity?
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                 If not, I'll turn it over to Tatiana.
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                 CHAIRPERSON AARONSON: Thank you very
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     much.
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                 MS. POHOTSKY: Hi. If you all would turn
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     to page 26, we will start with the developed markets
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     for the fiscal year. So, the EAFE index rose around
     24 percent, and your portfolio lagged a bit, around
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     22.38 percent, and lagged the index by 119 basis
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     points.
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25 So you know, if EAFE in the U.S. were 90 0019 1 percent active, I would give you the commentary on a couple of managers. The best performing manager was Acadian EAFE small cap. It outperformed its specific 3 4 benchmark, the S&P small cap by 740 basis points. 5 the greatest detractor in performance was Walter 6 Scott. It underperformed its benchmark, the MSCI 7 EAFE, by about 800 basis points. And in executive 8 session I can go over some reasons why, if you want. 9 If you then also turn to page 31, it gives 10 you our emerging markets. In emerging markets you have the custom index, and it rose around 15.9 11 12 percent. Your emerging market portfolio lagged a bit, 13 slightly, by about 28 basis points. That was mostly 14 on the active side. 15 The active managers actually outperformed 16 It was on the passive, and we had some the index. 17 issues with BlackRock in terms of making sure we had the right benchmark and the right tracking error and 18 whatnot. That's been fixed for the past six months, 19 20 so you will see it tracking more tightly. 21 So just in terms on the active side, the 22 only really detractor was Eaton Vance, and they 23 underperformed by 205 basis points. 24 So, we can go over some of the managers, 25 if you want, in executive session. 0020 1 CHAIRPERSON AARONSON: Especially Walter 2 Scott. 3 MS. POHOTSKY: Yes, absolutely. 4 MR. GANTZ: We'll get to the exciting 5 part, which is Fixed Income. On page 34, the analysis 6 starts with a pie chart. It's about, a little more 7 than 30 percent of the fund; underweight versus 8 policy, as we described before. The market value is 9 over \$18 billion. And as you see from the chart, the 10 dark, blue the majority of Fixed Income is in 11 investment grade core. So let's talk about that 12 first, the largest piece. 13 The next page shows a pie chart with three 14 major sectors, government, mortgages and investment 15 grade credit. So, just for reference, the blue is government, it's the smallest sector. If I can 16 17 address your attention to the under/overweight column 18 in the middle. We have been for some time underweight 19 the Treasury sector. 20 If you look at the index or the actual 21 returns to the right of that, you'll see the sectors 22 had similar returns, but the Treasury and government 23 sector did better. The reason for that is because, starting, contrary to every expectation of rising 24 25 rates, rates went down. 0021

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Nevertheless, if you look at the
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     difference column, the very last column, each of the
     sectors added value. Of the 15 managers, 11 added
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     value, for the one year period fiscal year every
     single manager added value. You'll see one manager,
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     Privest, shows underperformance, but that's a tiny
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     difference, because it's a private placement manager.
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                 But each of the managers, the one and
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     three year period, added value, and it's a good
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     selection on your part.
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                 So how did the Core+5 do by itself?
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     page 36 you will see the returns. I can't compete
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     with equities. The returns are positive on the
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     quarter, but lower, 275, 15 basis points ahead.
     the year, it was about short of 6 and a half percent;
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     but very importantly, 89 basis points ahead, and the
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     three year number ahead.
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                 So all the periods you're seeing here, all
     positive numbers, and all ahead of the benchmark. But
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     as one of the trustees asked before, about volatility,
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     if you look at the bottom, this is quite remarkable.
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     The three or five year number, three year returned
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     over 5 percent, five year returned over 6 and a half
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     percent.
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                 If you look at what the volatility was, we
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    checked and double checked this number and triple
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     checked it. The volatility is now in the 3s. You
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     were earning returns slow and steady, it's done very,
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     very well. It's done what it's supposed to do, dampen
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     the volatility of the program.
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                 MS. BEYER: Martin, I want to make sure, a
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     clarification question. There's a footnote in the
     back, page 68, that says "returns are gross of fees."
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     I want to make sure I'm clear what that is.
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     means that you haven't taken fees out of the return
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     numbers, any of the fees; correct?
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                 MR. GANTZ: There is a chart before that
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     that shows what the fees are.
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                 MS. BEYER:
                             Yes.
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                 MR. GANTZ: We're working on a report with
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     State Street to get net of returns.
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                 (Talking over each other.)
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                 MR. GANTZ: That's one of the reports.
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                 MS. BEYER: So when we say we outperform a
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     benchmark, you're outperforming gross of fees, not net
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     of fees?
                 MR. GANTZ: Yes. And then Core+5, because
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     the fees are quite low, we outperformed in both cases.
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                 MS. BEYER:
                             Thanks.
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                 CHAIRPERSON AARONSON: Did the previous
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     custodian give us the net of fees?
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                 MR. GANTZ: No. Which is why it's taking
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3 work to get it done. 4 (Talking over each other.) 5 MR. EVANS: Even more comprehensively, in 6 studying the relationship between fees and 7 performance -- and I will talk about that more a little later in the second session -- as a result of 8 9 some of the feedback I've gotten -- we're on this one. 10 MS. BEYER: I figured. The next page is 37, Progress, 11 MR. GANTZ: 12 which is a little over a one year record for Teachers. 13 As you see, Progress has done really, really well 14 versus their benchmark. So this is about, it started at \$100 million, it's now 112. It's done very, very 15 16 well. Their selection of managers has done well, and 17 your program has evidently good timing, with them and 18 the managers. 19 The next page is page 38, which is TIPS. 20 As you know, we're actively starting the search, we're 21 actively involved in the search, so it already 22 started, because the contracts are expiring. 23 For TIPS for the quarter, the returns were 24 slightly behind the benchmark by 10 basis points for 25 the year. Returns were 444, right on top of the 0024 1 benchmark. Longer term is modestly ahead of the benchmark. And again, net of fees for the longer 2 3 term, it is ahead net of fees as well. We're doing a search, so we'll have much more information for you in 4 5 a few months for the entire program, a review and 6 recommendations. 7 Also, by the way, because as you see on an 8 absolute basis the returns are lower than equity returns, being underweight 2.4 for the core helped. 9 10 High yield, or what we refer to as 11 enhanced yield on the next page, the return, we're now getting into more risky areas of Fixed Income. 12 13 Returns were good. On the left side, for the quarter, 14 just ahead of the benchmark in terms of .3 percent. 15 But the fiscal year was really good, returning just 16 shy of 12 percent, and 100 basis points ahead of the 17 benchmark. 18 So the program did well, the managers did 19 And if you remember, we selected new managers, 20 and those managers have done well. For the one year 21 period, of the seven managers, two underperformed, and 22 the two managers that underperformed were the two you 23 would expect to underperform in up markets, your most 24 defensive managers. So when the market turns, those 25 are the managers you would expect to outperform. 0025 1 So the progam is working as we would 2 expect it to work. 3 If you notice, the three and five year numbers are slightly behind, because it is driven by

some managers that no longer are in the program, that were replaced in 2012.

Bank loans, as you know, a new program, the next page. For the quarter it was behind the benchmark by 24 basis points, and for the year ahead of the benchmark by 18 basis points. And it pretty much is doing what we're expecting it to do.

Again, one year record, we have five managers, three outperforming, two did not. The two that did not are our most defensive managers. In a very hot market we expect that. And as you notice, the returns are below that of high yield, because it's higher than capital structure. So the returns make sense in that context as well.

Convertible bonds is on page 41. The return was 295. The light blue is the custom benchmark, which is the weighted average of each of the managers' individual benchmark. If you recall, convertible bonds, each manager has a slightly different universe within convertibles that they fish in, the pond they fish in.

And what we do is, we weight those averages, and that's light blue. The grey is the overall convertible universe. The reason they underperformed here is because of problems in the benchmark construction. We talked to the benchmark providers, we talked to the managers, but we're getting nowhere with the benchmark provider. And that's why we created the custom benchmark; because none of the managers are managing towards that benchmark.

The reason they're underperforming -- by the way, they number for the one year is 1604, it's really, really good. We expect over the long term to have about 70 percent of the return of the U.S. Equity market cycle, with about 40 percent of the volatility. So far that's happened.

The reason we're behind the grey bar is because the way the construction of the convertible bonds index -- without getting too technical -- it lets the names rise; in other words, it's not capped.

So if you have an issue that's a one percent issue and the underlying equity goes way up, as an example, the company -- slips my mind for now -- if you're reading in the papers, there's a new revolutionary drug for hepatitis C. That's the

\$80,000 pill, drug -- it's a remarkable medication, and it's in the convertible bonds universe.

But because the equity has gone straight up like a straight line, prudent portfolio management says, Cut back, you don't want to own more than 10 percent of a single name. But because of the

7 diversification the benchmark has it at a very, very high level, as it goes up. But prudent portfolio 9 management would make the manager cut it back to a 10 reasonable and prudent level. 11 Over a market cycle, not that I want the 12 market to go down, but when the market does go down, 13 that will undo -- we saw it in 2008, the managers 14 outperformed. So, when the market cycle is complete 15 you'll see that number move more --16 MR. EVANS: So the grey benchmark becomes 17 lumpy, it becomes an imprudent portfolio that nobody 18 would hold --19 MR. GANTZ: None of our managers do that, 20 they manage to their individual benchmark, which 21 they're actually outperforming. 22 The next page is opportunistic fixed 23 income, page 42, it will be my last slide. This is a 24 program that's done really well. The longer term 25 numbers, quite frankly, the shorter term numbers, are 0028 1 not as meaningful as the other ones because the 2 program is growing. I think Rocaton would agree with 3 that, the program is growing. 4 Nevertheless, the numbers are the numbers. The one year number is over 14 percent. Remember, the 5 6 benchmark is 10 percent, secondary benchmark is the 7 global high yield benchmark. So the blue bar is 10 8 percent. The three year number is a little below and 9 the five year number is almost 20 percent. 10 So the program -- when we go through the 11 returns you'll see it in that other book you have with the numbers in red and green. You'll see that the 12 numbers are really, really good. The program is 13 14 working as designed and we're continuing to evaluate, 15 and we will have an annual plan for you shortly. 16 Unless there are any questions, I'll turn 17 it over to the lead guy. 18 MR. MORRIS: Good morning, Mr. Chairman. 19 So, starting on page 43 of our big book, you can see 20 the overall ETI performed very well this year. Over the past quarter we're up about 778 basis points from 21 22 the custom benchmark, 2.94 percent. And for the last 23 fiscal year we're up 200 basis points at about 6.53 24 percent. 25 Specifically, all of our programs have 0029 1 outperformed their benchmarks. And jumping quickly to 2 the quarterly report, I'll run through some of the 3 numbers --4 MR. GANTZ: In the regular book. 5 MR. MORRIS: Pages 7 and 8. So, on page 7 and 8 you see our PPAR 6 7 program, our long term lending program. We are up 148 basis points during the second quarter, and very

resoundingly, 836 basis points over the last fiscal 10 year. We saw this big jump actually happen in the December quarters. I'd like to claim that was all me 11 12 starting at this job, but unfortunately that would be 13 wrong. 14 We saw a big jump actually, because when 15 we twitched custodial things, they switched the people 16 who evaluate individual loans. And on the plus side 17 our loans are apparently worth a lot more than 18 previously predicted by the last custodial bank. 19 Over this last quarter, Teachers has made 20 roughly \$600,000 in direct loans to produce about 39 21 units; and we made great lots. So these are going 22 forward the next two years of \$8.5 million in loans 23 for about 607 units. And our total outstanding 24 commitments, what we have right now, is about \$122 25 million, which will produce about 5,813 units. 0030 1 Going forward to the next page, page 9, we 2 can jump to the AFL-CIO HIP. This is broken down into 3 the home and multi-family loans. This portfolio 4 outperformed by 36 basis points in the second quarter, 5 and only basis points in the last fiscal year. 6 The Phase 2 of the New York City Community 7 Investment Initiative Multi-Family Investment has invested \$450 million for roughly about 9,400 housing 8 9 units. And since inception, the two funds have 10 invested \$3.6 billion to produce over 21,771 units. 11 And as we go to page 10, we can see that 12 in the second quarter the work force housing 13 initiative produced about \$45 million supplemental Fannie Mae securities in the Penn Sout Cooperative. 14 15 This was used to replace fan coil units, air handlers, 16 new duct work, things that actually will bring that 17 housing up to first class standards. Since inception, 18 this has been about \$272 million and will fix about 19 7,656 units, preserving them. 20 And lastly, our access capital strategy on 21 This is our program that plays in the page 11. 22 secondary market, primarily to reduce predatory 23 lending on single family homes, things like that. 24 the second quarter we outperformed our benchmark by 29 25 basis points, and 84 basis points for the last fiscal 0031 1 year, which we're very happy for, because last year 2 with some changes in management they didn't perform as 3 This year they outperformed their target. 4 In the second quarter Teachers invested 5 \$17.3 million in 237 single family homes. Access also 6 did multi-family investments of about \$1.8 million in 7 111 units. And since inception, we from Teachers have

MS. MARCH: I'd like to say, since the

invested \$177 million creating or preserving 33,882

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units.

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11
     world of real estate does not particularly care about
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     real people, I would just urge that the Comptroller's
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     Office, upholding all of our our fiduciary duties,
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     continues to find investments like this; because this
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     is the only place that we are able to provide real
16
     estate for people in the real world.
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                 CHAIRPERSON AARONSON: Is there part of
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     this portfolio where members of the retirement system
     can get mortgage loans?
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                 MR. MORRIS: We don't offer direct loans
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     to individuals, from our current perspective.
22
     However, when I first came in, me and Chris Pak of the
     ETI program did a five year lookback over who we've
23
24
     been investing in for the long term loans.
25
                 And one of the interesting things we found
0032
     was, almost every single long had an HPD component to
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 2
     it; and HPD does have a 5 percent City employee
 3
     preference to it for all of the affordable housing
 4
     units created.
 5
                 So they are producing something that will
 6
     directly benefit City employees.
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                 CHAIRPERSON AARONSON: Could you please,
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     yourself or somebody in your office, write something
 9
     up on that particular part of our program?
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                 MR. MORRIS: Absolutely.
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                 CHAIRPERSON AARONSON: Because I don't
12
     know that members are familiar with the fact that they
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     might be able to do so. So, if you could do that, it
14
     would help everybody.
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                 MR. MORRIS: Got it.
                 CHAIRPERSON AARONSON: I assume this, that
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17
     we don't invest in housing where people have to go in
18
     through the side door or --
19
                 (Laughter.)
20
                 MR. MORRIS:
                              Not yet.
21
                 (Laughter.)
22
                 MS. MARCH: Not ever.
23
                 MR. MORRIS: It's very difficult for
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     anyone to qualify for our loan programs under that
25
     model. Maybe an ingenious HPD developer can find a
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 1
     way to qualify the programs, but it would be very
 2
     surprising if they did.
 3
                 MS. VICKERS: You and Chris will double
 4
     check.
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                 MR. MORRIS: It's something I'm
 6
     particularly paying attention to.
 7
                 MS. MARCH: It would be all right, if we
 8
     could get the 80 percent to use the side door -- use
 9
     the front door.
10
                 MR. MORRIS: Absolutely.
11
                 I should note, our PPAR program requires
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     100 percent affordability. So there is no 80/20 in
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13
     the largest program; it is 100 percent affordable.
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                 MS. BEYER: Mr. Chairman, I'm comparing
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     page 36 and 43, and it just struck me that Martin and
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     you both have similar returns, and the standard
17
     deviation is a little lower.
18
                 I'm wondering, is that misleading because
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     no cash is counted, or is there something I'm missing
20
     on that?
21
                 MR. MORRIS: Theoretically, all our
22
     investments should produce a market rate of return.
23
     So there shouldn't be a major deviation between the
24
     two, the returns.
25
                 MS. BEYER: Which is pretty impressive
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     when you consider the structured total, 16 percent of
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     the plan.
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                 MR. MORRIS: I'd say the way we've been
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     able to primarily do this is, we look for things that
 5
     are safe because they're backed by the state or
     federal government, and that tends to increase the
 6
 7
     value, particularly in these volatile markets.
 8
                 MS. BEYER:
                            Impressive.
 9
                 MR. MORRIS: We have a minimum of risk in
10
     the rising interest rate, but over the full cycle that
11
     should balance out.
12
                 MS. BEYER:
                             Thank you.
13
                 MS. MARCH: Thank you.
14
                 MR. EVANS: Finally, our private equity
15
     group, James DelGaudio.
16
                 MR. DELGAUDIO: Good morning, everyone.
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     James DelGaudio, from the private equity team. I'll
     be walking you through our private equity quarterly
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19
     report for the quarter ending March 31; and I'm on
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     page 24 in the regular agenda book.
21
                 So, as of March 31, private equity
22
     represented 4 and a half percent of total Teachers
23
     plan assets, relative to a 6 percent target, a market
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     value of 2 and a half billion dollars.
25
                 I want to speak about the underallocation.
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 1
     I think it occurred for positive reasons.
 2
     all, I'll hit on the total plan level, you've been
    hearing of significant runoff in U.S. public equity
    markets, resulting in significantly higher total plan
 4
 5
     value.
 6
                 Second, at the private equity portfolio
 7
     levels, your distributions have been outpacing your
 8
     contributions. So both of those factors in tandem
 9
     results in your allocation remaining steady and not
10
     rising.
11
                 So, looking at the portfolio summary table
12
     on page 24, in the March 31 column, you can see that
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     you had approximately $5.2 billion in active
14
     commitments across 91 managers, 139 funds, with a
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15 market value of \$2.5 billion unfunded commitments, 16 \$2.1 billion.

The portfolio since inception net internal rate of return increased slightly over the prior quarter to 9.54 percent, with the total value multiple standing at 1.3 times.

On the next page, 25, we'll look at a summary of your recent commitments. You can see the program closed on one secondary fund during the quarter, with a \$150 million commitment. And subsequent quarter end you committed \$375 million

across three managers.

1 2

On page 26, if we can move there, you can see your portfolio returns presented over various time periods against various benchmarks. I'll highlight two. Again, since inception, the portfolio generated a 9.54 net IRR, which did lag the program benchmark, the Russell 3000 plus 300 basis points, by 346 basis points.

On a one-year basis the portfolio generated a 16.8 percent net rate of return. And while strong on an absolute basis, this did however trail the program's benchmark due to continued strong performance of public markets.

It's worth mentioning that the 16.8 figure does represent an 800 basis point increase when compared to the portfolio's one year return, March of 2013. So this is a very strong number on an absolute basis for the one year, in a long term illiquid asset class.

CHAIRPERSON AARONSON: I'm looking at this and I'm seeing that we're investing and paying 2 percent in the first 20 percent of profits -- about half of what the public markets have done.

I want to say, one of the goals of this system is to cut down on fees. The highest fees that 

we pay to these programs that are earning the least, that we carefully review this whole program. And it's going to take us a long way in getting to the goal of reducing fees that everybody is talking about, because if we reduce fees we increase our returns to our members and are much better able to meet our responsibilities.

So please examine it very, very closely, this whole asset class, and let us know what your thoughts are after a review.

MR. EVANS: Mel, as you know, we're
looking at this portfolio very, very carefully, and as
James will tell you, spend a fair amount of time with
the team. In my first month on the job I met with
several of the managers, had the opportunity to talk
with the press about this part of our portfolio.

And so, we looked at it very carefully. It is a part of the portfolio where you pay more fees than you do in indexed equities. And anytime you pay more fees for something that has similar types of long term risk, you need to get a premium. And the premium has to be large relative to the fees that you are paying. And so, that is all understood. private equity asset class I can assure you the team gets that. They're on it, they are negotiating very hard to make sure it's within the confines of the market for private equity, that we're getting our full fee break that we should be getting. And we will continue to examine it and continue to come back to you with an analysis about the tradeoff between the extra fees and extra turnover time; because we certainly get your point. 

CHAIRPERSON AARONSON: Thank you very much. I see the benchmark is public markets plus 2 percent, and our investments haven't even done as well as the public markets. And that's hurtful to our portfolio. Anything you can do.

MR. EVANS: There's some structural reasons why the comparison would look really bad right now because of the way that -- it's not just the J-curve, but the way private equities are valued that ended with a lag. Part of that is taken into account in the benchmark, and part of it is not.

CHAIRPERSON AARONSON: I'm sure private equity managers try to paint the best view of what their returns are. And still, the best for the last five years -- I don't know what it is historically, let us know -- in this area more than five years -- it hasn't even met the public equity benchmark, let alone

the premium we should get for paying these higher fees.

MR. DELGAUDIO: That's a fair point. I'd next month, to foreshadow next month's meeting, we're coming back with Hamilton Lane to present the fiscal year 2015 annual private equity plan, to address some of the work we have done over the past year negotiating better fees, and also address these points.

MR. EVANS: If I can tip my hat to my predecessors a bit. I think the team that was in here before did a really nice job of raising the game in this asset class, positioning the portfolio with better managers. James, Rafique and Alex Done, who are part of this team and were part of that team, are very much putting the same practices into play.

So I think it's getting better, but I assure you when we sit across the table with the

private equity folks and listen to their arguments about fees, that we work for the teachers who give contributions to this fund; and we take a very hard look at any fees that we pay.

MS. MARCH: I would underscore that. It is very, very true that for the past four years the private equity portfolio was greatly improved; no

doubt about that. But I think the points that Mel raises, moving forward, that's what we have to look at. There is no doubt that it improved over the past four years.

MR. EVANS: We want to be able to come back and talk about the tradeoff we're making. If the moneys aren't in private equity they will be in public equity securities. What's the tradeoff we're making as part of the portfolio? What are we getting for that? What are the risks? And we're happy to talk about it.

MS. MARCH: If we can get to a point where we can convince the managers that if you are getting most of your assets from public pension plans, it's time to change your fee structure. It might very well be that part of our assets should be in a private equity portfolio. But it is time for them to walk away from the 2 and 20.

And also the fact that until your assets are committed to them, given to them, why are we paying fees? Maybe if they really understood we were changing to that type of mode and they wanted their business to continue, they would understand it. But it is very difficult when it is only four or five systems that will take that path. But I think that's

the path somebody has to be brave enough to take; and we volunteer.

CHAIRPERSON AARONSON: I think Sandy, as part of her remarks, talked about the fact we pay huge fees on committed money, not on invested money. And that is a horrendous problem to us. We have the money invested in maybe the Russell 3000 index fund, and they are charging us 2 percent for investing that money. At the same time and we're paying fees for the investment and paying -- from their fee structure.

MR. EVANS: There's no question that the practice of charging uncommitted funds raises the price of participating in this asset class, and we have to account for that when we make the calculation as to whether it's worth the tradeoff to the members. And we will continue to analyze it.

I did again, to beat a dead horse, emphasize that private equity, when you make an investment, takes ten years before you know whether you've had a good investment. So you are talking

21 about now investments that were made in 2004 that you 22 really know how they turned out. So it will take a 23 while to find out --24 MS. MARCH: Talk to the managers about a 25 performance fee after the ten year period, they really 0042 1 do such a wonderful job that we will consider a 2 performance fee at the end of the road. 3 MR. EVANS: I definitely hear your perspective. 4 5 MR. DELGAUDIO: Moving ahead to page 28, I 6 want to make a few more comments. Here the portfolio 7 performance is broken out by strategy. And I do want 8 to highlight some of the folks that are performing 9 well for Teachers. 10 The special situation bucket is performing 11 very well, 18.62 percent net IRR. That's largely driven by one of your recent commitments to Platinum 12 13 Equity Partners. The buyout bucket performed well at 14 16.65 percent. That's largely due to commitments to 15 Apollo Partners. The secondary strategy performed 16 very well at 14.42 percent, largely driven by Landmark 17 Equity Partners. And your growth equity bucket is 18 also performing very well, largely attributable to 19 strong performance by Vista Equity Partners. 20 I'm going to skip ahead a few pages to 21 page 30. Here you will find a summary of portfolios, 22 quarterly cash flows through June 30, 2014. You will 23 notice, as mentioned earlier in my opening comments, 24 that the portfolio has been cash flow positive to 25 Teachers for four out of the last five quarters. 0043 1 This demonstrates the portfolio's 2 self-funded ability as it continues to mature, and this also ties again to the earlier comments as to why 3

the allocation is a little bit under par.

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Last comments on page 31, you can see on the left that the portfolio remains diversified by strategy, with buyout consisting of the largest exposure at 58 percent. But that's relative to the 60 to 85 target to buyout.

And in terms of geography at the portfolio company level, North America represents the largest exposure at 82 percent; Western Europe at 14 percent and 4 percent rest of the world.

That was it for my prepared comments. CHAIRPERSON AARONSON: I have one other comment. Here we spent a half hour, the largest period of time on 4 percent of our portfolio; and 9 percent of our portfolio we spent less than that. That's just another added reason why -- time to our portfolio --

MR. EVANS: In a way, you spent more time on the problem areas of the portfolio, and it's good

23 it was only 4 percent. 24 Mel, I wanted to point to one page here 25 that I think really helps you as much as anything to 0044 1 get through the clutter on private equity performance 2 and see how we're doing. 3 And I suggest a quick rule of thumb, if you want to get paid sufficiently for the extra fees 5 and carry and everything else, the extra risk of б private equity versus public equity, you ought to be 7 in the top quartile of the managers of their vintage, as a rule of thumb, over many vintages. And the way 8 9 private equity performance works, you really have to 10 compare vintages of commitments. If you look on page 29, we have that 11 12 information. You can see the vintages going back to 1999. What did we earn on an IRR basis? That's the 13 14 return we get. So 7.16 for the first vintage in 1999. 15 And then skip over. Don't look at the median, because the median is not enough return to pay for the extra 16 risk, but look at the top quartile. 17 18 1999, we're half what we needed to be. 19 And if you look at the comparisons from '99 up, you 20 will see they look pretty bad, with the exception of 21 2003. And then, as you get into recent years, look at 22 2011 and 2012, when the previous team was really getting money to work. And it's early days, still in 23 24 the vintages; but we're in the ball game in terms of 25 getting paid. 0045 1 That's a good place to look to see 2 evidence, rather than just our say-so; evidence that we're starting to get the types of returns out of this 3 asset class to pay for these expensive fees, and they 4 5 are expensive. 6 CHAIRPERSON AARONSON: Let me just say, 7 we're very happy about the last team of investors in 8 the private equity field. And those that are still 9 here, we expect good things. But the history of this investment for the Teachers' Retirement System is sad. 10 11 MR. EVANS: Unfortunately, in this asset 12 class, it's darn tough to get out once you can't sell 13 them on the secondary market. We can try to do that, 14 but you get them as they mature. 15 Thank you. 16 CHAIRPERSON AARONSON: Thank you. 17 MR. DELGAUDIO: You're welcome. 18 MS. NELSON: Good morning. I will try to 19 abbreviate my comments, real assets about 2.3 percent. 20 I'm not sure exactly how much time I'm going to get. 21 And now that real estate is within real assets, I now 22 have to share that piece with Petya, who will follow 23 me shortly, but I'll try to do the best I can. 24 We're going to review the first quarter.

25 As you know, there is a lag in private markets, and I 0046

really wish I could give you where we are second quarter, while in the second quarter.

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Actually, it's going to be a very good First quarter was experiencing some of the quarter. brunt, the rough winter. So there's a little hiccup with respect to real estate. But over all, the recovery in real estate is gradual and slow. Harking back to the comments Martin made, certainly the U.S. is emerging out of this recession.

And what we also see in real estate, that Europe is in the early stages of a recovery. You see some of your managers putting money to work there. So in terms of overall market conditions, I just want to give you the lay of the land.

Again, real assets is 6 percent of your allocation. That allocation represent \$3.3 billion as of the first quarter.

So what is in the ground in terms of real estate, there is a market value of \$1.3 billion. That's 2.3 of percentage invested that I talked about. In addition, we've been quite busy, so we have some real estate commitments outstanding that we've yet to fund, about \$810 million.

24 First of all, this is all on page 44 of 25 the board book. And I'm going to refer to you page 0047

numbers on the bottom; because the board book page numbers are obscured. Fortunately, I'm going to stay pretty much on page 44, but if I change the page I will address it by the page number at the bottom, since you can't see the one at the top.

So we have \$810 million in commitments that we have yet to put to work. So the total exposure that Teachers has to real estate is \$2.1 And as you know, our portfolio is well diversified in terms of strategy, property type, geography. And as it relates to strategy, we're pursuing both core and non-core strategies.

And according to our IPS, we set limitations, but you do give us some flexibility. it stands right now, we're about 39 percent core, core plus, which is a shade under the 40 percent we would like to have. And in the non-core we're about 61 percent. You have 42 investments and 34 managers who are out pursuing those strategies on a global basis.

In terms of performance, we could take a look at the graph at the lower right; and it shows the performance of the Teachers portfolio versus the benchmark over extended periods.

Now, real estate, as we talked about private market asset class, is a long term play. 0048

we're slightly under for the quarter at 2.1 percent, about 40 basis points under the benchmark.

But look over the longer term, over longer terms, the one year, which is the best fiscal year number I can give you right now, the one year Teachers was at 13.9 percent, which was 130 basis points over the benchmark of 12.6 percent; again, over at the three year, a little bit --

CHAIRPERSON AARONSON: The benchmark is the gray, and the black is the --

11 MS. NELSON: I'm sorry. We are the dark

12 blue.

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In terms of since inception, I'm proud to say you are ahead by 140 basis points, so let's get to the punchline of that one. On a dollar weighted basis, your IRR is 8.2 percent for the program, and a 1.3 equity multiple. And all of that performance information that I gave you is on an after-fee basis.

So we did have some investment activity for the guarter. We had two deals, one core deal and another opportunistic fixed income deal for a total of \$200 million during the quarter. We closed both, so those managers are well positioned to put your money to work.

In the following page, page 2, not too

many comments, because I mentioned before this page just talks to your portfolio in terms of core and non-core strategies. And as I mentioned before, we're at 39 percent core, core plus, and 61 percent on a core basis.

In terms of the cash flow back and forth been ourselves and the managers, given the uptick in allocation recently from 3 percent to 5 percent to 6 percent, most of our investments occurred recently. And so at this point we're sending more money out than we're getting back. But the positive spin on that is they're putting money to work, and that's what they are supposed to do.

On page 4, this just really is a drill-down on the quarter in terms of which managers are performing for you and which are not. So again, I'd take it with a grain of salt, particularly with this quarter snapshot.

On page 9 there's a presentation of who is driving the returns for the one year and three year, so longer periods. But as we produce these reports and you have more time, take a look at it, because it really tells you the story about which managers are producing for you; and also kind of gives a cue as to which managers we'll be bringing to you for additional

1 capital in terms of re-up, and obviously which ones 2 are not.

3 MS. BEYER: And it changes. 4 Tishman-Speyer goes to the bottom and to the top and 5 back again. 6 MS. NELSON: It's very sensitive to --7 they only have four investments. And so, based on the 8 fact that, when they monetize investments, and 9 sometimes as they are executing their strategies, 10 until that time there's a little lull. So yeah, very, 11 very sensitive to that. 12 Lastly on page 7, our compliance report 13 These are the metrics that are important to us 14 in terms of managing the risk in our portfolio. And 15 here is some key metrics, the benchmark, which we are 16 outperforming as a ten year guidepost that we use; 17 portfolio construction, diversification, leverage, 18 which you know is very, very important, because it is 19 what exacerbated the global financial crisis. We're currently at 37.5 percent. So we're 20 21 really in a good place. And the managers' exposures 22 are well within their bounds. 23 And again, if there is any questions please let me know. I know it's a lot of material, 24 25 but at a later point shoot me an e-mail. 0051 1 CHAIRPERSON AARONSON: Can you bring us 2 another Lipstick Building? 3 MS. NELSON: New York is hot. MR. EVANS: You've got to buy a Lipstick 4 5 Building when nobody else wants it. That's what you 6 did, what Tishman Speyer did, and the MetLife Building 7 and the New York Times Building. 8 That's the type of long term contrarian 9 thinking that is using the powers that Teachers have 10 collectively by investing in employee benefit 11 programs, long term investors, and see through the ups 12 and downs of the market; a perfect example of real 13 extra returns being brought over long periods of time. 14 So, one of the reasons that asset class lends itself 15 to an asset. 16 MS. NELSON: Thank you. 17 MS. NIKOLOVA: Good morning. I'm very 18 excited to be here today. This is our first 19 performance report. 20 MS. MARCH: We're more excited. 21 MS. NIKOLOVA: So, just a few comments, 22 the memos on the report are on page 43; and you can 23 flip a few pages to the infrastructure piece. Next 24 time we'll mark it better. 25 As you recall, we started making 0052 1 investments just the last fiscal year. So, to date, 2 we have made three investments in managers, best in 3 class. The three investments are representing \$371 million for Teachers, or 0.9 percent of real assets.

The portfolios are still at the very early stage, so the data is somewhat skewed because of that. Only \$19 million of the funds have been drawn. But this is the first quarter, so there is good progress being made in the second quarter.

The investments that we've made are all infrastructure, as defined in the strategies, and the managers are investing across the world, globally, in countries, consistently with core strategies and across sectors.

Currently the portfolio is more focused in energy, a little over 70 percent, and the rest is in transportation. But again, please keep in mind this is a very early stage of the portfolio's development, only \$19 million from the overall -- and the performance data is also good; but again, very early stage of the portfolio. The gross returns are 12 percent and net is over 9 percent.

One point I'd like to make is that this was discussed when we were adopting the policy, when we had discussions you met with the managers. Pretty

much all of them talked about -- and what started to happen, first quarter was a little bit low, 1 percent -- assets are maturing in these portfolios. And for the second quarter it's 6 percent. So I want to mention that this is actually something -- today.

So that concludes my remarks on infrastructure. Unlike private equity or real estate, the portfolio is a new one.

 $\label{eq:CHAIRPERSON AARONSON:} \mbox{ I know we were involved in a search for an infrastructure consultant.}$ 

What is the status of that?

MR. EVANS: You will hear about it in executive session.

CHAIRPERSON AARONSON: Of the three investments we made, two of them it's my understanding were with managers that are similar to private equity managers and the fees are similar to private equity fees. One of them was made from Australia, which was invested as part of the Australian pension system and is part of that. And the fees are much lower and so forth.

I know there are other groups like that -- I know there are retirement systems doing that. I know you worked with an advisor, Jill Ika, who put together a group that will invest similar to the way

the Australians and the Canadians invest. I know we participated in helping to advise them. At a certain point we left.

I also know that they are trying to raise funds for people to become owners of the investment company, and that several retirement systems in the

7 nation are doing that. I know that in California they do investing on their own, and they are partners in 9 the general partners and not just limited partners, 10 getting general partner return. 11 And I'd like for you to look into perhaps doing something, performing in that area. Maybe we 12 13 can get a report about the consultants. Many of our 14 investments are international, and U.S. infrastructure 15 is a huge market in itself. And I know that in 16 California now they are building several -- I don't 17 know how they got the money -- I do know it's a huge 18 problem with sending energy from one part of New York 19 State to another. 20 Niagara Falls produces electricity for 21 almost nothing. And unfortunately, right now, most of 22 that electricity stays in Northwestern New York. It 23 it would be a great, great benefit to everybody in New 24 York if there was some kind of investment that was 25 made which would bring electric production from there 0055 1 to here. 2 I know that it would make me feel very 3 good if every time I turn the electricity on in the house, the Teachers is making some profit on that, and that we will be able to provide benefits for our 5 6 members. 7 So this area is one that we would like to 8 get much more involved in, and get involved in right 9 away; not just large companies getting huge profits, 10 but getting in on making some of the profit ourselves. 11 And where we don't want to go that route, 12 at least investing in alongside of people who have the 13 same goals we have; not to get rich, but to get 14 appropriate returns on the money for long term returns 15 on infrastructure projects so that our members will 16 have --17 MS. NIKOLOVA: I want to address the 18 I know we are paying fees for these funds, comments. 19 but I do want to point out that on infrastructure we 20 don't pay -- the average manager fee across the 21 current portfolio is 95 basis points, so it's less 22 than 1 percent. 23 CHAIRPERSON AARONSON: That's the average 24 of the three? 25 MS. NIKOLOVA: Yes. 0056 1 CHAIRPERSON AARONSON: But what about the 2 two? 3 MS. NIKOLOVA: The two are around 1.1. So 4 there is probably a 10 percent to a 12 percent basis 5 point difference. But it is not 100 basis points б difference. 7 CHAIRPERSON AARONSON: How about the

8

carried interest?

9 MS. NIKOLOVA: The carry, actually, 10 interestingly enough, on one of the more private equity, I'd say value added strategies, is less than 11 12 20 percent; it is 15 percent. The one that is a club of pension funds, we have a 20 percent carry there. 13 14 On the other fund that is more a value added strategy 15 we have 15 percent carry. 16 So just globally, the portfolio, currently 17 looking, we have 95 percent management fee, average 18 again, and less than 20 percent across the portfolio. 19 I just wanted to make it clear, because there is a big difference, in 50 percent less than the 2 and it is 20 21 not the 20 less than 20. 22 And then, I think I can probably address 23 that, but I guess the second point relates more to a leadership role for co-investments, separate accounts 24 25 0057 1 MR. EVANS: So, as you know, I want to say publicly, we agree that infrastructure is a very 2 desirable asset class for a pension fund, any pension 3 fund, to have; because the characteristics of the 4 5 assets move in a way that is very similar to the characteristics of the liabilities and benefits that б 7 the people draw from in this fund and from others. And so, by having an alignment, the fact 8 9 that they're very long term assets, the fact they move 10 with inflation sometimes designed into the structure; 11 the fact that the risk -- they do have risk, there are 12 risks in infrastructure investing. They're very 13 different types of risk than you have with equity 14 investing, even with real estate. 15 So we're on this. So I was very pleased 16 to learn that the pension team were here when I 17 arrived a month ago. They're in the very early 18 stages, they just made their first investments. 19 a team of two. 20 And many of the funds that you mentioned, 21 I know the Canadian pension plan for teachers and the 22 folks in Australia very well, they have built their teams over a series of years, and basically have been 23 24 able to put themselves in place of the general 25 partners and go direct on investments. That is when 0058 1 infrastructure becomes a major part of one's asset 2 allocations, those are the types of options you have. 3 We are just starting out. You can bet 4 that we'll be very tough on negotiating fees to the 5 extent we have leverage to do so. And as we evolve, 6 we have our eyes wide open in terms of the range of 7 opportunities that we have to make infrastructure a 8 larger part of the portfolio going forward. So we're 9 in agreement with you philosophically.

CHAIRPERSON AARONSON: I want to thank the

10

11 staff, our partner, for everything they have done so 12 far. 13 MR. EVANS: Thank you. 14 MR. GANTZ: We're on this book 15 (indicating). We just talked about June, the quarter 16 and the fiscal year. So what's going on now that we 17 have two full months in the new fiscal year? 18 We talked about this before, so I don't 19 want to rehash it. The same situation, that is, the 20 Fed is tapering geopolitical risks. The equity 21 markets have rallied, but they did not rally in July. So, cut to the chase, if you turn to page 27 and 28, 22 23 it looks like this (indicating). 24 The column on the left shows the return 25 And the returns as you see have brackets, for July. 0059 so they were negative. The Russell 3000 returned 197, 1 2 negative 197. EAFE ironically returned the same exact 3 negative number, minus 197. Emerging markets was actually was positive at 1.9. And your custom 4 5 benchmark was 1.3. Core+5 was negative slightly, 7 6 basis points. 7 On the next page, high yield was down 8 minus 1.3. Bank loans were roughly flat, slightly negative. TIPS again, slightly flat, slightly 9 10 positive in this case. And convertibles were down, 11 minus 2 percent. REITS labelled as real estate in the 12 index, was up slightly, 20 basis points. 13 So, the next page shows what the returns were, on page 29. On the left you see the one month 14 15 return was minus 1.05. We also show the fiscal year returns and the three month returns. 16 17 The following page shows where we are as 18 far as mix of assets. On page 30 it shows the pie 19 chart on top and where we are versus the policy 20 weights and rebalancing ranges. So it's similar, as 21 we were talking about, overweight U.S. Equity, 22 underweight for TIPS. 23 However, in August we began a rebalancing 24 in the normal course of business to start taking down 25 the overweight U.S. Equities. The rally in U.S. 0060 1 Equity, as you know, is a little long in the tooth. We have a lot of U.S. Equities to begin with, and 2 3 we'll talk about the specifics of that in executive 4 session. So we started taking that down. 5 That was July, a negative month, minus 6 August, however, which is not on here, it just 7 happened, I can tell you was a fantastic month. 8 August, not only did it undo the negative numbers you 9 see in July, we're now, as of the end of August, 10 actually yesterday, the return we estimate is in the positive range of about 1 and a half percent, fiscal 11 12 year to date two months.

13 So for -- the top part, the one month 14 number, Russell 3000, was minus 197. For August it 15 was plus, 4.2 percent a very good number. EAFE was 16 down 10 basis points. Emerging markets continued to 17 rally up, 2.3. Core+5 was up 1.4 percent, because, 18 again, rates declined and also spreads contracted a 19 bit. High yields went up, as risky assets did well, 20 1.7 percent. TIPS wen up because of duration. Convertibles did really well, 3.6 percent. And REITs 21 22 did really well, it was tied somewhat to interest 23 rates, up 2.8 percent. I don't have the numbers, because it's all 24 25 preliminary, but I can tell you our envelope, our back 0061 1 of the envelope calculation, is that we're now in new record high for market value, which is in the \$59 2 3 billion range, I think we crossed that for the first 4 time. We'll be right at the edge, a little below or 5 above. 6 And the returns are now positive for the 7 fiscal year, in the low or mid 1s. 8 MR. EVANS: These are very rudimentary 9 estimates, they're just estimates. They're 10 simplifying what's a very complex --11 MR. GANTZ: And that's why I haven't given 12 you a number for August, because we haven't gone 13 through that with the custodian yet. But based on the 14 numbers I just read to you, and we did the 15 calculations with math, it undid the negative numbers. 16 So now the new record high for market value and the 17 numbers are positive. 18 The rest of the pages -- I can show you on 19 page 35 and 36; 35 shows last year of returns. As you 20 see, when we started a year ago we were \$50 billion. 21 Because July was negative, we're down \$57.6 billion. 22 And on page 36 we show the ten year. Each 23 dot represents where we were end of the fiscal year, 24 which we were at 57 and a half, \$57.6 billion. And 25 you see on the bottom the ten year return as of July 0062 1 31 was 7.67 percent; again, a good number that you 2 should be proud of. 3 I can tell you that the number that you 4 see in August will be higher and will likely be a new 5 all time high, exceeding the previous one set at the 6 end of June. 7 The next section shows the individual 8 managers, how they've done, and also the cash flows of 9 managers with private equity and real estate. 10 Unless there are any questions, those are 11 my comments. 12 So the good news for August, less for 13 July; net/net is you are ahead as of today. 14 The last comment I will say in public

15 session is that we are within every asset class, we 16 are within the ranges and policies for rebalancing 17 every asset class. 18 MS. VICKERS: Thank you. 19 CHAIRPERSON AARONSON: Questions? 20 MS. VICKERS: That concludes the 21 Comptroller's Office session. 22 CHAIRPERSON AARONSON: Move to Passport 23 funds for public session. 24 MR. LYON: A few highlights of the funds 25 through June 30, and we'll go forward to July and 0063 1 August very quickly. 2 We distributed in advance, but if you have 3 questions please ask. But in the interest of time, I will hit a couple of highlights, since we didn't do 4 5 the June 30 monthly flash together. 6 If you turn to the book, Tab 2, page 5, in 7 the second quarter the diversified equity fund, 8 Variable A, its former name, had a 4 and a half percent rate of return. This was slightly behind the 9 10 hybrid benchmark, and further behind, .4 percent 11 behind the Russell 3000. 12 Over the past year, of course the fiscal 13 year, the option is up 23 and a half percent. That 14 was behind both benchmarks, as well; and the close 15 hybrid benchmark, which is a better reflection of the 16 investment strategy. 17 When we think about the structure of the 18 fund, the performance of the managers, if you flip 19 ahead to the flash that starts on page 10, you can see 20 the allocations. And there are \$11.6 billion in total 21 sales as of June 30. And if you flip to pages 11 and 12, which 22 23 face each other, you can see that, if look at the one year period, the fourth column of numbers, again, 24 25 during that time period you were up 23 and a half 0064 1 percent. We have very strong returns across the board 2 in this option. 3 But, of course, it's an absolute return 4 space, diversifying risk dampening strategies did hurt 5 during the up market in the U.S. So our international б equity had strong returns, but not as strong as the 7 U.S. And our defensive strategy composite, the 8 conservative composite, was still up 18 percent, but 9 of course lagged the U.S. equity market. 10 Unfortunately, in addition to the absolute 11 returns, the composite is less than the U.S. Equity 12 markets. The active management contribution, some of 13 this is a benchmarking issue, that some of the 14 strategies benchmark it, but some of it simply is

underperformance by the managers in those two

composites, also contributed to lagging in that hybrid

15

16

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17
     benchmark.
18
                 So no significant concerns there.
19
     Certainly the contributions of active managers can be
20
     volatile, but that is part of --
21
                 So, very strong absolute returns, a little
22
     less excited about relative returns.
23
                 Any questions on that investment option?
24
                 CHAIRPERSON AARONSON: Walter Scott?
25
                 MR. LYON: We will address that in the
0065
 1
    next session. The short version is that we don't have
     any concerns about that manager, it's a very volatile
 2
 3
     performance cycle.
 4
                 Then, if we go ahead to the next section,
 5
     the bond fund, formerly Variable B, and on page 3 is
     information about the asset level, $350 million. The
 6
 7
     section on page 18, and the characteristics of the
     investment option. And the performance is on page 21.
 9
                 And of course we're talking about an
10
     extremely conservative position of the portfolio, an
     environment with not a lot of yield. The one year
11
12
     returns are about 1.6 percent. All the returns are
13
     net of fees, the manager level and the total option
14
     level. And so a large part is due to calculation of
15
     the fees, and that put it behind its benchmark.
16
                 CHAIRPERSON AARONSON: Chris, you said net
17
     of fees -- in the variable program, are results net of
18
     fees?
19
                 MR. LYON: That's correct.
20
                 CHAIRPERSON AARONSON: So we're trying to
21
     get similar reports on the pension fund --
22
                 MR. EVANS: It's one of the things that I
     asked about on my second day, when I realized the
23
24
     reports are gross of fees. It's good to have both so
25
     you can assess the relationship. But the convention
0066
 1
     is usually the report is net of fees performance.
 2
     think we're working with State Street to produce that.
 3
                 MR. LYON: These programs do have
 4
     different custodians, as you know, and even when they
 5
     have the same parent company custodian, BNY Mellon,
 6
     different sides of --
 7
                 MR. EVANS: I'm taking from your questions
 8
     that you prefer to see net of fees performance -- that
     would certainly make sense, because that's what the
 9
10
     beneficiaries get to eat, the performance.
11
                 MS. MARCH: It makes them feel better, but
12
     it's not reality.
13
                 MR. EVANS: It's important analytically to
14
     tease out the difference. But in terms of a
15
     performance report, I think you want the bottom line.
16
     We will endeavor --
17
                 (Talking over each other.)
18
                 I was very surprised when I saw that the
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19
     reports to the board --
20
                 CHAIRPERSON AARONSON: Is the mutual fund
21
     report net of fees?
22
                 MR. LYON: Yes.
23
                 On page 23, behind Tab 4, this is a good
24
     page in which we profile the three investment options.
25
     They are smaller because they are newer, primarily.
0067
 1
     And you can see the asset levels of the international
 2
     equity inflation protection and socially responsible
 3
     equity options.
 4
                 And in the comments you see performance,
 5
     essentially modest underperformance for the
 6
     international equity fund, up 4.05 percent net of
 7
     fees, a little behind EAFE for the quarter. And you
 8
     can see the bullets, one year comments as well.
                 So we're under for the one year period,
 9
10
     and one of the managers we discussed, one of the
11
     contributors, primary contributors to that; the
     inflation protection fund, again, more of a TIPS
12
     benchmark strategy, much more diversified than that
13
14
     benchmark, but outperforming for the quarter. And for
15
     the one year period this investment option was 11.3
16
     percent, and that benchmark was up 3.6 percent.
17
                 CHAIRPERSON AARONSON: Can I ask a
18
     question on the inflation protection fund? I read one
19
     of the largest funds is losing assets this past year
20
     -- they had some personnel problems, also.
21
     inflation protection fund is invested in Pimco -- it's
22
     not the one that was using all --
23
                 MS. PELLISH: It's not total return.
24
                 CHAIRPERSON AARONSON: Is there anything
25
     for us to be concerned about?
0068
                 MR. LYON: We had some very extensive
1
 2
     discussions with them, and the short answer is no.
 3
     I'd be happy to comment on that further in the
 4
     executive session.
 5
                 CHAIRPERSON AARONSON: Thank you.
 6
                 MR. LYON: And then lastly, the socially
 7
     responsive equity fund, for the quarter a little bit
 8
     behind, up in the 4 percent neighborhood, the one year
 9
     period also about a percent and a half behind the
10
     benchmark; but up 23 percent for the fiscal year.
11
     That's different than the flagship Variable A option.
12
                 So, we have a couple of manager updates to
13
     address further in executive session. I'll pause to
14
     see if there are questions for the quarterly report?
15
                 (No response.)
16
                 Not hearing any, I'll move to the July
17
     flash very quickly. You can see the investment
18
     options for the same quarter. This was all sent out
19
     ahead. It's Variable A, shorthand, as of July 31,
20
     $11.3 billion. The asset allocation, we're talking
```

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21
     about rebalancing the fund, in executive session.
22
                 If you flip ahead to page 3, you can see
23
     the others. The Comptroller's Office mentioned July
24
     was a negative month in the equity markets, and this
25
     was no exception, down 1.93 percent net of fees in
0069
 1
     this option.
                   That's in between the two benchmarks,
 2
     and it was pretty broad based, ahead of the defensive,
 3
     positive. And that would bring, let's say the
 4
     calendar year to date return, 4.4 percent.
 5
                 And again, that has actually helped the
 6
     defensive composite, but it's hurt by lower
 7
     performance in international equities.
 8
                 So, then we move to the second similar
 9
     looking handout, July, for other investment options.
10
     The market value hasn't changed that much, so I won't
11
     read them all out loud. In the reports, the month of
12
     July, you can see that the bond fund Variable B was
13
     down 21 basis points, fairly close to the benchmark.
14
                 And the other investment options for the
15
     month on page 2 of that second handout, in July the
     international was down about 2 percent. Inflation
16
17
     protection was down 63 basis points. Socially
18
     responsive equity was down 2 and a quarter percent.
19
     Those are in line, roughly in line, slightly behind
20
     and a percent behind the benchmark, respectively.
21
                 Not a great month of July, but August as
     was previewed looks a lot better.
22
23
                 Finally, the report, for those new to the
24
     meeting, we call the Aaronson report, the preliminary
25
     monthly benchmark report. The good news, we presented
0070
 1
     the August flash and expect better results,
     particularly driven by U.S. Equities, and most of the
 2
     categories, the Passport investments, were at least
 3
 4
     flat, not into decent positive territory, but a month
 5
     led by the Russell 3000 being up over 4 percent.
 6
                 So, once again, I'll check for any
 7
     questions.
 8
                 CHAIRPERSON AARONSON: Anybody?
                 MR. LYON: Otherwise, that concludes the
 9
10
     Passport funds for the public agenda.
11
                 CHAIRPERSON AARONSON:
                                       Thank you very
12
     much.
13
                 We'll take a break. It is now half past
14
     11:00. Come back at a quarter to 12:00.
15
                 (Recess taken.)
16
                 (Time noted: 11:50 a.m.)
17
                 CHAIRPERSON AARONSON: Do I hear a motion
18
     to move into executive session?
19
                 MS. BEYER: So moved.
20
                 MS. VICKERS: Second.
21
                 MS. MARCH: I move, pursuant to Public
22
     Officer Law Section 105, to go into executive session
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23
     to discuss the purchase and sales of securities.
24
                 CHAIRPERSON AARONSON: That's been made
25
     and seconded.
0071
 1
     Any discussion?
     All in favor?
 2
     (A chorus of "Ayes.")
 3
    Any opposed?
 5
     We're now in executive session.
 6
 7
 8
 9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
0072
1
                  CHAIRPERSON AARONSON: Do I hear a motion
     to leave executive session?
 3
                 MS. MARCH: So moved.
 4
                 MS. VICKERS: Second.
 5
                 CHAIRPERSON AARONSON: Any discussion?
 6
                 All in favor?
 7
                 (A chorus of "Ayes.")
 8
                 Any opposed?
 9
                 The ayes have it.
 10
                 We are now out of executive session, and
      we will hear a report on what we did in executive
 11
 12
      session.
 13
                 (Whereupon, the board returned to public
 14
      session.)
 15
                  MS. STANG: In executive session of the
      variable funds, three manager updates were presented.
 16
 17
                  A presentation by a transition manager
 18
      about the variable fund rebalancing process was
 19
      received and discussed. Agreement was reached, which
 20
      will be announced at the appropriate time.
 21
                  In the executive session of the pension
      fund, there was a discussion of the infrastructure
 22
      program and the structure of BAM in general.
 23
 24
                  There was a discussion of portfolio
```

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25
     positioning versus policy targets.
0073
1
                  Manager updates were presented.
2
                  There was a discussion of the RFP process
3
    for an infrastructure consultant.
4
                  A presentation by an infrastructure
5
     consultant was received and discussed. Consensus was
 6
     reached, which will be announced at the appropriate
 7
     time.
8
                  Finally, there was a presentation and
 9
     discussion about BAM's plan going forward, and input
10
     into the plan was solicited.
                  CHAIRPERSON AARONSON: Thank you very much
11
12
     for that concise but great summary of what we did.
13
                  Before we take a motion to adjourn, I want
     to advise our board members, at our monthly meeting,
14
15
     Marc Katz's family will be in attendance. And we are
16
     going to have a resolution for the family in honor of
17
     Mark and his great contributions to the retirement
18
     system.
19
                  Do I hear a motion to adjourn?
 20
                  MS. WOLPERT: So moved.
21
                  MS. MARCH: Second.
22
                  CHAIRPERSON AARONSON: Any discussion?
23
                  (No response.)
 24
                  All in favor?
25
                 (A chorus of "Ayes.")
0074
1
                  Any opposed?
 2
                  The ayes have it.
3
                  Lunch is served.
 4
                  (Time noted: 1:34 p.m.)
 5
 6
7
 8
9
                   CERTIFICATION
10
11
                   I, Jeffrey Shapiro, a Shorthand Reporter and
12
     Notary Public, within and for the State of New York, do
13
     hereby certify that I reported the proceedings in the
14
     within-entitled matter, on Thursday, September 4, 2014,
15
     at the offices of the NEW YORK CITY TEACHERS RETIREMENT
     SYSTEM, 55 Water Street, New York, New York, and that
16
17
     this is an accurate transcription of these proceedings.
18
19
                   IN WITNESS WHEREOF, I have hereunto set my
20
     hand this 7th day of September, 2014.
21
 22
23
 24
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25