NEW YORK CITY TEACHERS' RETIREMENT SYSTEM
REGULAR BOARD MEETING
Held on Thursday, January 30, 2020
at
55 Water Street
New York, New York

ATTENDEES:
DEBRA PENNY, Chairperson, Trustee, TRS
PATRICIA REILLY, Executive Director, TRS
THADDEUS MCTIGUE, Deputy Executive Director, TRS
DAVID KAZANSKY, Trustee, TRS
THOMAS BROWN, Trustee, TRS
JOHN ADLER, Trustee, Mayor's Office
RUSELL BUCKLEY, Trustee
JOHN DORSA, Trustee, Comptroller's Office
NATALIE GREEN GILES, Trustee
VALERIE BUDZIK, TRS
LIZ SANCHEZ, TRS
SUSAN STANG, TRS
ROBERT BETHELMY, TRS
ANNETTE HANRAHAN, TRS
KAVITA KANWAR, TRS
NATARAJAN KRISHNAMOORTHY, TRS
ANTHONY MEZZACAPPA, TRS
ANDREW BRADFORD, TRS
CARMELA CRIVELLI, TRS
PAUL RAUCCI, TRS

ATTENDEES (Cont'd)
BRYAN BERGE, Corporation Counsel
SHERRY CHAN, Chief Actuary

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P R O C E E D I N G S

(Time noted: 3:40 p.m.)

CHAIRPERSON PENNY: Good afternoon, and welcome to the Teachers' Retirement System Board Meeting. Today is January 30, 2020.

Mr. McTigue, will you call the roll, please?

MR. MCTIGUE: Thank you, Madam Chair.

John Adler?

MR. ADLER: I am here.

MR. MCTIGUE: Thomas Brown?

MR. BROWN: Here.

MR. MCTIGUE: Natalie Green Giles?

MS. GREEN GILES: Here.

MR. MCTIGUE: David Kazansky?

MR. KAZANSKY: Present.

MR. MCTIGUE: Russell Buckley?

MR. BUCKLEY: Present.

MR. MCTIGUE: Debra Penny?

CHAIRPERSON PENNY: Here.

MR. MCTIGUE: John Dorsa?

MR. DORSA: Here, from the

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Comptroller's Office.

MR. MCTIGUE: We have a quorum.

We have one housekeeping item. We're going to the item under Report of the Actuary, evaluation of assets report. We're going to move that to under Other Business.

Thank you.

CHAIRPERSON PENNY: Thank you. Update on TRS operations, Kavita Kanwar.

MS. KANWAR: Thank you.

The 1099 form for tax year 2019 was mailed in January. TRS worked with Pfizer and issued 1099 forms for non-periodic distribution such as withdrawals and refunds.

Pfizer generated the 1099s on behalf of TRS for approximately 96,000 retirees and continuing beneficiaries who receive monthly payments. As part of this effort, TRS also sent an informational brochure to 3,516 new retirees who are receiving the 1099 form for the first time.

On December 30, 2019, TRS filed its

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June 30, 2019 form comprehensive annual financial report with the Government Finance Officers Association, with GFOA. The report is also available for viewing on the TRS website.

Thank you.

CHAIRPERSON PENNY: Thank you.

We'll go to the executive director's report; Mr. McTigue.

MR. MCTIGUE: Do you want to do the one item for the report of the Actuary, Ms. Chen?

MS. CHAN: Sure. My office is getting the valuations together for June 30, 2019, which is the fiscal year 2021 valuations, together. As we're doing that, we're also wrapping up the current fiscal year valuation.

So I just wanted to inform the Board of some upcoming changes to the contributions between the preliminary fiscal year '20 and the final fiscal year '20 contribution -- presenting in a couple of months or so.

This change has to do with the

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actual valuation method for the TDA fixed fund. The fixed fund assets between the QPP and the TDA fund are commingled, so they're invested together. And, as you know, the fixed fund has a guarantee based on if you're a UFT member or not, anywhere from 7 to 8.25 percent. That guarantee, the change has to do with how that guarantee is credited.

So, previously, this guarantee was treated as cash flow. So it hit the bottom line, meaning that all the returns of the commingled fund actually went to the QPP. And then, because the gains and losses of the fund are smoothed over 15 years, after you smooth it out, then you transfer that guarantee over to the TDA.

And when you do that, even though we earn 7 percent, it would yield a return of less than 7 percent, because you are transferring everything over to the TDA.

So, the change is now to assume that the fixed fund, that the return that it yields is actually the guarantee. So if it's a 7 percent return, then you would

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assume they earned the 7 percent; so that the fund actually earned 7 percent, there was no gain/loss that derived from it.

So, there is no incorrect way to do it, both of them are correct. But I did change it, because I felt that the way to change it so that the fund does actually not have a gain/loss, when it actually earns what it is assumed to earn; that is I feel more correct, because it is in the spirit of actual standards of practice. And I think it's a better practice to do it that way.

And there is pros and cons to both ways. And my predecessor actually changed from this way I'm changing it to the the new way he did; but he was wavering on which way was more correct himself. And there is no industry standard for this, just because there is no similar TDA plan, really, around the country to be a standard of how you do this.

So, I feel that this new way is more accurate. And what this means in dollar

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terms is that it's going to decrease the contributions by $140 million. This is because, again, the assets are going to be increased by about $1.4 billion. So this does, the good news obviously is that the fund ratio does go up. And it has a positive effect on the fund's ratio. And you will see this number in the finalized contribution for fiscal year '20.

So, it's very technical. I don't know if you have questions. I'm happy to answer questions you might have over this.

MR. ADLER: I have questions; but I feel like maybe -- I don't want to extend this meeting out by an hour or two. And really, that's a function of my limited actuarial knowledge. So I feel like -- I tried to write down everything you said, and I have lots of questions. I think I will hold off.

MS. CHAN: I'll be happy to meet one-on-one, too.

MR. ADLER: I might want to do that.

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Because everybody else, I'm sure, understands it perfectly.

MR. BUCKLEY: It's $140 million just for TRS?

MS. CHAN: Yes. So this issue obviously affects BERS as well. We didn't get to that agenda last night. Yes, they do have 8 and a quarter, and also, all the assets are smaller.

Mr. ADLER: One question. You said it would decrease contributions by $140 million. Is that for the current fiscal year or next fiscal year?

MS. CHAN: For 2020.

MR. ADLER: Current fiscal year.

MS. CHAN: Yes.

MR. ADLER: I'm sure that will be well received by my colleagues.

MS. CHAN: There will be other gain/losses. This one is the biggest one. There's another one we will talk about later.

MR. ADLER: Thank you.

CHAIRPERSON PENNY: Now, Thad.

MR. MCTIGUE: The next meeting. It

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has been suggested that the next regular meeting of the Teachers' Retirement Board be held on the fourth Thursday of the month, February 27, 2020. Please mark your calendars.

We have a resolution on for the Local 1180 class action settlement.

MR. KAZANSKY: Please skip to the resolves.

MR. MCTIGUE: "Resolved, that the Trustees of the Teachers' Retirement System hereby approve a modification of the fiscal year 2020 budget by increasing the agency budget in the amount of $114,582 to cover the back pay and attorney fee cost associated with the Local 1180 class action settlement."

CHAIRPERSON PENNY: Thank you.

Do we have a motion to approve?

MR. ADLER: So moved.

MR. DORSA: Second.

CHAIRPERSON PENNY: All those in favor?

Any opposed?

Abstentions?

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The motion carries.

MR. MCTIGUE: The calendar. We have on the calendar the approval of the following minutes: The December 5, investment meeting minutes; the December 18 CIM minutes; and the December 19 board

meeting minutes.
CHAIRPERSON PENNY: This is for the approval of December 5, December 18 and December 19 meetings.
Do I have a motion to approve?
MS. GREENE GILES: I need to abstain from the CIM minutes because I wasn't there. So I think we do need to vote.
CHAIRPERSON PENNY: Do I have a motion to accept the December 5 investment minutes?
MR. KAZANSKY: So moved.
CHAIRPERSON PENNY: Do I have a second?
MR. DORSA: Second.
CHAIRPERSON PENNY: All those in favor?
(A chorus of "Ayes.")
Any opposed?
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Any abstentions?
(No response.)
Motion carries for the December 5.
Do I have a motion to approve the December 18 CIM minutes?
MR. KAZANSKY: So moved.
CHAIRPERSON PENNY: A second?
MR. DORSA: Second.
CHAIRPERSON PENNY: All those in favor of approving the December 18 CIM meeting?
(A chorus of "Ayes.")
Any opposed?
Any abstentions?
MS. GREEN GILES: I abstain.
CHAIRPERSON PENNY: Noted.
Motion carries.
The December 19 board minutes?
MR. DORSA: So moved.
CHAIRPERSON PENNY: We have a motion.
MR. KAZANSKY: Second.
CHAIRPERSON PENNY: All those in favor of approving?
(A chorus of "Ayes.")
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Any opposed?
Any abstentions?
MR. BUCKLEY: I abstain. I was not at that.
CHAIRPERSON PENNY: Thank you.
The motion carries for that.
Now we'll go to other business --
MR. MCTIGUE: Do you want to approve

the calendar of items? There are a number of items on the calendar.

MR. KAZANSKY: Please waive the reading of the calendar.

CHAIRPERSON PENNY: Do I have a motion to approve the calendar items for January 30, 2020?

MR. KAZANSKY: So moved.

CHAIRPERSON PENNY: A second?

MR. BROWN: Second.

CHAIRPERSON PENNY: All in favor.

(A chorus of "Ayes.")

Any opposed?

Abstentions?

(No response.)

Motion carries. The calendar is good.

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Now, the Actuary?

MS. CHAN: I wanted to run over the valuation reports for you, to give highlights; 100 some pages, I'm not going to go over every single page. You guys might be asleep by then. You guys are familiar with this report.

So, this is the fiscal year '19 valuation report. And I guess I'll start off by saying what the actual valuation is, so you have a better idea of what the report summarizes.

The valuation basically is a snapshot view of how the health of a retirement system plan is. So, in order to get to the final number of how the financial health is, taking the temperature, we have to first collect the data from the retirement system.

So we get data such as when participants were born, when they joined TRS, what their salary is, and maybe what their job title is.

So once we get that data, we apply assumptions to it, such as how long do we

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think they're going to live, and how long do we think they're going to work until; and what is the probability that they may become disabled or might terminate their service?

And these assumptions are driven by obviously the behavior, but also the plan provision. So, based on TRS, when are participants allowed to retire? And if they became disabled after a certain age, so to speak, then what is their benefit amount?

So, we put these plan positions into our model, take the data and we load in our assumptions and calculate the liability. So, once we have the liability, we then ask the question of, How do you spread out this liability?

Because your pension, funding for, obviously, retirees and active members, future retirement is a very expensive expense. So you don't want to pay it all at one time.

So you want to not burden the taxpayers, so you pay a little bit each

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year. So you spread is out, usually try to spread it out over the lifetime they work.

So you can think about it as analogous to a contribution plan, for example. If you have a 401(k) plan, you're not expected -- when you graduate school and start your first job, you're not expected to put all your contributions in that one year all at one time. Each year of your career you put a little bit in.

And that's the same theory with the funding method for funding actuarial liability.

So once we have the liability, we take the numbers from the Comptroller's Office, we get assets from them. We don't take just the assets as is, because, for example, this year so far has been a stellar return year. Maybe next year won't be, maybe the following year may be negative. So don't want that volatility, because we want to make sure that the Mayor's Office is not having a

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heart attack and we're not pumping in contributions two times or three times what it was last year.

So we want to stabilize the asset value. So we apply the valuations to the asset value, and asset valuation method, and we smooth it out.

So once we have the liability, once we smooth the assets, we compare the two. So you have this amount of assets, this amount of liability that you need. Then you have a certain amount of assets set aside. So what is the leftover amount that you have to fund, which is the unfunded liability?

So you take the unfunded liability. And again, you don't want to hit taxpayers all at one time, you want to spread it out. So we amortize a bit, which is much like when you buy a house, you don't want to pay the whole mortgage cost at one time, you want to spread it out over 30 years 15 years. So we do the same with our unfunded liability.

And once we do all that calculation,

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that's when we come up with contribution dollars. So for TRS, it's about $3.7 billion, I think it is. Then we take the statistics and compare it to last year. We compare it to the last ten years maybe to see what the trend is. And we take the temperature and compare it to see how much of the liability is funded by the assets, the fund ratio.

And then, actuarial standards of practice, we also have a report of such things as potential risks that board members and trustees should be aware of. There's a risk section in the report, as well.

And also, the standard tells us that we have to report subsequent events. So, because this was done as of June 30, 2017, some things have changed since then. We disclose that in the report, just so you are aware of it.

So, that's kind of the high level of what a valuation is. And this is a fiscal year '19 valuation for the June 30, 2017 valuation date.

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So, if you wonder why that is, it's because we collect data as of June 30, each fiscal year. And then we calculate the contributions. This contribution is actually called a one year lag, because we put it for fiscal year '19.

And we do that because we want to make sure that once we have a valuation, we tell the City and all the employers, that the coming fiscal year, this is the amount that you have to pay each month.

So we do a preliminary valuation for them to know what to put aside for the next fiscal year. But then, before the fiscal year closes, we do another valuation to make sure that if anything changes, they can true up the amount.

So if you take real numbers into consideration, like right now we're doing the June 30, 2019 valuation, because that was the last fiscal year that closed. Those numbers are for fiscal year 2021, which means July 1, 2020, which is in five months, to June 30, 2021. So that's fiscal year 2021.

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And we do that because, again, I will be presenting the numbers to the Board in a few months so the City can start knowing what to pay starting July 2020 and in every month thereafter for the 12 months.

And then come following spring, about one year from now, I'm going to tell the City again the numbers, that if there's anything that changes, this is the point that we do need to finalize it.

So fiscal year '19 closed right before the end of the fiscal year. So after that, that's when I produce this report. You will see this report was actually done, issued on December 31 last year. And this is because this is only the second annual valuation report that was done for TRS, that TRS ever had. So this process is still new.

But the goal is in future years, the summer after the fiscal year is over, after the legislative session ends, this is when I will do the five reports for each of the five retirement systems.

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Any questions so far?

So, again, this will go much quicker. These are the sections of the report (indicating screen), hopefully you can see it, it's very small. You see in here the asset values, summary of the data that was used, plan provisions, the assumptions, the risk section, which is risk uncertainty.

And then there's a gain/loss analysis, and also a schedule of the funding process, which is a comparison of trends, to see how the funding health is over time.

So this is -- is there a way to enlarge this (indicating)? It's on the website, my agency's website, nyc.gov/actuary. You will find all five reports, including yours, this year and last year.

But you will see here -- for example, the liability is around $70 billion, let's say. And the assets are about in the 40s. So the unfunded is about $25 billion or so. And the funded

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ratio, if you include it on a market value of assets, it's around 72 percent.

CHAIRPERSON ADLER: In actuarial --

MS. CHAN: Actual funded ratio is 64 percent for June 30, 2017, which will go up. The contributions, like I said, $3.7 billion.

Also on here, it has the active member accounts. So TRS has 120,000 active members and 85,000 retirees. So there are more active members supporting retirees.

We have the liability numbers here (indicating), a graph of the liabilities and the assets. The blue bar is the approved liability. You can see it has been stabilizing. Some part of the reason is because of the Tier 6 introduction. You can see that it did increase from the prior years, but as the blue bar in later years, it is dated, not growing as fast, which is a good thing to keep in check.

The orange bar, the asset value, actual value of assets, the asset values

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that have increased over time. So the Comptroller's Office and BAM are doing a fabulous job.

MR. DORSA: So noted.

MS. CHAN: The gray bars is the difference between the two unfunded.

The orange line, dotted line, that's the funded ratio, which obviously is also increasing over time.

MR. ADLER: The actuarial funded ratio?

MS. CHAN: Yes.

So now we get into the asset section of the valuation report. And these are statements we get from the Comptroller's Office over time (indicating). And this is TDA and QPP.

The prior statements were directly

from the Comptroller's Office. This is just market value of assets. On this page you will see the actual value of assets. So we smooth the assets so you don't have the volatility in there. This is the long calculation that does it. If you want to follow it -- you derive every

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number that's on here from the information given.

Here is the chart. The green bar is the market value of assets (indicating). You can see the up and down that the market produces. And then the blue line is what smooths the value of assets. You can see it's much more smooth, not as much surprises that are mitigated, the unfunded.

I'm not going to go over every page. We start getting into the contribution section. And our contributions are derived, based on closed amortization; meaning that we don't go and re-amortize everything. We have a set schedule to fund down every single dollar, unfunded liability over time.

So this tells you, the $3.7 billion contribution, where these pieces come from; some of it is normal costs, some of it is gain/loss, some of it is assumption changes; and some of it obviously is admin expenses that TRS has over time.

Here it talks about how you fund

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down -- the unfunded liabilities. The gain/losses are funded over 15 years. Plan changes are funded over the remaining average service life of the actives. And then the assumption changes and method changes are funded over 20 years.

Again, this is much like a mortgage. You don't want to pay everything at one time, so you spread it out over time. And that's the schedule, if you are interested, of every single dollar of unfunded liability, what the original amount was, how much years it's supposed to be funded over how many remaining years there are, and what is the remaining balance.

You see a big drop in contributions in the year 2030-ish, 2031-ish, because we fund down the big package of assumption changes that Bob North had put through in the 2012 time frame. This included drops in the discount rate from 8 to 7 percent. It including changing the funding method from aggregate to --

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as well as mortality changes.

That was amortized over 22 years --

MR. ADLER: Question. Is that the projected date when it becomes 100 percent funded?

MS. CHAN: Well, barring any future changes --

MR. ADLER: Projected.

MS. CHAN: Gain/losses, all that. It doesn't go away. You still have funded basis. The underfunded basis are still other things, maybe -- but other assumptions changes. It's not -- to answer your question -- not necessarily does it take that long to get to 100 percent funded; because if the assets do really well, you can hit 100 percent funded tomorrow.

MR. ADLER: Understood. But a projection based on your assumptions.

MS. CHAN: Because this is the amortized. For example, if assets went up $25 billion tomorrow, it would be 100 percent funded. But that's not going to be recognized all at one time. So this

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is not an indication of funded status.

MR. DORSA: Question. When they introduce the 22 year smoothing, we were still only -- Tier 4 was the highest tier at the time. Has it been re-valuated since Tier 6 is there? And does that change the contribution stream? And theoretically, would another tier --

MS. CHAN: These are the bases of what the contributions are from, which is the gain/loss. The Tier 6 is baked into a different schedule. You can see Tier 6 more on this schedule (indicating), the blue bar, which has a liability. So because the liability is not climbing as fast as it was at a rate previous to that, that's the effective Tier 6; whereas this schedule is more of the contributions from gain/looses, which basically means that the demographic economy performed differently than what we assumed. That's another way to look at it.

It just says the City is paying in for TRS, and paying in what the Actuary

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certified, 100 percent. That's not the case in other place. This is a very good thing here.

And then the City rate is interesting. This is the contributions as a percentage -- the employer contributions, $3.7 billion, as a percentage of payroll. For TRS it's in the neighborhood of the upper 30s right now, it's 37.7 for 2019. This is just like an indicator of how much strain are you putting on the retirement system for the City plan sponsor, so to speak?

This is lower for BERS and NYCERS -- benchmark, in the 20s for them. For Police, because they have a lot more disability, it's in the 60s, about 67 percent. And for Fire, a lot more disability, they're actually over 100 percent.

MR. ADLER: We pay more in pension contributions to Fire than in salaries?

MS. CHAN: Yes; different conversation. But these are tracking numbers that the media looks at. There

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are articles out there that say, even -- for example, an article in the California plan. When their plan hit 50 percent, they were like, Oh, my gosh, the sky is falling.

So I will say that, if you look at the industry country-wide, that uniformed systems do tend to have higher rates, so to speak. We call them City rates here. They are just contributions over payroll.

And then we get into more slides that break down the demographic statistic liability numbers by the --

Charter schools are in here. We see the City as well on this page (indicating). The City and CUNY system are on here too.

This graph breaks it down. The chart breaks all the liability and demographic numbers down by the employers. So you can see the charter schools on the previous page; and this page, which is a continuation of the same graph, the same chart, the CUNY system, the City total charter schools.

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More statistics broken down.

This is the gain/loss. This is something my staff is going to continue developing, more fine tune. Right now the gain/losses are only by assets, asset gain/losses or liability gain/losses.

We're working on breaking down the liability gain/loss to different types of gain/loss. So out of liability gain/loss, what is attributed to mortality experience? What is attributed to people working longer than we think, which is retirement -- and termination or disability?

So we can actually track the liability gain/losses to see which assumptions are spot on, which ones should we refine and look into and tweak.

Again, this tells you the funded status over time and tells you the liability assets over time (indicating).

This gets into the risk section, which is the actuarial standards of practice number 51. That requires us to disclose what types of risk should the

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plan sponsor be aware of.

So I broke it down to -- types of risk, high risk, investment risk and mortality risk, all that. Medium type risks are interest rate risks such as doing asset allocation right now. If we decide that we need to lower the discount rate, what kind of risk would that have on the liability?

We can do the statistics here. If you lower the discount rate from 7 percent to 6 percent, it increases the unfunded by $7 billion and decreases the funded ratio by about 6 percent. So even one percent change in the discount rate has a huge effect on liability.

The lower type risks out there, like the contribution risk, the risk that in New York City -- I termed this as a low contribution risk, low type of risk, because according to a State statute, they still must pay what the Actuary certified. In other jurisdictions the governor or mayor might be able to get away with it.

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Intergenerational risk. If you fund too much now, you're taking away from future taxpayers.

Then we get into the plan provision section. This tells you, according to when you joined, what tier you are in, it tells you the benefits formula, it tells you what your FAF is, Final Average Salary, based on your tier. It talks about employee contributions, what they have to contribute in.

So all this gets programmed. This is basically a big mathematical formula for us. And we code it into our system, and that's how -- we take the data, we take the assumptions, and that's how we calculate the liability. I'm not going to go through that.

It talks about different types of benefits like service retirement -- disability benefits, all that, TRS.

It talks about, because everything, our plan provisions are written into State statute, we inform what type of changes have changed in the last five

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years. So these are just quoting the chapter law.

Subsequent events. Like I said, what happened since the evaluation date. So here we adopted option factors, it has no effect really on the immediate contributions into the plan, just the gain/loss, but a couple paragraphs about that.

And then we get into the assumptions and the methods that this board adopted about a year ago. If you've seen a table and are interested in it, this is the probability table loaded into your program (indicating).

So for each age, this is a table of the retirement probability. So at a certain age and, you either hit the first year of eligibility or second year thereafter, what is your actual probability of retiring?

We have a percentage for every -- in there. And so, if there's a determination, based on how many years of service you have, the likelihood you will

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actually resign.

So this all gets -- there's

mortality in here, disability in here. It all gets loads into Proval, our valuation system, to calculate the liability.
Then we have other stuff, like marital assumptions. What percentage of the population is assumed to be married? And if they're married, what's the age of the spouse -- based on you're a male or female. All that gets in there.
Toward the end you get a summary of the demographic data we receive. So, on top, 224,000 participants are active, retired or terminated, vested. And then it tells you what happened to them during the year. Do they die? Do they retire? Disabled? Do they go back from retirement back to active service? What happened to them, are they continued retirees?
So on the bottom is a reconciliation, beginning to end of the year, tells you exactly what happened to
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every person (indicating).
This chart breaks down that 228,000 people over the different years. The last bar is for the current valuation year. So out of 228,000 people, are they active, are they a retiree, or vested? So the yellowish, orange-ish bar on top are retirees. So there are 85,000, like I said, out of 228. And then the bottom number, the blue bar, is 120,000; so 120,000 active members right now.
The gray line, that's the ratio of active members to retiree members, that support ratio. And that's important because, as the plan matures, you're going to have more retirees supported, so to speak, by active members who contribute into the plan.
So the more mature plan, if this number gets too out of whack, a lot more retirees compared to active, it becomes a strain on the system, because those retirees are only supported by a fewer number of active members through their contributions.
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MR. BUCKLEY: What is an out of whack support ratio?
MS. CHAN: You would be concerned if it's more than one to one. If you

have -- Social Security for example is another issue where -- a flood of people immigrating into the country. If the birth rate is less and people are living longer, that ratio is becoming more of a strain. Basically higher numbers, like 2 to 3.

But this is 0.7 -- for TRS, so it's not a one to one ratio yet.

Again, average salary, number of actives on a male and female basis. You probably can't see it, but the average salary is broken down between male and female. And you will see that there's still a system gender pay gap here; even though TRS is mainly female. TRS is about two-thirds female and one-third male.

Then this breaks down the active population by tiers. So the green bar are Tier 6 members. So you can see for

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the latest valuations, they're about 25 percent, about a quarter. I did the math; 28 percent of the active population right now are Tier 6 members. The blue bar are Tiers 3 and 4. The little tiny bar at the bottom is Tiers 1 and 2.

The salary, looking at it over time. These charts are what are called age service charts. So the 120,000 active members are broken down by each age band and each service band by male and female, and into the whole; to see, do you have younger teachers, older teachers, more years of service or less?

Thi chart breaks it down by male and female and also by tier (indicating). This is the analogous chart, but for non-pensioners. So it includes -- in there too.

This is pensioners, breaks down their benefits; so how much is service retirement, how much is disability retirement, how much is the death benefit -- again, this is statistics for retirees (indicating).

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This is the last chart. This is the average pension benefit over time. It has climbed, and mainly it's due to the cost -- and because pensions are a factor of salary. Salaries have increased over time, therefore pension benefits have too.

Again, this compares beginning year to end of year; how many people went off the pension table, how many people were added on to it.

Glossary (indicating).

Any questions?

MS. GREEN GILES: Do you have disaster recovery for all systems?

MS. CHAN: I don't know if you follow us on Twitter, why you're asking?

MS. GREEN GILES: No.

MS. CHAN: Coincidentally -- just came to TRS yesterday for a disaster recovery meeting. We, as the Office of the Actuary, are revamping disaster recovery; which includes data security, it includes having an off-site location in case anything happens to our building;

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and to make sure there is continuity so work can progress and people are still getting their pensions, no disruptions. We are working to update that.

Again, if you guys want a hard copy let me know. I'll send a hard copy to you, looks like this (indicating). And soft copies are available on the agency website.

Thank you.

MR. DORSA: Thank you.

CHAIRPERSON PENNY: Any other business?

(No response.)

Questions or comments from the public?

MS. PATRICK: Hi, I'm Liz Patrick, I appreciate the opportunity to speak with you today. I have a very simple topic, compared to the actuarial report.

(Laughter.)

MS. CHAN: I try to simplify --

MS. PATRICK: I'm here today to ask you to consider expanding investor education workshops for the TDA program,

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to include both discussion of the Passport fund risk and return profiles, as well as basic asset allocation information for retirement.

Once a month I volunteer as a pro bono counselor for the financial planning association of metro New York. And in that capacity I had the chance to meet over a dozen New York City public school teachers, a tiny example compared to the size of your organization.

But most of them are there to get asset allocation advice for the Passport funds. And most of the teachers will say they really have had no prior investment experience. Very few people get financial education -- along the way.

And as a result, most of the selections made are very conservative, considering they still had 30 years to retirement. It wasn't uncommon for somebody to have a mix that was the inflation adjusted fund, the balanced fund, the -- equity fund.

But for someone who's 30 years old,

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30 years to go, they should have, in my view, be skewing more 90 percent towards equities and perhaps 10 percent into the fixed return fund, that you offer with 7 percent guaranteed return. You can't beet that.

So, this publication on the Passport funds is outstanding. It is very clear (indicating) about the objectives of the fund, the returns over time, fees involved.

But I think for people who never invested it is not so user friendly. And so, to the extent the number of workshops throughout the year could be increased, and if you could use some of the data in this publication to explain, here are the seven choices available to you.

I think particularly now, since you just changed the menu significantly, you deleted a fund, changed a manager, the socially responsive fund, we have a few added index funds. I think to anybody wondering, gee, which three equity options should I pick? They probably

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wouldn't understand the subtleties.

So I think if you were able to have more sessions per year, go through the Passport fund, talk about asset allocation for people with long -- to retirement; I believe the confidence would go up, participation would go up, and in fact the TDA balance would be very high by the time they retire.

So, this is a very sophisticated

group and a very simple request. So if you can point me in the right direction. I think teachers are awesome. They come in saying "I want to do the best I can for retirement. Can you help me look over my selections?"

Anything we can do to support them in their interest to plan for the future I think would be money well spent; and the hard part has already been done.

So thank you.

CHAIRPERSON PENNY: Thank you very much.

Are there any other comments or questions from the public?

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(No response.)

Then I'm ready to take a motion to adjourn.

MR. BROWN: So moved.

MR. DORSA: Second.

CHAIRPERSON PENNY: All in favor of adjourning please say "Aye."

(A chorus of "Ayes.")

Opposed?

Any abstentions?

(No response.)

We are adjourned. Thank you.

(Whereupon, at 4:26 p.m. the matter was concluded.)

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

I, Jeffrey Shapiro, a Shorthand Reporter and Notary Public, within and for the State of New York, do hereby certify that I reported the proceedings in the within-entitled matter, on Thursday, January 30, 2020, at the offices of the NEW YORK CITY TEACHERS RETIREMENT SYSTEM, 55 Water Street, New York, New York, and that this is an accurate transcription of these proceedings.

IN WITNESS WHEREOF, I have hereunto set my hand this 1st day of February, 2020.

JEFFREY SHAPIRO