NEW YORK CITY TEACHERS' RETIREMENT SYSTEM

INVESTMENT MEETING

Held on Thursday, December 3, 2020

Via

Zoom Videoconference

ATTENDEES:

DEBRA PENNY, Chairperson, Trustee, TRS

THOMAS BROWN, Trustee, TRS

DAVID KAZANSKY, Trustee, TRS

JOHN ADLER, Trustee, Mayor's Office

CYNTHIA COLLINS, Trustee, Mayor's Office

JOHN DORSA, Trustee, Comptroller's Office

SUZANNE VICKERS, Trustee, Comptroller's Office

NATALIE GREEN GILES, Trustee

RUSSELL BUCKLEY, Trustee

PATRICIA REILLY, TRS, Executive Director

THADDEUS MCTIGUE, TRS, Deputy Executive Director

VALERIE BUDZIK, TRS

LIZ SANCHEZ, TRS

SUSAN STANG, TRS

SANFORD RICH, BERS

SHERRY CHAN, Chief Actuary

STEVE YUAN, Mayor's Office

ATTENDEES (Cont'd)

SUMANTA RAY, Mayor's Office

ARISTEA AFTOUSMIS, TRS

DAVID LEVINE, Groom Law Group

ISAAC GLOVINSKY, TRS

ROBIN PELLISH, Rocaton

EMMA O'BRIEN, Rocaton

MICHAEL HADDAD, Comptroller's Office

JOHN MERSEBURG, Comptroller's Office

DANIEL HAAS, Comptroller's Office

KATIE PIRO

P R O C E E D I N G S

(Time noted: 10:03 a.m.)

MS. REILLY: Good morning. Welcome to the Teachers' Retirement Board Investment Meeting of December 3rd, 2020. I'm going to start by calling the roll.

John Adler?

MR. ADLER: I am here.

MS. REILLY: Thomas Brown?

MR. BROWN: Here.

MS. REILLY: Natalie Green Giles?

MS. GREEN GILES: Here.

MS. REILLY: David Kazansky?

MR. KAZANSKY: Present.

MS. REILLY: Russell Buckley?

MR. BUCKLEY: Here.

MS. REILLY: Debra Penny?

CHAIRPERSON PENNY: Here.

MS. REILLY: And Susannah Vickers?

MS. VICKERS: Here.

MS. REILLY: We have a quorum, and I'll turn it over to the Chair.

CHAIRPERSON PENNY: Good morning, everyone. And on the record, happy birthday to Thad McTigue and Natalie Green Giles. Very appreciative that you decided to spend your birthday morning with us.

(Talking over each other.)

First on our agenda is the Passport Funds. And we'll go to Robin or will we go to Emma?

MS. PELLISH: I think Emma can lead this.

CHAIRPERSON PENNY: Perfect. Emma is on from Rocaton. Thank you.

MS. O'BRIEN: Thank you.

Good morning, everyone. We do have a pretty tight agenda today, so we were planning to just hit the highlights in terms of performance for the month of October and preview what happened in November. We did include the September quarterly report in the materials, but not planning to go through that unless there's any questions, just given the time constraints.

Hearing none, we'll go on to the October monthly performance report. So just to spend a minute on what happened in markets in the month of October. At the November meeting we had talked about how there were two major themes that we had seen in the markets start to reverse in September and October, and we saw that continue through November. So, that value had finally started to outperform growth and small-cap had finally started to outperform large-cap.

October was an interesting month for markets. In the first half of October we saw positive performance from equity markets, and then we saw a sharp selloff in the second half of October as there were rising Covid cases and hospitalization rates. And we also saw the reinstatement of some lockdowns within Europe.

The S&P 500 had its worst week the last week of October since March, despite the fact that we had seen some strong economic results coming in. The S&P finished the month of October down 2.7 percent.

If you look at non-U.S. markets, so international develops, these lagged U.S. markets due to the fact that we had more serious Covid concerns. The U.K. and France had gone under stricter lockdowns during the month of October, and the international markets returned negative four percent for the month.

Emerging markets outperformed U.S. and international, mostly driven by Asia exposure, and emerging markets finished up two percent for the month of October.

Fixed income markets were relatively flat. As we saw, yields increased, but spreads tightened a bit to offset that yield increase.

So if you think about how that translates into your performance for the variable funds -- so if you're looking at the first page of the monthly report, the diversified equity fund was down about 1.8 percent for the month, beating the Hybrid Benchmark return of 2.2 percent and the Russell 3000 return of 2.2 percent for the month of October.

Looking at the underlying components of that -- equity composite, was in line with the benchmark. The defensive strategy composite was down about 60 basis points for the month of October versus 1.7 percent for the benchmark. And that was really driven by strong relative performance from your convertibles managers within that defensive composite.

Your active re-managed U.S. equity composites benefitted from having a small-cap value buy-in from that portfolio. It was up about 70 basis points versus the Russell 3000 Index return of negative 2.2.

I'd also add that as follow-up to the discussion we had two meetings ago, we're going to have two managers preside at the next portion of the agenda. And those are two active U.S. equity managers. So it'll be interesting to hear their views on active versus passive.

And then lastly, within the

international equity composite, down 2.15 for the month of October versus down 2.5 for the benchmark; so, continued strong performance from your international equity managers.

The balanced fund had about $512 million as of the end of October. It was down 74 basis points and was in line with the benchmark. As a reminder, the two underlying strategies within this balanced fund are index funds.

International equity fund had about $180 million as of the end of October. As I mentioned, performance continues to be strong from your international equity managers. They're outperforming the benchmark by over 300 basis points year-to-date.

The sustainable equity fund, down about 50 basis points compared to the benchmark return of negative 3.4, so outperforming by almost 300 basis points. This is a strategy that is underweight. Some of those large tech names that you saw sold off in the month of October.

And then lastly, your two equity funds, the U.S. equity index and the international index down two and a half percent each. Over the year-to-date period we have seen some tracking relative to the benchmark. This is due to some large cash flows that have occurred in March and as well in September, but the underlying index funds are performing in line with the benchmark.

So I'll pause there and see if there are any questions on October performance.

(No response.)

CHAIRPERSON PENNY: Any questions? No. Okay. I guess you're good to go.

MS. O'BRIEN: Okay. And then I just wanted to spend a minute on the November benchmarks report. So if you could open up that attachment.

November was a historically strong month for public equities despite the fact that there were rising Covid cases throughout the month of November. We also did get some positive news on the vaccine front from Pfizer and Moderna. And on top of that, markets reacted favorably to the U.S. election -- to the outcome of the U.S. election. The S&P 500 was up 11 percent in the month of November, which was the best November on record for the S&P 500.

As I noted earlier, we saw another month where value outperformed growth, small-cap outperformed large-cap, which should bode well for your diversified equity fund as we start to see performance results roll in for your managers. Value outperformed by over three percent in the month; still had a pretty wide dispersion year-to-date. Year-to-date growth is up 32 percent versus value, which is down one percent. Small-cap stocks, very strong performance during the month of November; they were up about 18 and a half percent, which outperformed large-cap by about seven percent.

We also saw a strong performance from international and emerging market equity markets. International markets were up 15 and a half percent in the month of November, and emerging markets were up 9.3. So a really strong performance across the board for equity markets.

So I'll pause for the performance in fixed income markets. The Ag was up one percent. Yields did not move materially and spreads did tighten a bit which contributed to that performance. And you can see how that translated into strong performance for the benchmarks within the variable funds.

So the Russell 3000 for the month of November was up 12.2 percent. The diversified equity fund, Hybrid Benchmark, was up 12.3 percent. If we go down to the international composite benchmark, up almost 14 percent for the month of November.

Any questions on November market performance?

(No response.)

CHAIRPERSON PENNY: No, guess not.

MS. O'BRIEN: Okay; great.

CHAIRPERSON PENNY: So then we're ready for the Vanguard presentation.

So, Liz, do you have to go let them in?

MS. PELLISH: Can I just make a couple of remarks before Vanguard and Wasatch present?

Emma just referred to the fact that this is intended to be a continuation of the report discussion that was held two meetings ago regarding active management within the variable funds. And as you may recall from that Board meeting discussion, there was a fair amount of data presented about active manager performance in general relative to index strategies, as well as the performance of the U.S. active composite within Variable A, which you may recall is about ten percent of Variable A today.

And I think during that presentation, the outperformance, the general outperformance, of index strategies versus actively managed strategies was clearly apparent in the data. The wide dispersion between growth and value, large and small, was very much apparent during that data. And I think one could reasonably argue that the data, the historical data, particularly over the past decade presented a fairly strong case for indexing.

So we thought -- and we've had discussions with TRS staff about this of course -- we thought that closing the discussion out with a fairly -- with the focus being almost exclusively on historical data might not be a full presentation of all of the relevant information.

So, what we thought might be useful for the Board is to hear presentations by a couple of the firms about what -- why the future might be different than the prior decade. Why secular changes as well as macro changes in the economic environment as well as the capital -- global capital markets might argue that active managers might offer a greater opportunity for additional return relative to index strategies.

So with that in mind, with a forward-looking perspective, we thought we'd be -- might be useful to invite a couple of third-party firms in to speak to the Board. The first is Vanguard.

Vanguard manages the compliance of the balanced fund today. And although everyone thinks of them primarily as an index manager, and they are one of the world's largest index managers, they also have a fairly large business in providing actively managed funds for investors, some of which they manage internally.

They manage quantitative strategies internally, but they have a big business in researching and retaining third-party managers which they bundle together inside of mutual funds to offer to retail and institutional investors. So they have an interesting, I think, perspective on both active and passive management.

The second presenter is Wasatch, which is a small-cap growth manager for the Board for the variable funds. And they certainly have an interesting perspective on opportunities, particularly at the small-cap and the U.S. equity market.

So that's really the -- that's the object for inviting these two firms in.

CHAIRPERSON PENNY: Robin, before they go on, could you just repeat that again?

So, we're talking about ten percent of our variable funds, and about how much money is that? Just so we are clear how much we're talking about.

MS. PELLISH: Emma, you probably have the document in front of you.

So today, the active composite today is 1.6 billion -- at the end of October, it's 1.6 billion of the variable -- of the Variable A funds, 15 billion.

CHAIRPERSON PENNY: Thank you.

MS. PELLISH: Any other questions before we invite Vanguard in?

MR. ADLER: Yes, we also have actively managed in the defensive composite; right? That 1.6 is in addition to the defensive composite?

MS. PELLISH: Yes, the defensive composite though, I guess, is a -- I separate that out although it's an important topic. But I think it's a different topic in that in the defensive composite, a small portion of it is U.S. equity.

There are convertible managers, there's Global PAA, there's some lowball at the U.S. equity, but it's much more of a mixture of a variety of strategies, which is our next -- will be our next topic once we finish the discussion on U.S. equity. So I think it's definitely actively managed strategies, but it's not dominated by U.S. equity.

MR. ADLER: Okay. Thank you.

MS. PELLISH: Anything else? Great.

I think Vanguard should be in the waiting room, Liz.

MS. SANCHEZ: They're in.

(The Vanguard people entered the meeting.)

MS. PELLISH: So, James Martielli is on the line, as is Valeri Boclair. So, maybe you could introduce yourselves, and the floor is yours.

MS. BOCLAIR: Great. Thanks so much, Susan, as well as Robin.

My name is Valeri Boclair, and I am a senior relationship manager at Vanguard and the primary contact for Teachers' Retirement and have had the good fortune to work with your organization for over two years at this point in time. And we thank you today for allowing us to talk to you.

Vanguard is actually headquartered in Malvern, Pennsylvania. We have over 19 global offices, close to 18,000 crew members, and over 30 million clients worldwide. We appreciate your continued confidence in Vanguard and your partnership with our organization.

Joining me today, as we had mentioned, is James Martielli. James is the head -- heads our Investment Solutions Department. And I'd love to let him give a little bit more detail on himself.

MR. MARTIELLI: Great. Thanks, Valeri.

So, again, thank you for the opportunity to present. My name's James Martielli. I lead a team of investment specialists that are really focused on creating custom portfolios and delivering evaluations to clients and their consultants.

Me, personally, I've been in the investment business for 25 years, and over 20 of those years have been really doing investment manager oversight and search. I've probably talked to thousands of investment managers over my career at this firm, at Vanguard, and another firm.

Robin and Emma have done an excellent job providing the background, so what I was hoping to do was take about ten minutes or so to give you a little bit of background on active.

And I don't know if, Robin or Emma,

if you do have the presentation and if you can share that --

MS. PELLISH: Everyone has the presentation.

MR. MARTIELLI: Okay. That's great. So I'll cue on the slide. So maybe after about ten minutes or so on slide 6, we have a couple of questions to pose. And I'd be happy to take any questions throughout. So if that sounds good with everybody -- I'm seeing at least one head nod -- why don't we just go to slide 2 (indicating).

So, Robin, thank you for providing some context. This is some of the context on Vanguard. We are not just an index manager, but the third largest active equity or active manager according to Morningstar. And about $670 billion is actually outsourced to third-party managers, 26 different managers, including some you're probably familiar with: Wellington, Schroders, Baillie Gifford, PRIMECAP. And we've been pretty successful over the years.

Over the last ten years, if you asset weight all of our composites together or all of the funds together, we've added 48 basis points over the last ten years, 170 over the last 20 years. So, we truly are agnostic when it comes to active and passive. It really comes down to what works best for the client.

So if -- focus on the presentation, if you just turn to slide 3. We try to boil things down into -- okay, if you're going to be successful in active management, like, what do you need to do?

Well, first, either you or your consultant needs to really identify talented managers. Of course that's not easy. Really, it's about identifying does the manager have an edge? It's not just about having a good manager 'cause it's a competitive world out there. So, do they have an edge? And do you believe that edge is sustainable?

I also want to note, you know, costs do matter. So it's not about finding the lowest cost matter -- or the lowest cost manager. By that, you know, Mr. Vogel likes to refer to as the tyranny of compounding costs. So the higher the cost, the higher the hurdle. So it is something to consider.

And then I want to spend a little bit of time on patience. It's a very easy word to say, but it's a very difficult thing to practice. So I just wanted to share with you a few different stats when it comes to patience. We've done a lot of research on this.

So, if you turn to slide 4, so, so what we did was we took over -- we took a look at all the active funds that are out there since 1995 through 2019 and said let's just take a look at the ones that throughout their entire performance track record, those are the ones that outperformed. So we're just looking at outperforming managers that have at least ten years of a performance history and they've outperformed.

So then we said, well, let's take a look at how that journey of performance looks like, and of all of those outperforming funds, more than half of them -- in fact 60 percent of them -- at one point in time were 20 percent behind their benchmark. I mean think about that. That is a very meaningful amount of underperformance. Yet over the course of their entire lifetime, they did outperform. More than half were also more than 20 percent beyond their median.

So I think one thing -- one takeaway is that -- in fact we actually wrote a paper about this -- it's the bumpy road to outperformance. So if you are going to go active, you have to have the mindset -- I always like to say the only thing you know for sure about active management is at some point it will underperform.

We also took another look at -- so that's kind of the magnitude, you know, the up and down magnitude. We also took another look at consistency. So, with a different study in 2019, we found that funds that have outperformed in a 15-year time period, over half of them had at least three years in a row where they underperformed. So, it's just setting the context for patience.

Then, one other thing that comes up is, shall we say, is this a really good opportunity in the market? What do our managers think? We have lots of different managers with lots of different styles. So if you turn to slide 5, we thought it would be interesting to just go through a couple of different quotes from a couple of different managers.

The first quote is from a value manager, a value manager we have been using for more than 15 years. And their perspective is, you know, "We're facing an environment where the spread between the cheapest stocks and the most expensive stocks are at record levels. We believe we'll be reaping the rewards with time. We've only seen only that in extreme crises that we've seen these type of disparities."

And then we picked a quote from a

growth manager. Again, another manager that we've had for more than 15 years. 'Cause I know there was some discussion on oh, gee, a lot of the very large companies in the index are really driving performance and growth. And according to this manager, "Some companies accelerate, others are shaken out, and we really aim to manage risk of distraction. We're really trying to find those exceptional companies. And with that in mind, we continue to search for companies that are disrupting the future and we own them in size, maintain conviction, and hold them for the long term."

So the reason why we showed both of these quotes is nothing is really obvious, I would say. There is always going to be different views and perspectives in the industry, and that's what really makes active management potentially rewarding. But it's also something that's not easy to do and not easy to enact.

So with that, I wanted to spend the

time on slide 6, and just pose a few questions to get you to think about well, you know, should we have active? Is now the time to move the passive?

I think, you know, in reading the transcript and the prep from Robin, it seems like these are some of the questions that are on your mind. I thought maybe a framework to help you think through this is, you know, more the active/passive decision. And then, well, is now the time to move? So kind of breaking it up into a couple of different categories.

So focused on the active/passive decision, any time you're going active, you have to believe that you have or your consultant has the ability to discern manager skill from luck.

Second, and from what I understand, it's not just about the managers you select, it's also about how you put them together, and do they have certain biases or tilts in the portfolio? Because -- and if they're consistent, based on the managers you select, then you are also implicitly making a bet on what's been termed in the marketplace, certain factors.

So I think I heard Robin say a little bit earlier that maybe you have some managers that will be focused on low volatility. Maybe you have some managers that are focused on value or smaller size. And if these are consistent tilts, then implicitly you are saying yes, we believe that these tilts will add value over the long term.

And then the last question from the active/passive decision, it's not just, you know, you -- this committee, it's the committee plus the stakeholders, whether they're your participants or whoever else your stakeholders might be. We showed some of those up and down, the bumpy road, if you will. Do you have the patience to endure those inevitable drawdowns with active management?

So, I thought maybe, Robin, I'll look to you for a little guidance. I thought maybe I would pause there just to see if there's any questions before we kind of move to the next set of discussion items.

MS. PELLISH: Sure.

Any questions for James?

MS. GREEN GILES: I guess -- it's Natalie -- I can't see myself right now but I assume you can see me.

MR. MARTIELLI: I can see you, Natalie.

MS. GREEN GILES: So, I like the way you're framing this, you know, we're sitting here, you call it stakeholders. We're fiduciaries, obviously, first and foremost, and so, what -- a couple of things you'd said. One is this seems very talent-dependent to me -- very much, you know, and to me that's also a very fluid asset on these firms, so, yeah, that's of concern, obviously.

And then, I just lost my second thought. I'm having a senior moment on my birthday. Sorry, I'll get back to you a little later.

(Laughter.)

MR. MARTIELLI: Well, Natalie, I can -- if you like, I can comment on something that you just said in terms of the fluidity of talent, perhaps was maybe the way that you put it? Yeah, just in our experience, that's probably one of the tougher things for active managers to do is that transition, right?

So oftentimes you might see maybe there's a talented group or team of managers. They are well -- they do well, they're successful. But then, what's the succession planning? And not a lot of managers do that well. And if they don't do that well, that could be one of the challenges if you're not grooming that next level of talent.

Related to this, it's maybe not what you were saying about talent, but that question of sustainability. You know, I always like to say assets are kind of the silent killer of outperformance. If you have, from a manager perspective, if you -- you also have to be careful and watch especially in areas that are capacity constrained, like micro-cap and small-cap. There does come a point where if you have too much in assets, that can be a sign that, well, maybe even if you do have the talent, you don't really have the flexibility to incorporate some of those ideas.

So these are all -- and there's lots of other things to consider for active management. Now, all that being said, we do believe that with a dedicated process with a focus on identifying and monitoring and having a full effort on that, it is possible. Like I said, we've been successful over the years, but it's not easy.

And the thing that we benefit, I think, from is, like, our board of directors kind of gets it. And, you know, our average manager tenure is 13 years. So, and it's very -- I mean, I can't think of the last time we've parted ways with a manager that hasn't been around for more than ten years. So, it's really like a top to bottom buy-in and mindset that, yeah, we're going to really focus on the drivers of those -- of performance and less so, the outcomes in performance.

So, I'll pause there.

Thank you, Natalie.

MS. GREEN GILES: Thank you.

MR. MARTIELLI: Any other questions on this?

MR. ADLER: I'd like to ask a question.

MR. MARTIELLI: Hey, John.

MR. ADLER: So, I wonder if you could distinguish between, you know, we're talking about U.S. equity, and it seems like different -- essentially that large-cap U.S. equity, where most of the money is, it seems much more difficult for managers to outperform than in the less efficient small-cap, maybe mid-cap, markets. And I wonder if you could comment on that.

You mentioned size in your second bullet, but it seems like there's parts of the market where it's really difficult to pick managers that are going to outperform consistently or over the long term, you know, versus small-cap where I think we've had more success. And I wonder if you can address that question.

MR. MARTIELLI: Sure. Thanks, John. We get this question often, and this is probably not going to be the answer you may expect. But in our experience, the difference between large-cap and small-cap is not necessarily that we see more managers, or it's easier, let's say, to identify manager in small-cappers and large-cap.

Really, the difference is in large-cap, the dispersion of outperformance and underperformance is narrower. The dispersion in emerging and small-cap is much larger. So, given that there's a bigger dispersion if you are successful in identifying an active managers in small-cap, you're likely to reap better outperformance. But if you take a step back and look at the entire universe of small-cap, it's not that more small-cap managers tend to outperform.

In fact, if anything, especially when you're looking at a net-of-fee perspective, given fees for small-caps tend to be a little higher, the overall universe overall probably tilts a little bit, more so underperformance. But -- so the rewards for identifying a good small-cap manager can be larger, but the -- just by sheer picking them out of a hat -- the sheer chance isn't any higher.

MR. ADLER: So, just to follow up then, if the dispersion is narrower, it seems that that would be an argument against active management, with the less dispersion can be. Because the reality is that even if you pick a winner, the likelihood is the winner is not going to get you that much alpha compared to a winner in the more dispersed -- is that the right word? I think so -- in a more dispersed --

MR. MARTIELLI: So I --

MR. ADLER: And that also in the

private markets where there's greater dispersion. But we're not talking about that today.

MR. MARTIELLI: So I would say a few things to build on that, John. Yes, if you -- let's just assume you have skill. If you do have skill, then you probably do want to employ that skill where you can add more value, net of fees. Of course, fees are higher in small so just, you know, just being mindful, being mindful of that.

The other thing to consider is, what is your net-of-fee outperformance expectation? And I guess something to keep in mind, it's more of a question for the committee, if I think I heard about ten percent of the portfolio? I know ten percent is the defensive strategy, but about ten percent are active U.S. relative to the entire one -- portfolio.

So, let's just say, if you were to, you know, say you can add, just hypothetically, a hundred basis points, which would be, net of fees, which would be, you know, I'm sure it would be top quartile. Ten percent of a hundred basis points is ten basis points to the overall portfolio. So I guess that's just some other consideration as you're looking at building this portfolio for your participants.

Thank you, John.

MR. ADLER: Thank you.

MR. KAZANSKY: I'd like to ask something about persistence, you know, as in what are your thoughts on how consistent the good managers are and how inconsistent they are?

MR. MARTIELLI: You're, again, you're asking all good questions.

In -- I guess we have not seen any persistence where, you know, a good manager, at least from a year-by-year standpoint, tends to be a good -- to be a good manager. There's probably more of that if you get into more private equity or venture capital where you tend to see a little bit more of that persistence.

But there's actually quite a bit of

-- and if you're -- I mean, to be candid, if you're looking at managers and trying to select managers just by looking at past performance, and you were just to select past outperformers, you would probably be much better off by just sorting the universe by high cost to low cost and picking out a low-cost performance randomly. You'd probably end up with a better outcome.

So it's another way of saying that there is not a lot of persistence. There is a lot of cyclicality. But there are, you know, that being said, we do believe there are some managers out there, and we've had some relationships with managers that go for decades -- that we will have the inevitable up and downs, but we do believe over the long term, they will outperform.

MS. PELLISH: So, James, I think relevant here, and I'm mindful that we're going to run out of time soon, I think one of the questions we've been talking about with the Board is the question of whether you think there's any reason to believe the next five to ten years are going to be different in U.S. equities than the prior ten years? And are you looking at managers with a different lens or thinking about multiple equity manager structures in a different way because of that outlook?

MR. MARTIELLI: Yeah, so, thank you, Robin. I know that's a nice segue into the timing. I mean, honestly, it's almost like the longer you do this, the more humble you become. And that we are still really trying to look for talented managers that are continuing to improve their investment process, understanding the market; and really looking for those managers that know who they are, know what they do.

And so the short answer is we're not suddenly saying well, we need to find managers that only do this particular style or that particular style. We think there's a lot of different approaches that can outperform in the long term. We do believe that all investment processes and styles will go in and out of favor. You know, diversification can be your friend here.

So, I go back to the quotes before, you know, depending on who you talk to. If you talk to a value manager, they might say, "Wow, these value spreads are best that I've seen in, you know, a long time." You talk to a growth manager, it's like, "Well actually, the world is changing a bit. These are properly priced, and we believe that there is actually growth opportunities here."

So, my guidance would be not just to think about this next step, but think about the step afterwards. So if you believe that, wow, this is a great opportunity. We should stick with this. And they do -- managers do outperform -- then what's going to happen the next time? And the time after that? So I would really just encourage you to think through the process itself as opposed to just the one decision. And maybe I'll just leave it there.

MS. PELLISH: So timing is tough, in other words.

MR. MARTIELLI: Nothing is ever easy. Yeah, timing is particularly challenging. So, we tend to just take an approach of let's have different views and approaches and combine them together and get some of the benefit of diversification, knowing that each style, each process, will have its inevitable drawdowns.

Any other questions? I'm not sure if time is -- if we're getting close to the end, but Robin, I'll take my cue from you.

MS. GREEN GILES: I also remembered the other part of my question, which is sort of --

MR. MARTIELLI: Go ahead, Natalie.

MS. GREEN GILES: Just in general, is there an expansion in this market? Like, what does this look like? Are there more and more boutique firms doing active management in the public markets, or is it more towards private equity for those folks?

MR. MARTIELLI: Yeah, it's -- I would call it more a hollowing out of the middle. So, you either have larger firms and then smaller firms. There's mid -- I wouldn't say mid -- call it hundred billion, 500 billion-ish range. They seem to be becoming a little bit more consolidated.

Yeah, there is more opportunities going with private equity as well, but that would be the way I would describe the trend; more so either larger firms that have multiple boutiques, or those smaller boutique firms, and the ones in the middle are becoming fewer.

MS. GREEN GILES: And I guess do you think that has any impact on anything?

MR. MARTIELLI: Well, I mean, I think maybe what you are asking, Natalie, is well, is it getting any -- is it getting harder or easier to outperform? Because if you have more people, more managers, then you have more competition.

If you have fewer managers, well, then maybe there's less competition.

So I think our take is it's not getting any easier. And if you think about the amount of information that's out there, the talent, the bar is always rising. And we're not at the point where there's such a shakeout where there's nobody left and there's so much value to add because there's only one active manager left, we're nowhere near that.

We are at a point where it's still, in our view, highly competitive and it's challenging, and we believe that will continue to be a challenging environment. Now, challenging does not mean impossible, but it is challenging. And we believe in all these challenging to add value.

MS. GREEN GILES: Thank you.

MR. MARTIELLI: You're welcome.

Any other questions or anything else?

MS. PELLISH: I think we have a few minutes, so if you have any concluding remarks, James.

MS. STANG: Can I ask one quick question? I know I don't usually. But you rightly pointed out the importance of fees in terms of compounding investment returns.

What's your thought about performance-based fees, and how that may or may not help people in our position? If an active manager is willing to go for performance-based fees, does that help the case for active management in any way?

MR. MARTIELLI: Thank you, Susan, for that. Interestingly enough, the majority of our active equity managers do have a performance-based fee. Now it's -- since they manage money for mutual funds, the amount of swing on the performance is, you know, a small or a portion of the base fee, but we actually are advocates. We do believe in that. So, again, all of our -- most of our asset managers do use that. It's interesting that it's not common, at least in the mutual fund industry.

So, I think on the margin that will -- that could be beneficial, but it, to me, it's more on the margin. It's not, just because a manager has a performance-based fee, won't turn a mediocre manager into a good manager. It may help on the margin, a good manager, you know, not get too greedy with assets because they know they have a performance-based fee. So, again, we are believers and we do believe it can be beneficial.

Any other questions?

If not, I can --

MR. YUAN: I have one last question. Sorry.

MR. MARTIELLI: Yeah, no worries.

MR. YUAN: I'd like to -- slide number 4, obviously, all manager underperform, to some extent, over their life. I'm just wondering from a statistics speaking, is there any time period we have to wait to see if we need to fire a manager? For example, may see the manager's underperformance or is there, like, any statistical analysis just say for best waiting period to make a decision?

MR. MARTIELLI: Yeah, I'm not going to have a great answer for you, Steve, because it's -- there is no, like, magic formula in terms of, you know, on average, if you have three years or five years or -- it is really an idiosyncratic decision.

Maybe I will say there are certain environments that are more favorable to active management overall than not. And those environments that are more favorable to active managers when the -- yeah, the largest, the megacap stock, the largest five or ten stocks, if they underperform or if the majority of stocks in the index outperform, that's generally good for active management.

If there's -- if you're a value manager, let's say, and your style is actually not in favor, that can be a little bit of a boost on average.

But again, going back to your question, Steve, we have not found an optimal guidance for parting ways with a manager after a certain period of underperformance.

MS. BOCLAIR: James, would it be fair to say, like, when we evaluate our active managers, we go with this Five P Philosophy where it's less -- the people, process, portfolio, performance.

I think a lot of times when we're looking at performance, and correct if I'm wrong James, but we're looking at their overall process. And is it understandable, is it sustainable, and is it proven? And are they following the guidelines that they're talking to?

And I think a lot of times when we're working with our active managers, you know, looking at what is the philosophy? Who are the people within the firm? Do they have a backup in place or a process in place should someone retire or leave the organization? Those are, like, critical things that we're taking into account.

MR. MARTIELLI: Yeah, that's right, Valeri. I mean, again, the guidance would be more to focus on the drivers, and Valeri mentioned a number of them: Philosophy, people, firm, process. And then the outcomes are, you know, what's the portfolio? What's the performance?

We've actually -- there are times where we actually add and have hired a manager where their five-year underperf- -- their most five years, they had underperformance. So, we really do focus on the drivers even though the performance is the one, you know, that's -- those are the outcomes. You have to really disentangle the outcomes from the drivers.

So, I think we might be close on time, if not, at time. Robin, I'm looking for a cue from you.

MS. PELLISH: Well, yes, I think we are. I defer to the Chair of the Board of the meeting, but I think we are at time.

Debra?

CHAIRPERSON PENNY: We are, we are.

Thank you so much for that very interesting presentation and for joining Teachers' Retirement System this morning. Thank you again.

MR. MARTIELLI: Well, thank you so much for the opportunity.

MS. BOCLAIR: Thank you.

MR. MARTIELLI: And if there's any other additional follow-up, we'd be happy to follow up and provide.

So thank you, everyone, and have a great day.

CHAIRPERSON PENNY: Okay. Thank you. You, as well.

(The Vanguard people left the meeting.)

MS. PELLISH: So, Liz, do we want to let in the Wasatch folks?

MS. SANCHEZ: I just let them in.

(The Wasatch people entered the meeting.)

CHAIRPERSON PENNY: Great.

Welcome to Teachers' Retirement

System Investment Meeting. Thank you so much for joining us.

Do you want to introduce yourselves?

MR. STOLFE: Absolutely. This is Chuck Stolfe. I'm the client relations manager for New York City Teachers. And with me is JB Taylor. JB is the Lead Portfolio Manager of the small-cap growth strategy that we manage for New York City Teachers.

CHAIRPERSON PENNY: Thank you.

Liz, are you able to put the presentation up so we can follow along with it?

MS. SANCHEZ: I provided Chuck and JB with cohost options so if they want to share their screen, they have the option. If not, I have the slide and presentation ready to go.

CHAIRPERSON PENNY: Okay.

MR. STOLFE: That sounds great. I think what we'll do is we'll take over and JB will share his screen so we can show the presentation, if that's okay.

CHAIRPERSON PENNY: Thank you, yes.

MR. STOLFE: Great. Well, we're happy to get started.

Should we jump right in?

MS. PELLISH: Please.

MR. STOLFE: Okay. I just want to -- well, thank you very much for having us. We always appreciate the chance to talk with our clients, and it's a great topic to talk about, active versus passive. So we're looking forward to talking with you today.

Just a quick reminder about who we are at Wasatch. So we are an active manager, and we focus primarily on the small and micro-cap public company space. So we invest in companies here in the U.S. and internationally. And for you, we do that through the small-cap growth portfolio that JB manages. And then we also manage a micro-cap value portfolio for you as well. So, we appreciate that trust you place in us to manage those assets for you.

We've been managing these assets and focused on the small and micro-cap space for 45 years. JB's been with Wasatch for 25 of those years. So we have a lot of history and a lot of experience understanding markets and understanding how we as active managers can look for opportunities where we can essentially outperform the passive benchmarks over the long term.

JB, in particular, has had probably more time than anyone else on the research team at Wasatch looking into what some of these opportunities are. And we've got some insights that we think are really interesting that we're sharing with you today.

So I'll turn it over to JB, and JB will go through our presentation.

MR. TAYLOR: Great. Thank you for the opportunity to present this morning and give some topic -- or give some thoughts on the case for active versus passive management. And, you know, I'd be the first to admit that if that is the topic before the court, let's say, you know, I'm the last thing that could be called an impartial witness.

So, I've spent the last 25 years as a stock picker on the ground; I'd say in the field, sifting through all different types of market opportunities. It's what we love to do, you know, sifting through opportunities, looking for just what are the best companies where we can harness growth over a long period of time and watch returns compound.

And so, I think I can make a couple cases today. One is that certainly an active manager with a disciplined strategy, the right incentives, and a long-term time horizon can beat passive benchmarks consistently. And that also I think I can make the case that, especially today, I would be wary of passively investing in one of these large benchmarks because of the way the market has set up, especially if an investor expects future returns to match what's happened in the recent history.

So, here's just one way that we look at why active managers, and an active manager like ourselves, has plenty of opportunity to beat the market (indicating) and beat the benchmarks. And we call this slide "Opportunities Always Exist."

What this is, is -- is this slide that shows for the Russell 2000 Index, so the best benchmark for the small-cap U.S. market, roughly 2,000 companies, it shows what percent of companies every year, going back for the last 30 years, have gone on to grow their revenues at better than a 20 percent clip over the subsequent five years. So at a compounded 20 percent growth rate, which is -- means these companies are more than doubling in a five-year period; just really great growth.

And what it shows you is at any time over the last 30 years, it doesn't matter what type of economic environment we've been in, you've had anywhere between, say, eight percent and 16 percent of these 2,000 companies go on to do this; and so 160 to 300 companies out of 2,000.

And when you're a long-only manager investing in a fairly short list, say 60 to 80 investments, with low turnover, you only need 10 to 15 new companies each year to invest in your portfolio. And so, 160 to 300 really fast-growth companies is an exciting opportunity to take advantage of.

And why it matters is that the returns from simply that high-growth group are phenomenal. So here are the rolling five-year returns for the last almost 30 years for every single year of just that high-growth group over the subsequent five years. And as you can see, you know, at a minimum, this group is getting a thousand basis points a year in extra performance versus the benchmark.

And so, you'd have to be perfectly clairvoyant to know exactly which are the future growers to invest in this group. But what it tells you is that there are plenty of opportunities to harness.

Now, it's worth flipping this -- the

last two slides on their head and thinking about how do they inverse? So if eight to 15 percent of the benchmark is consistently in these very fast growers that will have phenomenal returns, what is rest of the market doing?

And what it tells you is that there's about 50 percent of the index at any given time is growing less than five percent revenue growth over the subsequent five years. And the returns there are -- tend to be negative. And in fact the entire balance of the market, if you take the market outside of this high-growth group, trails the benchmarks consistently by about 300 basis points a year. So the market itself, just to create its returns, has to have this high-growth group.

So I think it begs the question -- you can invest in the entire benchmark which will give you access to that eight to 15 percent of the high-growth group, but in very tiny weights. But then you have to take all of the rest, which compounded negative returns or market trailing returns; or you can focus, as an active manager, on those companies that are doing something special over the subsequent five years and just focus what you know -- on what you know is going to be a high-return opportunity.

I think it's also worth thinking about, when you think about the benchmarks, how they're constructed. So, basically, the weights in the benchmark are using the market values today and -- which are generally representations of the current earnings power of companies. And investing in order to compound returns over long periods of time at phenomenal rates, you need to think about the future, and the benchmarks don't think about the future.

And so, it's why you get in the -- in the benchmark you'll have large weightings and materials companies, very slow-growth industrial companies, slow-growing banks. There's over 300 --

there's about 300 banks in the Russell 2000 Index. And as my partner likes to say, "If I can't, over a five-year period, pick a stock that can beat a slow-growing bank, you ought to fire me." And that's how we feel. There are just so many companies in the index that just are not interesting because of their slow growth, low quality nature.

There are -- something that most investors don't realize, that an investor investing in the Russell 2000 today is investing in an index that has almost 30 percent of its weight in companies losing money. Now, some of those companies are losing money because they're investing heavily in great growth opportunities and will be great growth companies in the future, but it's a small fraction. Most companies are losing money simply because they are poor companies that won't make money in the future.

And so an index investment is basically accepting that, whereas an active investment is more the idea of sifting through all those opportunities, figuring out which are the companies that have great growth; and really, if you think about going to where the puck is, not -- going to where the puck is going, not where the puck is today.

And so, that's how we think about the opportunity set and how the construction of the index and why we would never just settle for investing in all of these average companies that are in the market.

If you go to the next slide, (indicating) here's -- this touches on some of my thoughts and why I would be wary of investing in a broad market index today, especially if the expectations are that the forward returns match something that -- of what we've experienced in the past.

So here is a 20-year look at the fundamentals of companies in the Russell 2000 Index. And it's split into three parts: The growth of companies, the revenue growth of companies; how those companies are priced in the market; and then a metric of quality. So this is an ROA metric, but what to think about is the financial robustness of companies and their cash flows.

And what you've seen is over the last 20 years, which has been a great market return environment, so the Russell 2000 has compounded at better than eight percent over that 20-year period. But we've had really a regime change in terms of the fundamentals of companies in the U.S. economy, really with the pre-global financial crises era and the post-global financial crisis era.

And in the pre-GFC era, what you saw is we had higher growth. So companies, on average, in the U.S. economy in the small and mid-cap area, were growing on average of nine percent per year in terms of revenue growth. And in the post-GFC era, that growth rate has been lower. So there was significant dents to our economy that we've continued -- we've talked about sluggish recovery in the U.S. economy that's taken ten years, you know, prior to Covid kind of denting it again. And that's been a function -- you see that in these numbers.

At the same time, the quality of companies -- the average quality of companies in the U.S. economy represented by the Russell 2000 Index is significantly lower. The third chart at the bottom (indicating) where the average ROA is significantly lower than what it was pre-GFC.

But at the same time, and we can talk about the different reasons, probably lower interest rates, fewer investment opportunities elsewhere around the world, meaning the U.S. has been, still may be, the best house in the neighborhood. The evaluations of individual companies have continued to be richer, meaning that these companies are priced more dearly and have continued to be more expensive even though they've had slower growth and lower quality.

And so an investor today investing in the Russell 2000 Index -- the same comments can be made about many of the broad indices both in the U.S. and outside the U.S., is that an investor today in the index is getting a slower growing batch of companies that are more expensive and with lower quality and lower financial robustness.

Page 7 is really kind of a -- just accentuates this point even more. So this is the same 20-year view, and it really -- what it tries to do is it shows the continued compound effect of both the underlying sales growth of all these companies in the Russell 3000 -- so this is a broader look including large companies in the U.S. -- but then the effect that value -- what increasing valuations have had on stock prices.

So if you take the top of the dark blue line, that is the market over the last 20 years. And then what we've done is with the light blue line, we've indexed what the sales growth of companies in the U.S. has been over the last 20 years. And so as that light blue line continues to grow, you'd expect the market to grow, and the difference of steepness in that dark blue line would be how much of the return in the market has been simply because higher prices are being paid for the same stocks.

And so if you look back in that 2002 to 2007 period, the market was increasing, but the thickness of that dark blue line was pretty constant, which means that the returns from 2002, 2003 to 2007 were largely driven by sales growth.

You had the GFC period where the market dipped and the market dipped precipitously below that sales growth trend, which means the market was incredibly cheap, and then it rebounded. And what you've seen in slower growth in the light blue line since 2010, but really steep growth in the market, which tells you that it's just higher and higher prices being paid for the entire market over the last ten-year period.

Now, again, lower interest rates are probably the largest driver of this, but therein it begs the question, can this go on indefinitely? Probably not. And the way we think about it is that eventually fundamentals of companies have to drive stock market returns.

And so the -- we should expect, because of the slower growth nature that we see in the overall U.S. economy, we should expect lower returns generally. But that doesn't mean that there aren't still hundreds of opportunities each year in the Russell 2000 Index with much faster growth that will justify much higher prices of price returns going forward.

Wasatch -- these are a couple slides just showing that we kind of -- this is how we approach the market (indicating). If we compile a portfolio of companies growing much faster, then we believe that those fundamentals would justify a higher return to the benchmark. This just shows what our average growth rate of our portfolios have been over the last 20 years compared to the market. Ours is the higher line, and that's consistently resulted in better returns.

This is an important point of why active management is necessary to capture this phenomenon -- is this is a ten-year view of what happens if an investor simply went out and tried to buy the top decile of companies that had historically grown. So, this is what the forward one-year returns look like of a batch of companies that are in the top ten percent of all companies in terms of their last one-year revenue growth rate.

And what you see is it's that alpha, that all those negative numbers show that you can't simply buy, historically, the good growers and expect them to generate good returns going forward.

There are periods where it's worked. The last year has been a very growth-favored environment, and it has been over the last year one where alpha has been generated simply by buying the past growers. But generally, this does not work and we wouldn't expect it to work over long periods of time. What it tells you is if you can predict the growth, this is a chart that shows that what the one-year forward return is if you predict what the top decile growers are going to be over the subsequent year, the alpha is consistently very high. And it takes active management to do that.

Reminder, a benchmark can't take advantage of changes. In the environment, a benchmark can't take a situation like in Covid when, you know, there's a couple of aspects to that. One is when market prices are incredibly on sale, the benchmark doesn't have a long-term time horizon and doesn't think about how heavily discounted suddenly great companies are and isn't able to jump in with higher weights and buy those companies for the long term as we've done.

A benchmark can't anticipate where the puck is going in terms of big changes in the economy. Covid, in addition to the market stress that it placed on the system, it rearranged and potentially rearranged many segments of our economy that will look quite different two, three years from now.

And an active manager is thinking about those things, as we are, and about where the growth will be. And it's a tremendous advantage to not be held to historical ways, the way the benchmarks are constructed.

Similarly, a benchmark, each year in June, rebalances, and often those companies that get to be the highest weights because they performed the best, maybe just as they're about to break out and start to exert even larger competitive advantages on their industries of greater market share take, the benchmark cut those weights in order to resize the benchmark. And that's not what a good active manager would be doing. They might be adding to those weight as a company is getting even stronger.

The next couple charts are -- sneak a little bit to time horizon (indicating). And I think this is an important point, and I think we have to recognize that one person's short term is another person's long term or vice versa. So this is a chart that shows how our returns were from the third quarter of 2015 to around the summer of 2017, and we didn't look good, and so, over that period, about 400 basis points of annualized underperformance.

And I think about had we been onward and there's a new client in the summer of 2015, that client, you know, after two years would be saying, "Hey, we're expecting you to beat each year by 300 basis points, and we're underperforming by 400. You know, why did we do this, and what is your value."

And the case we made at the time for clients, and luckily many clients have known us for a long period of time and knew our strategy, is that we were compounding revenue growth inside our portfolio and earnings growth, meaning our companies were performing well. But things change in the market where maybe those -- maybe the market was enthralled with another sector of the economy. Maybe some of our companies were just simply taking a valuation break after a company's continued to build value.

What you find is that active managers tend to deliver their alpha in chunks, and it's not expected to be consistent every single quarter or even every single year. And so we showed at that time, over that two-year period, how here was the Russell 2000 sales growth over that two-year period, which roughly matched what the -- again, what the return of the Russell 2000 was. And then here was our sales growth over that two-year period, significantly better, even though our stocks at that point were not getting paid for that better sales growth in the portfolio.

If you fast forward to the

three-year period after that period, you see that all of a sudden the market kind of woke up to the exceptional growth that was in the portfolio and then started to value these companies higher and the returns showed up and more than made up for that period of underperformance with a 22 percent annualized return versus a four and a half percent return over that period.

And again, we can show that this return was generated and rightfully delivered because of the revenue growth in the portfolios, with our revenue growth over that period compounding at an exceptional 19 percent compounded rate.

Here again shows that -- on page 18 it shows that over the last three years, it's been revenue growth that has driven the outperformance of the portfolio. Whereas in the market, the return has been -- it has also been revenue growth driven, but it's because that revenue growth is so much smaller, on the returns have been less.

So all of this just gets to the point that an active manager, if they're focused on the fundamentals of individual companies, has plenty of opportunities to pick and choose from, and if they harness those opportunities, they should achieve results that are much better than the passive index.

Here are some slides that just show about how we're weighted in the market (indicating), and how an active manager might be weighted versus the Russell 2000. Again, it just speaks to how benchmarks are crudely constructed.

You know, 17 percent of the market is in financials. We have 23 percent of the benchmark is in others, which includes commodities, energy companies, slow-growing industrials, manufacturers. And where an active manager would want to be is in areas that are growing in the economy, like in tech and healthcare; in smart -- in tech-enabled industrial companies, in consumer companies where so much is changing in the consumer environment, where so much is being purchased online and no longer in brick-and-mortar stores. And an active manager can weight towards those growth areas of the economy. And that's been profound for performance. If you've been in the right sectors, you've been -- performed much better.

But that is really the -- kind of the basis of my active versus passive argument, that opportunities are so plentiful in these broad diverse markets that passive markets may not perform or passive investments and benchmarks may not perform quite as well as they have because so much of the last ten-year return has been driven by valuation increases and not necessarily by the fundamentals of the companies. And we expect that the fundamentals of the companies to be more or less similar going forward than they have been, but the valuation increases, we think, it's harder to argue that those will increase.

I'd love to open it up for questions

and see what you're thinking about.

CHAIRPERSON PENNY: Thanks.

Do any Trustees have questions? It was very interesting. Thank you so much. It made a lot of sense.

Questions from Trustees?

MR. ADLER: I have a question.

CHAIRPERSON PENNY: Mr. Adler, go ahead.

MR. ADLER: So, fascinating presentation, really great and appreciate that -- the returns that you've delivered for TRS.

My question is, you focus on the comparison to the Russell 2000 overall, but you are a growth manager and so you're -- those combinations include value stocks.

Could you, you know, obviously you don't have slides about it, but could you talk about how your metrics compare to the growth index, the Russell 2000 growth? Because when I see your sector weightings, it obviously includes a lot of value pieces, and I'm not sure how it compares to the growth index.

MR. TAYLOR: So it's a great question and good observation. So our growth is generally even higher than the Russell 2000 growth, with much higher quality. So that stat that I gave about the 30 percent of the Russell 2000 being in companies losing money, that's even in a higher percentage of the Russell 2000 growth. And we focus on companies that are growing quickly but generating cash flows while they grow, which is even a rarer set.

And so, this wasn't intended as a Wasatch, our strategy, necessarily versus the benchmarks. I was trying to make it active versus passive on discussion. But our metrics, we make the very same argument in terms of better fundamental growth, less reliance on valuation increases, and a focus on higher quality companies. That's always been the Wasatch process. All those arguments would be the same.

MR. ADLER: Can I just ask a

follow-up which is: You guys invest in the small-caps, and your -- it's my impression, I mentioned this before -- that small-cap is a part of the market where there are more inefficiencies that you can exploit as an active manager.

Do you believe that your thesis would apply as well to the Russell 1000 as opposed to the Russell 2000 or the larger cap part of the universe?

MR. STOLFE: It's a great question. I think as an active manager, when you talk about the Russell 1000, if an active manager is willing to hunt the entire 1,000 and willing to be truly active, yes, I believe this is true.

I do believe -- it's a great point, John. I would agree that as you go higher up the cap spectrum to, let's say, large and mega-cap, it's very difficult -- and I'm just speaking as an opinion of one -- and the way I think about individual companies and harnessing the growth of individual companies, it would be harder for me to get an edge on a company like Microsoft when I believe everyone's looking at Microsoft.

And -- but the real issue with active versus passive at that size is that -- I mean that -- and it's open to discussion of why don't -- because I don't want to overlook the fact that there's studies that show that active managers, on average, don't beat benchmarks. And it's worth digging into why that is.

And one of the reasons is there's many active managers that aren't active. They are playing not to lose as opposed to playing to win. And so this is a hard even presentation for me to give because the amount of time I spend thinking about the benchmark ever, is quite little.

And so, because I just know there's so many opportunities, and what I'm interested in is the next great company. But a large-cap manager, at five percent of the index, is at Apple, and they're thinking whether they own -- how much Apple they own, and even if they own five percent, they're just taking a market bet in Apple.

And that's just quite different than how -- so, long answer to your question, I believe that for the vast majority of the market, meaning that there are so many indices, that this approach is valid and this line of thinking is valid. When you go internationally, the number of companies that are available to invest in multiplies versus the benchmark.

I mean, there are just thousands and thousands of companies to invest in, in the smaller, medium, mid-cap sizes, and this is certainly the case. So barring, you know, excluding large and mega-cap, yes.

MR. ADLER: Thank you.

CHAIRPERSON PENNY: Okay. Any other Trustee questions?

(No response.)

All right. Robin, do you want to jump in for anything?

MS. PELLISH: No. I think that was a very interesting presentation and appreciate Wasatch's participation in the call.

CHAIRPERSON PENNY: Yes, thank you so much. It was very interesting. Okay.

MR. STOLFE: Well, it's our pleasure. Thank you for the opportunity and hope everyone's well and safe. Thank you.

CHAIRPERSON PENNY: Thank you. Thank you very much.

MR. TAYLOR: Thank you, everybody. Take care.

(The Wasatch people left the meeting.)

CHAIRPERSON PENNY: Wait. Who's in the room?

MS. SANCHEZ: MSCI.

CHAIRPERSON PENNY: We're still in public. So is there anything else in public?

(No response.)

And then we're ready to make a motion to leave public and go into executive?

Do I hear a motion to leave and go

into executive session?

MR. KAZANSKY: So moved.

CHAIRPERSON PENNY: Thank you, Mr. Kazansky.

Do I hear a second?

MS. VICKERS: Second.

CHAIRPERSON PENNY: Thank you, Susannah.

All those in favor, please say "Aye."

(A chorus of "Ayes.")

Any opposed?

(No response.)

(Brief discussion off the record.)

(Whereupon, the Board entered public session.)

CHAIRPERSON PENNY: We're back in public session.

Susan, will you please report out?

MS. STANG: Certainly.

In executive session we received a presentation from a vendor.

And then there was a discussion about next steps regarding how to use this presentation in other presentations and data and how it can be used to formalize a policy.

CHAIRPERSON PENNY: Thank you so much.

Anything else anyone wants to add?

(No response.)

Do I hear a motion to adjourn?

MR. BROWN: So moved.

CHAIRPERSON PENNY: Thank you, Mr. Brown.

Do I hear a second?

MR. ADLER: Second.

CHAIRPERSON PENNY: Thank you, Mr. Adler.

All those in favor, please say "Aye."

(A chorus of "Ayes.")

Great.

Any opposed?

(No response.)

Again, a very happy birthday to Natalie and to Thad.

And everyone stay well. Thank you so much. We're adjourned.

(Whereupon, at 12:56 p.m., the

matter was concluded.)

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

I, Jeffrey Shapiro, a Stenographic 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, December 3 2020, and that this is an accurate transcription of these proceedings.

IN WITNESS WHEREOF, I have hereunto set my hand this 11th day of December, 2020.

JEFFREY SHAPIRO