SBA FLORIDA
STATE BOARD OF ADMINISTRATION

Agenda
Investment Advisory Council (IAC)

Tuesday, March 28, 2023, 1:00 P.M.*

Hermitage Room, First Floor
1801 Hermitage Blvd., Tallahassee, FL 32308

1:00 – 1:05 P.M.	**1.**	**Welcome/Call to Order/Election of Officers/Approval of Minutes** *(See Attachments 1A – 1B)* ***(Action Required)***	*Tere Canida, Chair*
1:05 – 1:15 P.M.	**2.**	**Opening Remarks/Reports** *(See Attachments 2A – 2E)*	*Lamar Taylor,* *Interim Executive Director & CIO*
1:15 – 2:15 P.M.	**3.**	**Real Estate Asset Class Review** *(See Attachments 3A – 3B)*	*Steve Spook,* *SIO, Real Estate* *Townsend* *Richard Brown* *Seth Marcus*
2:15 – 3:30 P.M.	**4.**	**Asset Allocation** *(See Attachments)*	*Phil Kivarkis* *Katie Comstock* *Aon*
3:30 – 3:50 P.M.	**5.**	**Corporate Governance Review/Proxy Voting Guidelines** *(See Attachment 5)*	*Michael McCauley,* *Senior Officer, Investment Programs & Governance*
3:50 – 4:30 P.M.	**6.**	**Asset Class SIO Updates** *(See Attachments 6A – 6E)*	*Katy Wojciechowski, Fixed Income SIO* *Meghan Brown, Global Equity SPM* *John Bradley, Private Equity SIO* *Trent Webster, Strategic Investments SIO* *Dan Beard,* *Chief Defined Contribution Programs*
4:30 – 4:40 P.M.	**7.**	**Major Mandate Performance Review** *(See Attachment 7)*	*Katie Comstock* *Aon*
4:40 – 4:50 P.M.	**8.**	**IAC Compensation Subcommittee Update**	*Vinny Olmstead,* *IAC Compensation Subcommittee Chair*
4:50 – 5:00 P.M.	**9.**	**Audience Comments/Closing Remarks/Adjourn** *(See Attachment 9)*	*Chair*

***All agenda items and times are subject to change.**

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MINUTES
INVESTMENT ADVISORY COUNCIL
December 13, 2022

A hybrid meeting of the Investment Advisory Council (IAC) was held on Tuesday, December 13, 2022, via Microsoft Teams. The attached transcript of the December 13, 2022, meeting is hereby incorporated into these minutes by this reference.

Members Present:	Tere Canida Peter Jones Vinny Olmstead Peter Collins	Pat Neal John Goetz Bobby Jones Gary Wendt
SBA Employees:	Lamar Taylor John Benton John Bradley Dan Beard Mike McCauley	Tim Taylor Katy Wojciechowski Steve Spook Trent Webster
Consultants:	Sheila Ryan, Cambridge Richard Grimm, Cambridge Andre Mehta, Cambridge Phil Kivarkis, Aon Katie Comstock, Aon	Jay Love, Mercer Yasmin Ben-Yousef, Mercer Faraz Shooshani, Verus

WELCOME/CALL TO ORDER/APPROVAL OF MINUTES

Tere Canida, Chair, called the meeting to order at 1:04pm. Tere thanked the investment teams and SBA staff for all their efforts during a very difficult market environment in 2022. Tere then requested a motion to approve the minutes of the June 28th, 2022, IAC meeting minutes and the September 13th, 2022, IAC meeting minutes. Senator Neal moved to approve the minutes. Peter Collins seconded the motion. All in favor. The minutes were approved.

OPENING REMARKS/REPORTS

Lamar Taylor, Interim Executive Director & CIO, gave an update on performance. He commented that the Total Fund was down in response to markets and interest rates adjusting, and it was down 9.1% overall and about 63 bps behind target. He stated inflation is in line with expectations and seems to be moderating.

Lamar provided an update on the Actuarial Assumptions Conference and stated the conference reduced the assumed rate of return to 6.7%. Lamar provided an update on staffing and introduced the SBA's newly appointed Chief Operating & Financial Officer, Chad Foote; and Lamar also introduced the SBA's newly appointed Senior Operating Officer of Human Resources, Amy Pacey. Lamar gave an update on recent compensation initiatives and provided an update on legislation. Lamar Taylor answered questions from Senator Neal regarding BlackRock, the Incentive Compensation Plan, and legislation on alternatives.

Vinny Olmstead, Chair of the IAC Compensation Subcommittee, provided a brief update on the September 6th, 2022, IAC Compensation Subcommittee meeting. He stated the major theme of the discussion was retaining the right people, and that Lamar would conduct additional research with his team and Mercer and return to the Subcommittee with their recommendations in January. A letter to the Trustees would also be drafted and reviewed at the January meeting. Vinny expressed the importance of retaining the right people and ensuring they are compensated appropriately in order to continue performance.

STRATEGIC INVESTMENTS ASSET CLASS REVIEW

Trent Webster, Senior Investment Officer of Strategic Investments, gave an overview of Strategic Investment's policy objectives; the role of Strategic Investments in the Total Fund; and briefly discussed the Strategic Investments structural review that was underway. As of the end of the third quarter of 2022, Strategic Investments had a net asset value of $20 billion in its portfolio with another $5.5 billion in unfunded commitments, and the asset class made up 11.7% of the Total Fund. Trent also discussed Strategic Investment sub-strategies; performance; funds in the pipeline; debt allocation within the portfolio; and flexible mandates. Trent answered questions from IAC members.

Andre Mehta, Cambridge, briefly discussed strategies and sub-strategies in the Strategic Investments portfolio and provided an example of the positive correlation between stocks and bonds to emphasize the importance of Strategic Investments and the effort that has been put in to finding diversification and risk reduction effects.

Richard Grimm, Cambridge, discussed that there had been a dramatic rise in rates in 2022, which was increasingly attractive for investors within private credit; however, it would be harder to service debt for existing borrowers and suggested considering a shift to more direct lending over time. Richard answered questions from IAC members.

STRATEGIC INVESTMENTS ASSET CLASS STRUCTURAL REVIEW

Faraz Shooshani, Verus, gave a brief introduction and explained that Verus had been engaged to conduct a review of the structure and implementation of the Strategic Investments portfolio. He stated the primary questions Verus considered during their review were whether the portfolio was implemented effectively, and how the portfolio would be constructed today if it were a new portfolio. Verus recommended that the Strategic Investments portfolio should have a formal role as a diversifier and recommended lowering the return threshold to CPI+2 to fulfill that diversification role.

Verus believed the CPI+2 return threshold would be appropriate for Strategic Investments assets if following their additional recommendation to reallocate private equity assets into the Private Equity portfolio and combining the real assets with Real Estate. There was discussion between IAC members, Trent Webster, Lamar Taylor, and Faraz Shooshani regarding reclassifying assets, creating benchmarks for remaining strategies in the Strategic Investments portfolio, and the recommended CPI+2 benchmark for Strategic Investments. Faraz provided results from an optimization exercise which mapped out various asset classes that are within the Strategic Investments portfolio and the FRS overall and stated that a higher Sharpe ratio would be achieved by reallocating the private equity and real assets within the Strategic Investments portfolio as recommended. In summary, Faraz reiterated Verus' recommendations to optimize the diversification role for SI; optimize the overall portfolio with exposure to equity, which would result in a better risk return profile overall; keep the implementation benchmark; and implement a benchmark for Strategic Investments of CPI+2 or higher.

Richard Grimm, Cambridge, discussed that there was a dramatic rise in rates and peak leverage ratios in 2022. He then provided Cambridge's recommendations to increase the Strategic Investments allocation from 12 percent to 20 percent; prioritize diversification over return-seeking/maximization by emphasizing debt and diversifying strategies which would reduce SI exposure to equity risk; consider larger strategic relationships and co-investments to gain better fees and terms and create differentiated opportunities; and consider evergreen and SMA structures when appropriate.

Sheila Ryan, Cambridge, briefly reviewed the results from an asset allocation analysis specific to the asset class and stated that by increasing the SI allocation to 20 percent at the expense of global equities, there would be an improvement in overall return and risk profile, and a higher Sharpe ratio. She also reviewed the recommended asset allocation movements that were used in the analysis to achieve this result.

Richard Grimm, Cambridge, noted that Cambridge advocated for an increase to private credit; discussed diversification; and discussed the benefits of direct lending.

Andre Mehta, Cambridge, discussed the benefits of diversification. Sheila Ryan elaborated on this topic and reviewed some fund structure considerations, which included adding more evergreen structures, more separately managed accounts, and incorporating co-investment overflow vehicles. Sheila discussed the benefits of each. Andre discussed that Cambridge recommended reconsidering the use of a CPI plus a spread benchmark in strategic assets; and discussed how private credit is attractive and should be able to outperform public market equivalents in the credit space.

Following discussions between Lamar Taylor and IAC members Tere requested a motion to consider increasing alternatives to 30 percent of the Total Fund. At the March 2023 IAC meeting, when reviewing asset allocation, the SBA would present more information and recommendations on diversification. Senator Neal seconded the motion. The motion was approved.

ASSET ALLOCATION RESULTS

Lamar Taylor, Interim Executive Director & CIO, began by providing a contextual analysis on asset allocation that would aid in the consideration of the range of options that would be provided by Aon around risk return. He discussed membership in the pension plan; payments going out of the plan; where the plan fits relative to the five large public pension plans in the country in terms of maturity and net cash outflow, and how that plays into the assumed rate of return; and path dependency.

Katie Comstock, Aon, summarized the key takeaways from the prior discussion around the Asset-Liability Study. She discussed that Aon would be presenting the results of their Asset Allocation Review and would provide options for the IAC's consideration that could improve risk adjusted returns. Katie explained that Aon, in conjunction with the SBA's investment team, conducted a largely quantitative analysis following the September 2022 IAC meeting, and they found that there is an opportunity to improve risk-adjusted return. Options to improve risk adjusted returns included lowering Global Equity in favor of other alternatives or bonds; aggregate fixed income over Intermediate Aggregate fixed income; improved risk-adjusted results driven by greater long-term targets; and increasing the cap on alternatives.

Phil Kivarkis, Aon, discussed that the goal of the analysis was to review from the total plan context how the portfolio shifts, which could subtly enhance the portfolio build. Phil provided an overview of Aon's process of analytics and discussed that several ranges of portfolios would be presented so that the risks and rewards associated with each could be examined. Phil provided a summary of the results of the three analyses that were tested and studied, which were: 1) diversify within the 18% alternative cap; 2) maintain the same 18 percent alternatives cap from the first analysis and add in the asset classes; 3) increase the alternatives cap to 26 percent.

Katie Comstock then provided a summary of repackaged information to show possible effects of moving from the current policy to one of the allocations on the provided curves. A discussion between IAC members, Katie, Phil, and Lamar followed regarding Aon's analysis and next steps. Tere Canida requested that the SBA reserve more time for the discussion on asset allocation at the March 2023 IAC meeting.

FIXED INCOME ASSET CLASS REVIEW AND SECURITIES LENDING

Katy Wojciechowski, Senior Investment Officer of Fixed Income, discussed that although the asset class was not return seeking there was return in Fixed Income, and that the asset class had provided almost $3 billion in liquidity in the past year. Katy noted that Fixed Income's makeup did not change with benchmark. Katy discussed coupons; Fed funds futures; agg versus intermediate agg; and performance. Katy also briefly discussed securities lending and expanding the use of external managers to multi-asset credit, and actions taken following the expansion of the Fixed Income risk budget. Katy also gave an overview of positioning; volatility and active risk; and liquidity and yield. Katy noted that she would anticipate discussing moving to full agg at the March 2023 IAC meeting.

Jay Love, Mercer, discussed governance and stated the program is running well and that staff have an appropriate level of flexibility. Jay indicated that the plan is more conservative and uses more passive management than its peers and recommended using more active management for Fixed Income. He also stated active risk levels are not high and Fixed Income could consider taking on more active risk. Jay also discussed performance relative to peer groups and the external portfolio.

Yasmin Ben-Yousef, Mercer, further elaborated on the passive/active management split. She also stated that Fixed Income would be adding new core managers.

ASSET CLASS SIO UPDATES

Tere Canida requested that each SIO provide the most important things that the Council should be aware of for their asset class instead of a full review.

Steve Spook, Senior Investment Officer – Real Estate, discussed interest rates, valuations, and transactions. He stated that returns were strong through the 2nd quarter and the benchmark was up 28 percent.

Tim Taylor, Senior Investment Officer – Global Equity, discussed that the markets continued to be more volatile and that there would be increasing interest rates and fluctuating inflation. The reserve central banks would likely begin to tighten aggressively as needed which would call for more active management. He stated the asset class is working to ensure it is comfortable with all of its internal/external strategies and diversified. He also discussed performance and recent activities.

John Bradley, Senior Investment Officer – Private Equity, discussed that activity continued to slow in the third quarter as rising rates and stock market volatility weighed on deal flow. Fundraising continued to slow as well and was down 20 percent in the third quarter. Ventures were down 10.7 percent for the year and cash flows remained positive. Performance remained strong and was positive over all time periods listed in John's slides, and was especially strong over the three-, five-, and ten-year time periods.

Dan Beard, Chief of Defined Contributions Programs, stated assets as of market close on December 12th, 2022, were at $3.3 billion and had increased by $1 billion since September 30th, 2022. He briefly discussed plan membership and stated that there was positive performance.

Mike McCauley, Senior Officer of Investment Programs and Governance, discussed that there continued to be a dynamic regulatory environment and discussed a recent final rule from the SEC regarding executive compensation, and a final rule from the Department of Labor regarding fiduciary duty on pecuniary issues. Pass-through voting continued to be implemented and was up about 99.5 percent in terms of votable assets. Mike also provided a brief summary of third quarter voting statistics which had been stable.

MAJOR MANDATE PERFORMANCE REVIEW

Katie Comstock, Aon, provided a brief overview of the performance of the Pension Plan, the Investment Plan, the Florida Hurricane Catastrophe Fund, and Florida PRIME.

AUDIENCE COMMENTS/PROPOSED 2023 MEETING DATES/CLOSING REMARKS/ADJOURN

There being no further questions or items for discussion, the meeting was adjourned at 5:04pm.

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Tere Canida, Chair

Dated: March 13, 2022

Investment Advisory Counsel

Compensation Subcommittee Meeting

December 13, 2022

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STATE BOARD OF ADMINISTRATION

INVESTMENT ADVISORY COUNCIL

COMPENSATION SUBCOMMITTEE MEETING

DATE TAKEN: Tuesday, December 13, 2022

TIME: 1:00 p.m. to 5:04 p.m.

PLACE: State Board of Administration
1801 Hermitage Boulevard, Suite 100
Tallahassee, Florida 32308

This cause came on to be heard at the time and place aforesaid, when and where the following proceedings were stenographically reported by:

JANE FAUROT
Registered Professional Reporter

JOB NO.: 226486

APPEARANCES

IAC MEMBERS:

Peter Jones (via Teams)
Tere Canida
Gary Wendt (via Teams)
Vinny Olmstead
Bobby Jones (via Teams)
Pat Neal
John Goetz

SBA EMPLOYEES:

Lamar Taylor, Interim Executive Director & CIO
John Benton
John Bradley
Dan Beard
Mike McCauley
Tim Taylor
Katy Wojciechowski
Steve Spook
Trent Webster

CONSULTANTS:

Sheila Ryan (Cambridge Associates)
Richard Grimm (Cambridge Associates)
Andre Mehta (Cambridge Associates)
Katie Comstock (Aon)
Jay Love (Mercer)
Yasmin Ben-Yousef (Mercer)
Faraz Shooshani (Verus)

I N D E X

Proceedings began at 1:00 p.m.:

MS. CANIDA: Thank you. We'd like to call the meeting to order. The first thing I want to say is, as the year end approaches, I want to thank the investment teams and the SBA staff for the work and all their efforts during 2022 in a very difficult market environment. So, thank you.

With that, I move -- we have two sets of minutes in the book, June and September.

MR. NEAL: Moved, Madam Chair.

MS. CANIDA: Thank you. Is there a second?

MR. COLLINS: Second.

MS. CANIDA: All in favor?

(Vote taken.)

MS. CANIDA: Thank you. With that, I'll turn it over to Lamar.

MR. TAYLOR: Thank you, Madam Chair. And thank you to the committee members who are here and on Teams joining us. We've got a pretty long and I think very interesting agenda today, so I'll try to keep things relatively short, although there is a good bit to kind of keep or bring folks up to speed on.

Compensation Subcommittee Meeting
December 13, 2022

So, I guess the first thing, we'll just start out with the sort of performance markets as usual. So we're down as a total fund. Not surprising. Again, you know, in response to where markets are and where interest rates are adjusting and that's just sort of revaluing cash flows going forward. That's still working.

We're down about 9.1 percent overall, which is about 63 basis points behind target. Now, we've always said a lot of that is sort of embedded in some of the private market valuations which may adjust over time.

Interestingly, I think we did have some good news, or relatively good news this morning with the latest inflation print, which is still up, but not as -- I think in line with expectations and seemingly moderating some. So that's good. And then we'll kind of see what happens, I guess, tomorrow with the Federal Reserve. We'll see what the Federal Reserve does tomorrow. So an interesting outlook for the markets.

One thing that has happened since we last met was the actuarial assumptions conference,

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which is an annual exercise, and we participate in that by weighing in with some of the assumptions used in calculating the contribution rates. So myself, John Benton, Aon, and Milliman were involved there.

I'm happy to report that the assumptions conference continues to be conservative and reduced the assumed rate of return, again, from 6.8 percent to 6.7 percent, which is good news for us because when they do that, that results in more funding, additional contributions into the plan. This was despite the fact that given current market valuations and sort of being in this valley of valuations, forward-looking rates of return seemed to be fairly optimistic.

I think one of the things that we wanted to make sure that the assumptions conference had a firm grasp on was some of the structural challenges that the plan faces on a go-forward basis, and I'll talk a little bit more about that later in the meeting today before some of the asset allocations introduction later in the meeting.

Staffing. We continue to -- it's a mixed bag. We continue to find success in other

areas. We continue to face challenges in others. I'm happy to report that we've hired a new chief operating and financial officer, Chad Foote. And, Chad, if you'll stand.

Chad comes to us from Galliard Capital Management in Minneapolis. He was their chief operating officer. He has a CPA license and he worked with Price Waterhouse Coopers before Galliard. I think he was 20 years with Galliard. And so we're excited to have him on board.

We've also filled our head of human resources, Amy Pacey. She came to us from Florida Cancer Specialists, and then Lovelace before that. More than 20 years in the human resources business at large, large organizations. So another key position that we were able to fill. So that's good.

We do continue to see staff leaving in other areas, some of our line staff interestingly enough. Some of our accountants and back-office folks are getting poached from the private sector. So State Street and some others are looking to us to feed their talent pool, which is challenging for us, but I'm happy to -- it's somewhat, you know, nice to be a source of talent for some really large organizations.

And then along with that front, and as you all were aware, back in September the IAC compensation subcommittee tasked me with taking a look at the compensation, making sure that we're on target where we need to be to make sure we're able to recruit and retain talent as we need to.

I worked with Mercer to put together some information which I sent to the IAC subcommittee and the rest of the IAC earlier this month. I regret that I didn't get it put together in time for it to be on this agenda, but I think Vinny will give us a little bit of an update on that later in the meeting as well.

Legislative -- legislation. So we are -- there is currently ongoing a special session as we speak this week relating to the Florida insurance market and the Florida Hurricane Catastrophe Fund, which is a mandate that we oversee. Our staff and the Florida Hurricane Catastrophe Fund has been working very, very diligently over the last couple of weeks with

our trustees and with legislative staff to craft a solution which would be helpful -- temporary. And I think it would be very similar to what was passed in the previous special session where we're kind of lowering the retention for a temporary period of time to provide some relief in the market while more substantive reforms, particularly in litigation reform, are sort of a part of the package which we hope will stabilize the insurance market for a much longer term and bring some capital back in. So that's ongoing currently.

Soon we'll be talking about sort of the regular session legislative topics and priorities, and we do have some requests there that we'll be trying to push ahead. So, you know, as we mentioned before we want to revisit the effort to increase our alternative investments cap. You know, we've talked several times about that now. It's currently at 20 percent. We would like to see it moved to 30 percent.

We continue to be above that cap, so we are constrained in terms of our ability to continue to allocate additional investments into that space. Hopefully we'll be successful this time and kind of give us some headroom and some ability to allocate into that space going forward.

We also have a number of cleanup provisions, just what I would kind of characterize as modernization provisions that clean up certain aspects of a very old statute. It's getting rid of terms like stock and replace them with equity.

We also want to kind of provide us some additional flexibility from a total fund perspective to be more efficient in financing some of real estate investments. We've got some provisions there. We also would like to offer up the ability to structure some additional ways to provide capital in our private equity interests as well. We have historically done that through secondary sales, but there are other structures in the market today which could give us some flexibility to do that going forward. We want to explore that with the Legislature as well.

And, you know, not surprisingly, the topic of ESG continues to be front and center for a

number of folks, and our trustees as well as the Legislature, so I would anticipate some discussion about that this session. We would hope that the Legislature would be inclined to incorporate the resolution that we adopted or that the trustees adopted back in August into the statute. We think that would be very helpful to us on a go-forward basis to just sort of underscore what our obligations already are.

Along that line, again, with this notion that EST, in staying front and center with our trustees, this past week or week before, the CFO, who is a member of our board of trustees but also runs the state treasury as a department under him, made the decision to move away from Blackrock, divest from Blackrock as a manager in the state treasury.

They moved about $2 billion away from them out of a $60 billion fund, and I think he has been on record suggesting that the state board should consider similar action, you know, for the reasons he outlined with respect to his move in the state treasury.

At this point, I would say we would always follow the direction of our three trustees when it comes to investing funds for the exclusive benefit of our beneficiaries. We would also follow the direction of the Legislature as well in that regard.

I can tell you that we hire managers exclusively to maximize investment return, manage risk, defray reasonable costs, and diversify investments. And any manager that invest funds on behalf of the State Board of Administration does so under terms that we direct, and so we would hold them accountable to those terms, which now include that pecuniary standard that was adopted by the trustees in August. So that's sort of where we stand on that matter.

So that's kind of the update of where things -- where we are and where we came from from the last meeting.

Moving into where we're going today, and I'm very excited about this agenda, so we'll start out, this is the time where we typically run through a deep dive on our asset classes, and we've got strategic investments and fixed income up today. Strategic investments has

been the subject of a structural review, which we'll hear from two consultants on that and the recommendations there, which I think are some very interesting recommendations. And then that will feed into a conversation that will sort of tee up what will be the subject of our next meeting, which is asset allocation and how some of the changes potentially in strategic investments could feed into some of those asset allocation decisions. So a very interesting set of topics for today.

And, Madam Chair, that's all I have to update on.

MS. CANIDA: Thank you very much, Lamar. Any questions for Lamar?

MR. NEAL: Madam Chair, can I inquire?

MS. CANIDA: Yes, please.

MR. NEAL: I'm trying to discern exactly what your recommendation was on Blackrock, and what you think we need to do.

MR. TAYLOR: Well, at this point, again, I would say that's really a decision for the trustees. We've had a longstanding relationship with Blackrock. We are where we are. We believe that they've been adding value at a good price. But, as any other manager, they're held to the exacting standards that we expect of all of our managers, and we'll constantly, you know, sort of look at them and hold them to those standards and make sure that they are delivering on those objectives the same as we would any other manager.

MR. NEAL: They've had some bad publicity (inaudible; microphone off). Their publicity has been bad, but what I heard you say is (inaudible) on behalf of the State Board of Administration have been in accordance with our directives and the pecuniary standard, or are you saying something different?

MR. TAYLOR: No, I think that's it. I think, you know, again, we have -- we have our policies around how we invest and how we expect our managers to invest on our behalf, and they are absolutely for the pecuniary best interests of our beneficiaries. That is the standard they have been held to. That is the standard they will continue to be held to, and it's a matter of how any manager performs in accordance with those standards.

MR. NEAL: Second line of questions.

First off, I love your communications. They are succinct, straightforward. They almost always come to a clear conclusion. I thought your November message about the actuarial conference was good, and I thought the information on the compensation and incentives was good.

At some point, I'd like this board to talk a little bit about the incentives. And it's not on today's agenda, so I'm guessing it will be at the next meeting.

MR. TAYLOR: Vinny, would you like to maybe just --

MR. OLMSTEAD: Yes. No, we had a robust conversation on a couple of themes, and I know we'll get to this later, but I'll just really summarize it now. But a couple of themes is we want to retain the right people. We asked Lamar to go back and do some additional research with his team, with Mercer, and we're going to make some recommendations and have a letter that we'll send across to the trustees, and we're going to review that in our next meeting in January, so . . .

But I think it's a very important subject to continue, you know, the performance that we have here, making certain that we have the right people in the right seats and are compensated appropriately, and we've asked for a bunch of information as to what (inaudible) --

MR. NEAL: Will we discuss that as a council in January?

MR. OLMSTEAD: Yes. In January it should be on the docket.

MR. NEAL: Madam Chair?

MS. CANIDA: Yes, we'll make sure that we put it on the docket in January.

MR. TAYLOR: And that would be -- I think after this meeting Amy will work with each of you all for an IAC compensation subcommittee meeting where we'll try to get that on the calendar. And, of course, all the members are invited to those meetings as well.

MR. OLMSTEAD: Yeah, Pat, we'd love to have you as a guest at our subcommittee meeting.

MR. NEAL: I have some opinions.

(Laughter.)

Number three, on the alternatives, of

course, it's -- I should think it should be of some importance that our state be able to invest to a greater degree in alternatives. And the bill failed last year. Do you have -- do you go under the chiefs of legislative program, or do you have your own legislative program, Lamar? Do you develop your own legislative package and have your own sponsors and all the rest, or how does that work?

MR. TAYLOR: Madam Chair?

MS. CANIDA: Yes.

MR. TAYLOR: So we -- it's a sort of do-it-yourself kind of approach here. We have staff. Our deputy executive director, Kent Perez, is very active in helping me get in front of the legislative staff and then finding sponsors. And, of course, we work with leadership to make sure they're aware of what we're trying to do, and it's just kind of a sort of approach in that regard. We try to manage it ourselves.

MR. NEAL: Wilton Simpson used to be interested in investments and investment vehicles, but, of course, he has graduated. So, I mean, do you have people in the

Legislature who follow State Board of Administration policies or investments?

MR. TAYLOR: We have two wonderful sponsors that we had last year, which have to this point agreed to continue that, and they have been very, very active and interested in understanding exactly what the bill entails and why we need that and moving things forward.

And I would say we had very good reception last year from all of the members. Even those that had questions, I think it came from a very good place in terms of just trying to ensure they had the correct understanding. But I think it was very well received in terms of just trying to make sure that they understood what we needed and they were able to provide that.

MR. NEAL: Did you get it on the calendar last year?

MR. TAYLOR: We made it all the way through the House and got on the floor of the House. We made it through two out of three committees in the Senate, and were not able to get out of the final committee, but there was a lot going on at the last --

MR. NEAL: You know, under the rules you can have it -- if you have a hearing in the Senate and a hearing in the House it's amendable on your 218 bill. After an appropriation bill every year that I know of there's a 218 bill for (inaudible).

MR. TAILOR: That's great -- good to know. And I keep --

MR. NEAL: So if you give me an amendment blank I'd have some fun.

MR. TAYLOR: Very good. Thank you.

MS. CANIDA: Thank you very much. So we will move to the strategic investments asset class review.

Trent.

MR. WEBSTER: Thank you, Madam Chairman.

MS. CANIDA: The floor is yours.

MR. WEBSTER: So, currently the policy objective of strategic investments are on page 294. The first one is a return objective, and this objective has tracked the return objective of the total fund since the inception of the asset class. It once started out as CPI+5, it went to CPI+4 and a half, and now it's CPI+4.

The next two policy objectives pertain to diversification. The first one is to dampen volatility of the total fund and to outperform during significant market declines. And, finally, the final policy objective pertains to portfolio construction where we can invest flexibly and across new strategies when they avail themselves.

But we do have other roles in the total fund. The first one is to act as a repository for strategies that may not be a good fit in other asset classes. So over the past month we've taken calls for a fund that invests in art and a fund that invests in mitigation banking. I'm not sure if we'll do both of those, but -- I'm not sure where art would fall under the current configuration.

We are also home for cross-asset class strategies, and we'll talk a little bit about that in a bit, but we have -- if you have a fund that invests both in equity and debt or equity and real estate, or whatever, if it doesn't fall into the other asset classes, we should probably find a home for it. And we also act as an incubator for potential new asset classes, so if it sat in strategic

investment for a period of time and we've developed a knowledge base of that, we can decide to have a set allocation to that potential new asset class.

Now, we're going through a structural review and I'm not going to talk a lot about that. We've got Cambridge and fine people from Verus as well who are going to talk, you know, more about that when I'm done. But we're considering a change in the policy objectives, and the asset classes may look a little bit different in the future, and that's what we've been talking and spending a lot of time over the last six months discussing what that might look like.

MR. OLMSTEAD: Madam Chair, a quick question?

MS. CANIDA: Yes, please go ahead.

MR. OLMSTEAD: Trent, when you look at significant market decline, the definition of that, is that one quarter, is it a year, is it a percentage? How do you guys sort of look at --

MR. WEBSTER: Well --

MR. OLMSTEAD: -- actually we're in one

right now, or --

MR. WEBSTER: Yeah, it's nebulous. I've always kind of thought about it as roughly a 5 percent decline for what it's worth. Typically, you think it's maybe double digit, 10, 15, 20 percent. And since strategic investments started, we've had -- let me see here, I think we've had six significant market declines, and we've outperformed in all of them since we started, so --

So, as of the end of the third calendar quarter, we had a net asset value of $20 billion. We had another 5.5 billion in unfunded commitments. 116 relationships managing 187 funds, but roughly 82 or 83 of those relationships are what we consider to be active. So those are managers that we continue to (phone ringing) and tend to continue investing with.

Private market strategies are 64 percent of strategic and liquid market strategies are 34 percent. And we are finally -- I've come up here year after year after year desperately trying to get to the 12 percent, but Tim Taylor and John Bradley's asset classes were going

like jackrabbits and we were running to stand still, and now we're finally just under 12 percent because you've seen a pullback in some of the public markets, but also because we accelerated our commitment pacing during the pandemic.

So all this on the portfolio. These are all the sub-strategies. Sorry you have to squint to see this, but the blue is our debt portfolio, the pink fleshy type colors, that's our equity, green is real assets, purple is diversifying strategies, and orange is flexible mandates. And we'll talk a little bit more about each in a few minutes.

Another way that I like to look at it is what does the portfolio look like from a growth and from an income/protective basis. So if you kind of think of a 60/40 portfolio where 60 percent of the public market's portfolio is in equity, then 40 percent would be in, say, the Barclay's egg, and the Barclay's egg is composed of both protective assets like treasuries and credit assets such as bonds, this is what we would look like.

And currently we're about 61/39 growth to our fixed income proxies. Now, that's a happy accident. We didn't do that on purpose, but we do have a significant allocation currently to funds which provide primarily income.

So, for the third calendar quarter we had cash outflow of $54 million, for the calendar year that was $482 million. Pacing activity has been slower than usual. We've done 14 funds totaling just over $2 billion, two funds in the third quarter. Well, we've done one. We closed one this quarter recently, and we've got -- I think we're up to eight funds now in the pipeline. Part of our issue is we've got funds ready to close, but we can't because of the statutory limits.

In our pipeline we currently have four loan funds. The fund that closed was a real estate fund. We actually do have a new hedge fund that we've identified and we've put into our pipeline which we think is quite an interesting strategy.

So, our performance. A couple of things on this, and I always make the caveat that quarterly one year performance is taken with a grain of salt. We look at it over three, five,

and ten years. But you can see here the blue bar is strategic, the red bar is our benchmark, the yellow bar is the real return benchmark. If we had done this a couple of years ago, the yellow benchmark or yellow bar would be a lot lower. You can see how inflation has affected this bogey that we have to go over, and as of the third quarter we had roughly 41 percent of our portfolio benchmarked to real return, the real return bogey.

So when we -- if there is a benchmark or if we have a fund where we can't find an appropriate public market benchmark, we put that on the real return benchmark. And so that is reflected in the red bars, which is the benchmark that we use to measure the fund performance.

This is relative -- performance relative to the total fund. So you can see at all time periods strategic investments has outperformed the FRS, and I would tell you that this is time-specific and end-point sensitive, and that this fourth quarter, being the first quarter this will change, but I was, like, putting this up there when I come and make my big presentation and we are ahead of the rest of the fund.

So, in our debt allocation, that's our largest allocation within strategic investments. We've got 44 relationships with 79 funds. More than half of the funds that are in runoff are in our debt classification. And in our sub-strategies we classify all our funds as either distressed, evergreen debt, loans, and subordinated capital. Evergreen debt is primarily hedge funds, credit hedge funds. The other three are private markets funds.

And when we first started investing in private credit 14 or 15 years ago, private credit really wasn't a thing; it wasn't an asset class. And the things that we could invest in were distressed loans and subordinated capital. Since that time, private capital or credit has become an asset class, and the types of funds that we can invest in have grown exponentially.

And so when we're done with the structural review, this is the area that will probably be affected the most, even if such on how we classify and look at the private credit market.

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I'll talk a little bit more about that, but you can see here over three years our debt book has slightly outperformed its benchmark. Our distressed portfolio has underperformed. Most of the benchmark there is a real return benchmark, but what we've found on the performance is we have a fairly large allocation to distressed, but really what distressed is today is a combination of what -- the nomenclature would be known as credit opportunities.

We have some specialty finance. We've got a whole bunch of things that maybe do some distressed and a bunch other stuff. If you look at our performance going back ten years, a lot of the underperformance were funds which came out of the global financial crisis, and where there wasn't a whole lot of debt to do, so they diversified away into other things and some were successful at it and some were less successful at it. So the newer vintages were much more confident than what we've done in the past. That's one of the reasons why we have a lot of funds in runoff in private credit.

Our evergreen debt has underperformed its

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benchmark. We've got one fund that has done really well, one fund that has smashed the benchmark, and one fund that's underperforming. We're going through a bit of a restructuring there.

Loans have been a bit above the benchmark, and subordinated capital is way ahead of its benchmark primarily because we have a couple of tech funds doing investments in junior securities and mezzanine capital and deferred equity and structured equity that has done very, very well. So we're benefiting from some of the trends that you're seeing in the private equity market.

MR. OLMSTEAD: Quick question if you don't mind.

MR. WEBSTER: Yes. Go ahead, sure.

MR. OLMSTEAD: When you invest in these, you know, again, the funds that you're investing in that were supposedly distressed and they changed strategy, do you have a right to, you know, not continue to support them or to withdraw?

MR. WEBSTER: Yes. So for several we haven't re-upped, but not midstream. So if you

are midstream you don't have a right to pull back. Even if they change strategy completely you still have to fulfill on -- the writing in the documents gives wide latitude. And some of it is also -- not to name anyone, but we have funds that said they were going to do X and they wound up doing Y.

And a couple of broad -- or a couple of comments on our debt allocation. One of the good things is that we currently have around $3 billion in private capital. It's actually a pretty decent time to be investing in private credit right now. So, we made a -- we were pretty aggressive committing to funds during the pandemic.

UNIDENTIFIED SPEAKER: I apologize. I have one ear in a meeting.

MR. TAYLOR: And just reminding folks to make sure they're on mute. Just make sure folks are on mute when -- as you're listening in. Thanks.

MR. WEBSTER: Thank you. So we were pretty aggressive committing capital to private credit funds during the pandemic. And I think the recovery from the pandemic was faster than most people expected. On the one hand we would have liked at that point in time to -- some of our funds have been more aggressive putting money to work. On the other hand, we still have a lot of private -- or a lot of unfunded commitments that haven't been put to work that are still a fair ways away to the end of their investment period. So if we do go into a recession, that should be a very good time for us to be investing into private credit.

One of the things -- if you look at our portfolio, and just to go back to this, my favorite pie chart here, this one, is that if you look at the blue part of this pie chart, a lot of what we've been investing in over the last several years have been in more in the spoke of credit opportunities, a funky, cool type of credit as opposed to more straight down the fairway more vanilla lending.

The reason for that is because we've been quite cautious on the loan market. You know, rates had fallen. You were getting 5 or 6 percent unlevered. The covenants were so wide you could drive a semi tractor-trailer through them, and there was all sorts of funny

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things going on with how EBITDA was calculated. So we didn't think it was a very good time to be a direct lender.

Whereas, in our more opportunistic stuff we have -- you're further down the capital stack, you control the (inaudible), there is more return structured into the agreements and you can find gaps in the market where there wasn't a whole lot of competition.

Fast-forwarding 18 months to today, and we actually think direct lending looks pretty interesting, because now you've got LIBOR and SOFR is up to around 4, the spread has widened out by 100 or 150 basis points, original issuer discounts are going up by 50 or, you know, 100 basis points. So you can get unlevered returns here in the high single digit, low double digits in (inaudible) lending. So for the first time in a long time that stuff looks really interesting to us right now on a risk-adjusted basis, whereas for most of the last decade it really hasn't.

So we have some equity investments. That's 18 percent of the strategic concentrated in -- we have an activist book. We have a

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couple of GP investments. We have a few long/short funds and we have some private equity funds. So we'll talk a little bit about each.

One of the reasons why strategic was -- you know, was created was to be a repository of funds which may not fit into the other asset classes. And so in theory we thought, well, if there was, like, a long-only fund which may own six stocks and have 40 percent cash, they have a really good long-term track record, that might be a little too much for a global equity, but if it's good you should find a place for it. We've never invested in anything like that, but that's the reason why it's there.

If you see the performance here, this has actually done pretty well. Our activist book has generated an alpha of about 350 basis points above its public markets benchmark for the last ten years. You can see the GP investment is off the charts, and that's because of our investment in Lexington, and we would like to thank our partners in Lexington for selling themselves -- Franklin Templeton for a good price that we are very happy with.

Our equity long/short has tracked the benchmark, and you can see private equity has done very well. Our private equity is -- what differs from, say, you know, John Bradley's group in private equity, the private equity asset class is it invests in private equity in debt, private equity in real estate, private equity in public markets, and it also includes the Florida growth fund. So that's what you're seeing there. So it wouldn't quite fit in John's group.

The only thing I'll really talk about here is on the activists. We think that the Japanese activists present one of the most compelling opportunities in the market currently because we think Japan is really interesting and the reforms that the government has undertaken in Japan really -- offer really strong tailwinds for managers. For us it will be -- if we go in there, it will be whether or not we can come to an agreement that is acceptable to both parties, because we have very strict standards on what we're going to do before we hire an activist manager, and oftentimes those terms and standards provide a deal breaker.

MR. COLLINS: Trent, can I ask you a quick question about that?

The activist funds, define activist in the sense of Japanese activist investors, and what are they doing?

MR. WEBSTER: Well, so if you think of the typical North American activist, there's all sorts of flavors to it, but you can broadly put it into two spectrums. We've got one -- and, you know, Mike, feel free to jump in if you want -- but you've got one side which tends to operate more on financial strategies, then you've got another side which is more on the operational improvements, right?

So you've got -- financial strategies include selling yourself, selling off the visions, stock buybacks, things like that. And the operational improvement tends to be more on the consulting side. And then -- so that's on the investment strategy.

And then on sort of the tactics you've got managers who have been very aggressive in proxy fights, and then you've got managers on the other side of the spectrum who are very

friendly.

Typically, in Japan, the aggressive proxy fighting firms have not been as successful as the firms on the more "let's hold hands and be friends, and let's find ways to improve shareholder value in Japan." So we're agnostic on either. What we look at is if a manager is good, if they have a strategy, can they execute that strategy.

In Japan, typically the more successful ones are the ones which work closely with Japanese management to improve operations and improve return on capital. In Japan, I liken it to it's not picking low-hanging fruit off the tree. The fruit is on the ground, right? You've just got to go up with a basket and just pick it up. The problem is you need a flashlight because it's dark. And in Japan the sun is beginning to rise, so it's dawn, so you can see it.

And so --

MR. OLMSTEAD: Have you been working on that analogy for a while?

(Laughter.)

MR. WEBSTER: For ten years, yes.

MR. OLMSTEAD: Okay.
MR. WEBSTER: So it's similar to the United States, but friendlier.
MR. OLMSTEAD: But friendlier?
MR. WEBSTER: Yes.
MR. OLMSTEAD: Because it was always my belief or my understanding that the Japanese culture just didn't go for that kind of thing.
MR. WEBSTER: And that was our thinking. We started this in 2010. We looked at them in 2010, and that was exactly what we thought. We thought that this is a cultural thing. This is so hard to move. Culture is so hard to move.
Well, there's a couple of things that have happened. First of all, there's a new generation of management coming through who often trained in the United States. That doesn't mean they haven't lost their Japanese character, but, for example, like when we talk to people who go into Japan, they will tell -- they will sit down -- not the big multinational corporations, like not the Toshibas and the Sanyos, but the smaller, like, mid cap, smaller cap where they have never -- they don't know what return on capital is. We learned this in

the first couple of weeks of finance class in MBA. They've never been taught that.
In Japan, the measure of success has been how much cash can you accumulate on your balance sheet. Look at all the cash I have on the balance sheet, right? And so in a culture that has stasis that doesn't want to change, you often had in the old Graham framework, you know, you were buying stocks below cash. But what's happening now is because some of the changes in the government, the government sees that you've got declining demographics, you've got an aging population, and you've got to do better than Japanese government bonds which are yielding 1 percent. So they've created these reforms in Japan to improve the return on capital, and that's what we mean.
There's a lot of simple things that American managements do that they're not doing in Japan, where if you say take that cash which you're trading at 60 percent of the value of that cash, give half of it back to shareholders in stock buybacks or dividends and the stock can go up. So it's a lot of very simple things and we think that's really interesting.

On top of that, the funds that we've been tracking over there, we were there in 2019, but we looked at ten years of data. And just even in that environment, which was a lot of stasis, there's just not a lot of movement, they were outperforming by 720 basis points per annum if you look at it as a group. That's a lot of alpha. That's gross, right? So we kind of look at that and say that's interesting.

Now, our philosophy on hedge funds and assets are we're not going to force money into a market, right? So if we can't find a manager that we like, we won't hire them even if we like them. So that's where we are with the Japanese. We've been monitoring them for the last couple of years, and we'll see what the structural review takes out, but if we allocate more money that's a (inaudible).

MS. CANIDA: Excuse me. Let me make sure I understand. Do you have money in that now or are you looking for the future?

MR. WEBSTER: Not in Japan. So we have it in the United States and we have it in Europe.

MR. NEAL: Madam Chair.

To follow up, Trent. I want to get back

to that metaphor about the apples on the ground and needing a flashlight. I guess you're talking about how opaque it is to try to invest in Japan. Are you investing with Japanese managers or American managers who are investing in Japan?

MR. WEBSTER: So, that's a great question. And so we haven't invested with any yet, but the managers that we're talking to are either Japanese or Americans who have been in Japan for a long time. We're not really interested in a manager who is based in New York investing in it. So we think that there really is a cultural imperative to being in Japan or Japanese, because to me I think that you really have to understand the culture to your bones. And there's a few -- like, there's a few managers that we've talked to, like the head person is an American by birth, but have been in Japan for 20 or 25 years and have a Japanese team, so they've been there long enough.

MR. NEAL: And getting back, Trent, to that 720 basis points of alpha, I missed the first part of that sentence. Did you say that you had -- say that sentence again.

MR. WEBSTER: So when we -- so we started looking in Japan like in 2010. We had a (inaudible) meetings, and the point that was brought up was, you know, can you change culture? Well, the culture has been incrementally changing and there's been a lot of headwinds during that time period, but the managers have still found a way to generate alpha gross fees (phonetic) on average in these five or six funds that we were looking at of 720 basis points a year. That's interesting.

MR. NEAL: That's a bunch.

MR. WEBSTER: Yeah.

MR. NEAL: Thank you, Trent.

MR. WEBSTER: But we have a real assets allocation, that's .3 percent as of -- the total asset class as of the end of September. We break it down to commodities, infrastructure, real estate, timber, and transportation strategies. Commodities are, you know, they're all private markets. I think Cambridge calls those natural resources now. Those are broken up between mostly energy and mining funds.

We have infrastructure. The SI real

estate is a combination of transitional funds, distressed funds, and real estate debt. Timberland is timberland, and transportation are aircraft and shipping funds.

We've lagged this for a little bit over the last three years. We've lagged it on the real assets. So we've outperformed on our natural resources and our infrastructure, which for the last four or five years have been benchmarked to a public markets benchmark with a premium. The real estate and the transportation, because there's no appropriate public markets benchmark for those, we use a real return hurdle.

So the real estate debt has not performed as well as Steve's group over in real estate. There have been some problems in there which are being fixed. In transportation, there was probably no more industry other than, say, maybe (inaudible) or cruise ships that was affected by the pandemic. We actually think -- we funded up some transportation assets, some aircraft leasing assets during the pandemic which were able to buy aircraft at relatively attractive prices. But what you're seeing there is that decline through the pandemic for the three-year period.

We're bullish on commodities over the intermediate term. If we go into a recession, we expect that there would be a pullback in energy and in metals. We just don't think that we're putting enough money in the ground to pull enough oil out of the ground, and with natural gas we may have a bit of an oversupply here for the next year or two, but with the war in Ukraine there's going to be a shifting of supply lines which will increase LNG that has to be built, but that will increase the demand for gas.

We talked about ESG earlier. We believe that ESG is distorting markets and providing opportunities because ESG is causing a lack of capital to be going into the energy complex. We're quite happy to step into that. For us the problem, though, is finding funds that are -- a lot of funds have shut down because there is no LP interest. So for us we think there's a great opportunity over the next five or ten years. It would not be surprising to me if this group is sitting here in 2030 and we're

going, wow, look at energy. It's 15 percent of the S&P 500, and that's awesome and everyone is pouring a bunch of money into it, which would probably be the best time to get out.

So in infrastructure our strategy -- we have some core and core plus managers, but we think that that's an area -- and I've said this for years, I'm not sure if I've been right, but we think that a lot of money has gone into that. It's distorted the pricing of some of those assets. So you saw some assets which were, you know, yielding unlevered mid to high single-digit IRRs.

That was fine when you could fund that at 3 or 4 percent. Now the fundings are 7 or 8 percent, I don't think that that is going to -- that model will work going forward. Our opinion is that there still may be some disbelief that rates will stay higher for longer. So you haven't seen an adjustment yet in infrastructure assets. We expect that to start coming down over the next few years.

We actually like -- so we think ESG -- is there a question?

So we think ESG is distorting the energy markets. We think there's a pretty good chance it can distort the timberland markets as well. So timber has been -- for most of the last decade it has been a below average returning asset. Part of that is because of the valuations on assets that were being traded through the '00s into the early '10s. Part of it is because of an increase in inventory on the stump in the south. That inventory is starting to get cleared away.

And if you're an ESG fund, we can't think of anything more E than timber, so we think that you could see demand increase sometime in the middle of the next decade or beyond. Or middle of this decade and to the end of the decade, where you may see assets being transacted at higher rates. We'll see in a minute.

We actually have seen natural transportation -- or, I'm sorry, timberland was up at 12 percent last year, which is the best year on record I think. Or at least best record since we started looking at it.

We're also seeing tailwinds from transportation. It has underperformed, but

obviously people are traveling again. Not traveling internationally quite as much as they used to, but there is a high demand for -- in travel, and we think that will eventually cause demand for aircraft. I think -- what was it, United ordered 19 Dreamliners this morning, I think, or something. There was some announcement from United this morning, so we think you will see demand go up.

Diversifying strategies, these are mostly hedge funds --

MR. NEAL: Madam Chair, may I inquire to Trent?

MS. CANIDA: Yes.

MR. NEAL: Sometimes you use some lingo, Trent. What is SI real estate? What does the SI mean?

MR. WEBSTER: Strategic investments.

MR. NEAL: Okay. I could have figured that out.

MR. WEBSTER: You'll see SI in private equity, too.

MR. NEAL: And how does your real estate differ from Steve Spook's real estate? Is there a distinction that you can describe?

MR. WEBSTER: Yes. So, ours is debt. Well, there's three things. So, Steve is more core and core plus, and they do some (inaudible). Our group does real estate debt, mostly mez. We do distressed and we do transitional real estate as well. So there is a bit of overlap on that.

MR. NEAL: And you don't do any direct ownerships or what you might call equity in real estate, it's all debt or transitioned or mez?

MR. WEBSTER: The transitional one will be equity, but, no, we're not JVing any properties like Steve's group.

So, diversifying strategies. These are hedge fund strategies which have a low correlation to equity. Global macro, managed futures and relative value. We also have insurance and we also put royalties in here.

This is an area we've put a lot of time and effort into it. Unfortunately, we have underperformed in this group, I'm a little embarrassed to say, because this is one of my favorite groups. You can see here for both global macro and managed futures, when we did

this, like, two years ago, those looked like they were flatlining and on their deathbed. Maybe three years ago.

Managed futures for eight years -- at least the Credit Suisse Managed Futures Index generated a 0.1 percent annual return for eight years and then exploded upwards since then. As trends started to reassert themselves as central bank policy and the pandemic -- central bank policy change and the pandemic created all sorts of different interesting trends.

Our RV focus has been pretty good. We're happy with that. Our royalties have been good. We invested with a music royalties firm that has performed quite well. Our insurance -- we still like insurance, but, man, it's trying our patience. We tend to be -- in insurance we tend to be further down the risk (inaudible) compared to our benchmark. That's where the higher expected median return has been. It hasn't paid off the last three or four years, but -- correct me if I'm wrong, but something like $50 billion of capital has come out of the reinsurance business over the last year or two.

Markets have been hardening. They just

haven't been hardening enough. And what we're seeing is that people like us are sitting around saying I'm tired of losing money for the last four years. We're getting out. This is just too stressful. So I've been involved in the insurance markets for 20-something years, and this is probably the longest bottom of the cycle that I can remember.

So we think that the changes in central bank policy are providing opportunities. When you had nothing but quantitative easing and zero percent interest rates, there really wasn't a lot of things to trade unless you were long equities and risk assets.

Now we think that with central bank policy, quote, "normalizing," we think global macro is back in. You've seen some -- and our global macro managers themselves have actually done pretty well. Relative to their peers they've lagged, because you're seeing managers who have generated triple digit returns over the last year or two. Unfortunately we weren't in them.

We've talked about insurance. We've talked about -- we like RV managers if we can

find them, and we're looking at one now because they generally provide an interesting stream of returns that diversify away from credit and equity risk.

Flexible mandates. These are mandates or strategies which will cross different asset classes. So in hedge funds we have event and multi-strat, and then something we call open mandate, which are private market multi-strategy firms. This has done fairly well. Our event managers, we've got one, which is -- we've got one manager that has lagged, we've got one manager that has done pretty well, but aggregate them and they lag at benchmark.

Multi-strat has done pretty well, and our open mandate managers, we're quite happy with those. For the most part we've been quite happy.

That's really all I've got.

MR. NEAL: Trent, could you give me an example of an open mandate investment vehicle?

MR. WEBSTER: Well, I guess it's all public knowledge. We are invested with the Blackstone Tactical Opportunities Fund, and they can invest equity, credit, real estate. They do some mining. They've done music royalties. And the thinking is that some of these firms, they see a lot of opportunities but can't fit them into a fund. So where do you put a music royalty if you're Blackstone? Where do you put that?

So they've created this strategy where you can do both -- they do some co-investments with the funds, but they also source themselves where they will invest in different things that don't fit well into the Blackstone suite of investments.

MR. NEAL: Thank you.

MR. OLMSTEAD: A quick question. Whenever I see this slide, your beautiful big slide with all these different strategies that range from Japanese activists to royalties to timberland, and it seems so diverse. Maybe one is talk about the team and talk about how you prioritize this stuff. I guess the broader market trend. It seems like my head always spins with, like, all of these sub-strategies that are fairly diverse.

MR. WEBSTER: Maybe next time I can have,

like, it just spinning around.

MR. OLMSTEAD: Thanks. (Laughter.)

MR. WEBSTER: So there's a lot of stuff there, but really if you break it down broadly the things that we invest in, what I like to say is we invest in hedge funds, private credit, some real assets, some equity strategies, and other things like insurance. So you kind of think about that. So private credit and real assets, you know, that blue part there, and then the real assets, you know, timber, infrastructure, transportation.

What we do is that we sit down as a group every year to make a determination of where we think the best opportunities are. At times what will happen during the year is that markets change and sometimes we can be very aggressive in our -- you know, in where we allocate capital, and sometimes that opportunity is fleeting, but we develop relationships with managers over time.

So, a good example of that is that in -- I can't remember, John -- 2015 or 2016 when we were talking -- it was 2015 or 2016. We were talking with CLO managers because you had a big sell-off in credit and equity markets. And so you had dislocations in CLOs, and we were looking at equity and mez pieces. We did our due diligence. We found managers. We went and saw them.

By the time we had done our due diligence, that opportunity was gone. But we set up a relationship with the manager and we just waited. And then in 2018, when it happened again, we were able to go in.

So, we looked at something like CLO, equity, and mez, thought, you know, it was yielding 10, 12 percent. That's not interesting. There's dislocation, and 15, 18 percent (inaudible). So that's an example of being opportunistic in setting up structures to take advantage of dislocations in the market.

So what we would do, we sit down once a year, we're going to sit down in January, and then we sit down with Cambridge in February to go through the portfolio to make a determination on where we would like to, you know, allocate capital, where we think the opportunities will be.

One of the things we'll talk about this year, as I said earlier, is that all else being equal we would be looking in our credit book and saying, well, where do we want to put money now? In the past, it's always been kind of, like, in credit opportunities, opportunistic, you know, things like that. Today it would be more in, well, we're really underweight to loans and lending, we should put more money in that. And maybe there's some funds that we're not that high on that we've invested in and we would let them run off.

So this is a dynamic we do formally at least three times a year when we talk as a group, but then we're talking about it all the time on a weekly basis in the other staff meetings when we're talking (inaudible) --

MR. NEAL: And when you talk about "we," how big is your team?

MR. WEBSTER: I've got five very talented portfolio managers and two analysts.

MR. OLMSTEAD: Okay. When you talk about "we," is that the team or do you also then --

MR. WEBSTER: Well, I would include Cambridge, who are also very talented.

MR. OLMSTEAD: And how about your colleagues, like on the PE and on the, you know, real estate side, so there's that cross-pollinization going on?

MR. WEBSTER: Yes. So private equity and strategic used to be one department and then they were two asset classes, so what happens is that if there's an opportunity that we see, or if there's something new, or if it's private equity-ish, we'll go over and talk to John's group.

Like, for example, one of the things we've been taking a look at is cryptocurrencies, and whether or not we ever do we don't know, but John's group has got a ton of information on that. So we've talked to their group in the past about, you know, educate us. Who should we talk to? The same with Steve's group as well because there's some stuff which will be kind of gray area-ish. You know, there'll be a gray area. Where does it fit?

So we've got a pretty good handle of what's going on in the real estate market and we're interacting as a group when, you know, it arises.

MR. OLMSTEAD: I'm glad I'm not investing too much in cryptocurrencies.

MR. NEAL: May I inquire?

MS. CANIDA: Yes, please.

MR. NEAL: Trent, does all your investment business go through Cambridge or do you have other managers?

MR. WEBSTER: So, we currently have Aon Townsend as a consultant.

MR. NEAL: I beg your pardon.

MR. WEBSTER: So we're currently using them, but Cambridge is -- we do 95 percent of what we do through Cambridge.

MR. NEAL: Do the real estate?

MR. WEBSTER: (Nodding head.)

MR. TAYLOR: And if I could -- sorry, Madam Chair, but just to expound just to make sure we're clear. We invest direct into these clients, not through -- so we're not engaging, say, Cambridge to --

MR. WEBSTER: Yes. So the way we think of the fine gentleman to your left here -- and ladies and gentlemen is an extension of staff, and so we work together with Cambridge. And they will do their due diligence, we will do our due diligence, but we'll be in discussion with them through the process. So we think of it as a team.

MR. NEAL: Did you say you had five investment managers and two analysts for a $20 billion portfolio? Did I get that right? And what is your turnover? Your turnover is 4 billion a year, or --

MR. WEBSTER: So, that's a great question. So, on average what we call investment activity, which includes commitments to private market funds and investments in, like, evergreen funds, it has averaged about 2.8 billion for the last several years. Now, that includes 2020, which we did, like, 5.5 billion because we were being aggressive during the pandemic. This year it's 2.1. We've done less than 2 billion some years, but it's 2.5 to 3 billion is what our typical pacing has been.

MR. NEAL: If a mitigation bank or an art fund -- do they call you or do you call them? How do you get in contact with someone who wants to -- let's do a mitigation bank.

MR. WEBSTER: The first thing -- the first

thing is they -- well, for those two specifically, they contacted us. But sourcing is a combination of our networks, and my group has a lot of experience. You know, they've got very expansive networks in the markets, so if we're looking for something specifically we can usually find it in our markets.

We use Cambridge for sourcing. They will bring -- we have a -- there's two teams that we deal with at Cambridge. One is their hedge fund/liquid markets team, which Andre is a part of, and then there is their private credit team which Richard and Sheila are a part of. And every two weeks, we alternate -- well, I mean we -- we alternate between having a hedge fund call and a private credit call. We have an overview of what -- to update them of where we are in our process and then they'll talk to us about funds that they've had or where they are in their research.

MR. NEAL: Let's say they have a universal fund. Presumably Cambridge's client class is mostly pension funds or public pension funds like this, or do they do --

MR. WEBSTER: I'll let Cambridge answer

that.

UNIDENTIFIED SPEAKER: It's across all different types of categories. We work with pensions, endowments, and foundations, private families (inaudible) wealth funds. It's a real mix.

MR. NEAL: Okay. One other grenade. So you're going to invest in a mitigation bank. How does your team underwrite a mitigation bank investment? Do you, quote, trust them for the investment analysis they give you and their statistics, or do you independently analyze the value of a mitigation credit in Connecticut or Florida? How do you do that?

MR. WEBSTER: That's a good question. So, whenever we look at something new, we tend to spend a long time investigating it and researching it, right? So the original -- when we first looked at -- and again, just to make it clear, we just had a meeting, right? But we started investigating mitigation banking in 2018. And so we -- we did research on it, somebody had prepared the skeleton of a white paper on it.

So we want to understand the market before

we get into it, right? So we want to understand the banks. How do the transactions work between the bank and the developer? We want to understand all of that. We've got to be comfortable with it, and we also want to understand, you know, the sources of return because that's important to us.

So, I think with every -- with every manager that we look at, we approach it with a jaundiced eye, with a level of skepticism about the numbers that they're showing us.

MR. NEAL: Trent, would you invest in a mitigation bank or a mitigation bank fund?

MR. WEBSTER: Fund. Because I wouldn't know. And they tend to be pretty well diversified across wetlands, species, and stuff. But having said that, it's not imminent.

MR. NEAL: No criticism. I'm just trying to understand.

MR. WEBSTER: Yes.

UNIDENTIFIED SPEAKER: Gary Wendt has three questions, Madam Chair.

MS. CANIDA: Go ahead, Gary.

MR. WENDT: Okay. Thank you. The first

one is at the beginning of the meeting, before Trent came on, there was a brief discussion or information provided about the Legislature having restricted us, and that we might -- we were turned down last time, but we might go back again and try again. And then I see this, and I'm trying to remember what it is that we would possibly want to do that doesn't fit in this bag. Trent, can you help me?

MR. TAYLOR: And, I'm sorry, Gary, just to kind of -- you're saying what it is, you mean what the strategic investments asset class is, or --

MR. WENDT: No. I understand strategic investments. Anyway I hope I understand them. I probably shouldn't say those things. But you remarked that the -- you were going back to the Legislature to get approval to do some things, and what is it that wouldn't be done in here that you would want to get approval for?

MR. TAYLOR: Well, first and -- great point. First and foremost, it's more -- we just want to be able to do more of what's in here. So right now we're capped at 20 percent.

MR. WENDT: Okay. You want to do more.

MR. TAYLOR: Right.

MR. WENDT: That brings me to my second question. Even though I know -- we have a cap and we have a percentage we try to have, I don't think we've ever gotten very close to it, Trent, to getting to the maximum.

Do you have maximums on individual transactions or on segments? I know there's quite a bit of segments from your blue chart, but do you have any kind of maximums on anything?

MR. TAYLOR: Thank you, Gary. Actually, because of a lot of the market movement that we saw coming out of the pandemic and the interaction with sort of the private market valuations and the very quickly adjusting public market valuations, we're actually at our 20 percent cap for alternative investments, and so it's impeding our ability to continue to make allocations into this space.

Beyond that, if we didn't have a cap, we don't have hard and fast limits. We have a practice that sort of our allocations have kind of sort of coalesced around, but that's been more of just a standard kind of historical practice. It's not to say that we would -- if we wanted to invest in larger amounts we could.

You know, there's always a risk assessment there from a concentration perspective with respect to the manager and our position in the fund or our position with the manager. Those are the things that we would want to consider, and so it's kind of facts and circumstances. But I would say that, no, there is no hard cap or limit on what we could invest in a fund if we felt compelled to do so.

MR. WENDT: So the answer is no?

MR. TAYLOR: Right.

MR. WENDT: It seemed to me that you might do that some day. I don't have any idea what they would be, but I don't think the state would like to have 90 percent of its money in two deals or something.

All right. But that's enough. That's just an opinion.

The third thing -- the third question was that you mentioned getting into ESG, and I thought that was what the state politically was trying to keep us from doing, and I understand there are funds that do it, and I understand

there are individual investments that do it, but is there any political issue with you trying to go into ESG?

MR. TAYLOR: Again, thank you for that question. I think, yes, to the extent, you know, it's viewed typically around ESG being sort of a proxy for political, social, and ideological. We actually have a resolution now and we will -- we haven't done that. We would not do that. I think where Trent was going is that we are -- again, along the theme of, you know, we tend to deploy capital where it's not.

What we're seeing is ESG has created a void in some of the capital opportunities in the energy space where we would look to provide that capital where we could. So ESG has kind of disrupted capital flows in a way that we hope to be able to take some opportunities of and earn above market returns for our beneficiaries. I think that -- when we think of ESG it's what opportunities is it presenting to us from that perspective, not because we're seeking to sort of follow along some sort of ESG mandate.

MR. WENDT: Well, I understand why you

could see it as an opportunity, why you look for everything as an opportunity. But, once again, I just ask it. And by the way, I'm on your side on the ESG issue. Why would you bother to put that in their face?

MR. TAYLOR: Well, no. For example, and where we've seen it, specifically in the energy space, because of -- and it's a combination of things. ESG is part of it, but I think just sort of the regulatory ambiguity around where support for energy is going to be, we've got companies that are very reticent to put capital to work and we've got companies that would love to put capital to work in terms of exploration and production and generation and refining, but they can't find investors to give them the money because institutional investors have kind of clammed up from the ESG pressure and the lack of willingness to sort of invest in this fossil fuel space.

And that's where we see the opportunities. We would say, well, we've got plenty of capital we're willing to give you for the right project. Make sure that it's going to be accretive to our valuations.

We would love to be able to get -- and we have, and Trent has gone through a couple of instances where we've been able to deploy capital into that space, and we'd like to put more. It's just -- it's proving more difficult than we anticipated. That, I think, is from -- when we see -- when we're thinking of these opportunities that are created from this perspective, that's what we're talking about.

MR. WEBSTER: Yes. And just to clarify, we don't invest in ESG funds that have an ESG mandate. Rather, what we're doing is that we're investing funds which are taking advantage of the flows and the distortions that ESG creates.

Now, it works the other way, too, because there's going to be a massive increase in renewables. We've got a manager who's supplying the picks and shovels to the renewable companies, which we think is really interesting. So we have to kind of play it on both sides. But we do not look at a fund and say, well, this is an ESG fund, so we're going to invest in it. It's not -- it's trying to understand the market opportunities that ESG creates.

MR. WENDT: I'm sure you don't look at it and say it's an ESG fund. And I do understand why you think there's opportunities there, but my point is, when you've been told by your trustees that they don't want you to do it, why do you do it?

MR. COLLINS: So, can I take that? Hey, Gary. It's Peter Collins.

MR. WENDT: I give up, Peter. When you come on, I give up.

(Laughter.)

MR. COLLINS: No, I think you're right on. I think the only nuance here is that they've told us that they don't want us making financial decisions based on some ESG scorecard, right? They want us investing based on a non-pecuniary interest, and so that's what we're doing. We're actually stepping into those voids where those other people have been forced out by maybe their governor or their state, or maybe if it's a corporate -- or whoever the investor is is being pressured by the ESG to get out, that's what we're talking about getting into if there's a disruption

because of ESG.

So they're not saying we can't invest related to ESG. They just don't want us making an investment based solely or even a majority of the focus based on some environmental outcome that they deem to be the right outcome, somebody deems to be the right outcome.

MR. WEBSTER: Right. And just to clarify, a lot of this ESG focus is on the E and the S, and we're really big on the G. We love the G, and we've been doing the G for a long time. And the reason why we do the G is because there's a lot of academic literature which says that this adds value.

If we found that it did not add value, we wouldn't do it flat out. So in our world anyways we haven't seen that the E and the S adds value. Now, if the E and the S did add value, we would take a look at it, you know, because that's our job, right?

MR. COLLINS: So we've talked about this, and I don't know if you've talked to them about this, but we talked about this with the speaker today, Lamar and I did. The problem, and Mike knows this better than we do, is a lot of these proxies were votes -- whether it's a slate of directors and you either vote the slate up and down, but I'd like to pick this one or that one out of the slate and say they're good, but these other two I don't want to vote for, or a variety of proposals that are all voted on together.

Well, there could be nine really good things in there, but one that we wouldn't otherwise want. Well, we'll take the nine, but we're getting dinged because the one was in there.

And so what we did -- part of the conversation with the speaker today, and I don't want to make this an ESG thing, but part of the conversation was we really need to push as institutional investors to not be given a basket of things to vote on, but to vote on individual issues, and maybe get at it that way.

So, you know, everybody looks at our Exxon vote, and says, well, you know, you voted for this. And we were like, well, yeah, but we also voted for these other things that were great, but we had to vote for all of it to get

those things.

MR. WENDT: Thank you.

MS. CANIDA: Trent, I had one last question. When you look at your asset classes, I know that there's a lot of due diligence that goes into making decisions into a lot of funds. How do you balance a due diligence versus the speed at which some of these decisions need to be made in order to capture that alpha? Because in today's market that alpha can move very fast. Everybody moves into the hot niche classes. How do you balance that?

MR. WEBSTER: We don't. We're just not set up to be fast. Instead, what we look at is we look over a three-, five-, and ten-year time period, right? The example that I gave earlier is that we were looking at CLO funds in '15, '16 did all our due diligence, met a bunch of managers, staff went on-site, and when we were ready to pull the trigger the opportunity was gone.

But then we developed, we created -- and we did this in insurance, too. We did due diligence on insurance funds. Back in 2016, 2017, we thought it was too early and we didn't put much money in, and then as the losses started to build up we started putting more and more money in it.

We went with the CLOs when you had an opportunity in 2018. We had the structure ready to go. So we had done all the work. We've kept the -- we had maintained our relationships. We had dialogue. You know, they wanted us to invest earlier. We were very disciplined. When the opportunity presented itself, we invested because we had the structure ready. We couldn't move fast.

So if we can create the structures prior to an event, then that provides us the speed. But from a standing start we're just going to miss it. The stuff that we look at opportunistically, like whether that's energy or timber or mining, we think this is like a decade opportunity.

I don't know -- I mean, I have no idea what copper is going to do over the next six months. No idea. I'm pretty sure we're going to be using a heck of a lot more copper six, seven, eight, ten years from now because of that massive buildup that's coming in the

renewable space. So we're trying to find managers who can do that.

MS. CANIDA: Thank you.

MR. TAYLOR: If I could -- really just sort of building off of something that Vinny said earlier, which is sort of a nice segue. So we'll go to Cambridge for this, but then you had mentioned that one of the things that you had looked at was the big wheel, the color wheel, and I think that's a great point.

And so Cambridge will have their sort of follow-on, but then we'll move into the structural review. And part of that structural review was sort of predicated on kind of that point. Strategic investments is a mature asset class now, and it's been around since 2007 and it's built up, and we do have these opportunities.

And so we thought it was a good time to take a step back and kind of evaluate where we have come, and being a mature asset class, and kind of how we might want to proceed going forward. So some of those things that you pointed out are kind of what was the impetus for how -- let's take a fresh look and come back to it.

MR. WEBSTER: I like that, the wheel of color.

MS. CANIDA: Any other questions before we move into Cambridge?

MR. MEHTA: I'll start us off, and I'll just, you know, cover two slides, you know, just recognizing where we are on the clock and the agenda here.

Moving forward to slide 323. Trent talked quite a bit about strategies and about sub-strategies. The point of this slide is looking at how they all fit together, and that's something that we've spent a lot of time on as well. Meaning it's not just taking the best funds in category A, B, C, and so forth, but really thinking about how they can be, you know, uncorrelated to one another, and more importantly, unrelated to one another.

Moving forward two slides. You know, this really demonstrates the importance of strategic investments in that what you're looking at here is a slide that shows the correlation between stocks and bonds over time. And if you look over the very recent period, the correlation,

the similar movement of stocks and bonds has been correlated positive, meaning that it's taken a lot more effort to find the diversification effects, the risk reduction effects than it has been in the past.

And so, again, just building on overall portfolio construction, we're thinking about it in the context of strategic investments, you know, Trent and the rest of the Florida team here are thinking about it in the context of the overall portfolio.

MR. GRIMM: Great. So, in the interest of time, I'll skip forward as well to a couple of slides. Obviously, in 2022 we've seen a dramatic rise in rates, and that dramatic rise in rates is coming off of a backdrop where we were at peak multiples. We were at peak leverage ratios. You know, when rates were low, and what you see are a few bar charts, one is purchased price multiples reached their highest rate before this rate move. Leveraged ratios reached their highest. But the third chart here is just showing EBITDA maintenance capex/cash interest. So think of that as the ability to service that debt.

In a very low rate environment that was okay for a lot of capital structures. We're now at this inflection point where we're moving forward into an environment where from an investor standpoint -- so as Trent talked about the private credit portfolio, it's becoming increasingly attractive, but it's also becoming harder to service debt for existing borrowers.

And so what I would point out on the left side here, the two bar charts, one is just an example of a deal. So these are senior direct lending example deals. So think of, you know, your 50 percent loan to value. You have a lot of cushion for a company's valuation to compress before it ever touches you obviously.

And for a deal like that you might have been receiving in January of this year 6 percent unlevered all-in rate of return, or unlevered yield. That has now moved up to deals that we're seeing at sort of 11 or 12 percent.

So a lot of that is base rate move, but there is also -- you're getting paid for the risk incrementally more. So it's actually a really interesting time and attractive time

within private credit.

The other effect, though, is on the borrower, and so we just gave an example here. That's what's in the table. I won't walk through it in detail, but on the bottom row what we're trying to highlight is that debt serviceability, and that's compressing quite quickly.

You won't see that in LTM numbers, but what we're showing is if you run rates, the rate move today, you've gone down dramatically, and so obviously if rates stay here for a long period of time, or even increase, there's going to be a lot of capital structures that ultimately lead into a cycle where you're going to have higher default rates.

Default rates are lower than average. Still today they're quite low, but that's a lagging indicator. What is, I think, more meaningful is on the bottom left here, we're showing you distress ratios for the high yield market in leveraged loans. So that's really a price-based view of how the market is looking at a set of borrowers thinking that they will have a problem going forward.

So you're seeing that trending up, and you're also seeing downgrades to upgrade ratio trending up, meaning rating agencies are practically looking at companies, looking at their cap structure and downgrading them. So that's just real high level. In the interest of time, I went through that fairly quickly.

But the net/net is it's an interesting time to be an investor for private credit. And, you know, the market is pricing in -- the liquid market certainly is pricing in trouble ahead.

MR. GOETZ: Richard, if I could just check on the data set. The data set on your page 12, that's all companies, including publicly traded, just private? What's the --

MR. GRIMM: That's a good question. So this is LTD data that's looking at -- it's really more the broadly syndicated loan market that we're looking at that tends to be supporting private equity backed companies.

MR. GOETZ: So that's what I was going to ask. So the debt multiples by Tranche in that lower right, the free cash flow relative to cash interest --

MR. GRIMM: Yes.

MR. GOETZ: -- that chart is mostly what private equity is facing today, and that's why you're saying the multiples -- the deals are going to come down as a consequence.

MR. GRIMM: Yes. Well, in this chart in particular it looks quite healthy. A couple of things, and I don't want to get too far in the weeds. You know, EBITDA is a non-gap measure. It is literally measured borrower by borrower and loan by loan, so it looks quite healthy. I think in reality if you looked at pure cash flow to interest it wasn't as good as it was looking in those charts. But also that is LPM, and since you've had that rate --

(Overlapping conversation.)

MR. GRIMM: -- so dramatic, as you forecast forward, and that's what we were trying to show on the other table, you're getting into an environment where that some borrowers certainly are going to start to have liquidity issues if we stay at elevated rates and also if you see any margin compression.

MR. GOETZ: Thank you.

MR. WENDT: A question from Wendt. Why

are we discussing this? Aren't you already doing this, Trent?

MR. WEBSTER: It's just a little bit more color, Gary.

MR. WENDT: Color. Thank you.

MS. CANIDA: Any questions for Cambridge? Okay.

MR. OLMSTEAD: Just to clarify in summary. I guess the point of that was you're looking -- you know, again, the credit market is increasing, so you're going to continue to look at more opportunities there? Like, what's the big takeaway from what you just went through?

MR. WEBSTER: I think the big takeaway for us is that we would be shifting over time more into direct lending, higher up the (inaudible).

MR. OLMSTEAD: Okay.

MS. CANIDA: Okay. Anything for Verus?

MR. OLMSTEAD: Madam Chair, may I ask Lamar a question?

MS. CANIDA: Please.

MR. OLMSTEAD: We had so much fun over the last hour and 24 minutes, I wonder if there's any of those tabs, Lamar, that we really need to reserve some time for? Is there any major

discussion this afternoon -- strategic mandates, or is there anything that's going to take time so I can gauge my questioning?

MR. TAYLOR: I think it's these next -- it's the presentation that's coming up and then the Cambridge presentation after that, the fixed income presentation and the asset allocation presentation I think are the critical ones to get through today.

MR. OLMSTEAD: What's your time per section?

MR. TAYLOR: What's on the agenda?

MS. CANIDA: 22. So we're 20 minutes behind. Okay. The floor is yours.

MR. SHOOSHANI: Can everyone hear me? Good afternoon. Thank you for the opportunity to review the structure of this portfolio, strategic investments. It's 12 percent of your portfolio, it's significant exposure, and it obviously plays an important role.

My name is Faraz Shooshani. I head up private markets at Verus. I worked with a number of colleagues at Verus, including Eileen Neill, who is the senior general consultant. That name may ring a bell. She's been associated with our organization and has worked with your staff in the past.

She very much wanted to be here as this presentation is really her creation. She did have some client conflicts, so I am here in her stead.

There were, again, a number of us that worked on this on the quan side, many on the private side, as well as our hedge fund colleagues. Again, on behalf of all of us, thank you.

With regard to, you know, sort of the ask from us, Verus was hired earlier this year to do a review of the structure and implementation of the strategic investment portfolio. As it was mentioned, this portfolio is now mature, and with the history that it has, the ask from us was really to answer a broad array of questions that varied from, you know, portfolio construction and performance and fees paid on all the different constituents of the portfolio.

The big picture, I guess to summarize it, the questions were is strategic investments implemented effectively, and if we were

starting this portfolio from scratch how would we do it today. Those were really the two overarching questions that we were faced with.

We reviewed the portfolio both from a top down and a bottom up perspective. From the top down, again, the asset class in your portfolio was created in 2007. In 2010, there was a formal target established, a 6 percent target to this asset class. That increased to 11 percent in 2012, and then to 12 percent in 2014.

The objectives -- Trent reviewed those earlier -- were to generate returns at or above CPI+4. So, that's a pretty high return hurdle. Perform the plan in periods of significant market declines, provide access to diversified sources of return via assets and investments that don't really have a natural home in other assets classes, and to dampen the volatility of the overall portfolio.

Looking at the portfolio as of September 30th, 2021, 18 and a half billion dollar exposure. Illiquid was a significant chunk of that portfolio, over 60 percent, 62 percent. The remaining 38 percent were in liquid strategies.

We looked at these investments also from the bottom up. Again, the components were discussed earlier by Trent and Cambridge. A series of debt-related investments, equity-related investments, real assets diversifying and flexible hedge funds. That, you know, colorful wheel that was referenced earlier.

Honestly, initially we had the same impression. Boy, there's just a ton of different strategies here, but really they fell into four or five different big buckets.

In all, more than 180 funds across 114 relationships, so really quite diversified by manager name and fund and vintage year and so on. I think the thing that we came across as we sort of thought about each one of these investments was from the bottom up fit with the overall portfolio we kept running into the fact that the portfolio has these sort of competing objectives of having a pretty high return expectation, CPI+4, and also on the other hand having a role to mitigate risk in a downside scenario.

Our impression was that these two competing sort of objectives, that the growth-oriented objectives really influence the implementation more. So a lot of the investments had more of the growth-oriented approach.

And when we thought about, again, just sort of what should the role of this portfolio be in the broader overall FRS plan, we decided to really look at it more broadly as, well, what way did it fit in that plan and what is the overall role of the various asset classes. And this is a schema that we came up with on page 309 of this presentation.

You see that generally the various asset classes, they fall naturally into three buckets, equities and private equity, public and private. They really are a growth portfolio. Basically, that the return driver there is through economic activity and growth of the companies. That's where the returns are generated, so the driver of the return is really growth.

Income is about 19 percent of the portfolio. That's where you have your fixed income, bonds and cash. That's 19 percent of your portfolio. The role is to really play as sort of a ballast in most environments. In down environments typically income is sort of that downside protector.

And then you have an inflation hedging bucket, which was real estate primarily, and that was 10 percent exposure. There in inflationary periods over time real estate tends to add value and increase value, and so that was the role that we saw.

For strategic investments, again, there were these two competing -- there was a bit of growth and also downside mitigation. The overall role we thought, you know, what is really missing in sort of the schema that we were looking at. And in our view, and sort of our recommendation is really to start looking at the strategic investment portfolio more as a diversifier and have that be sort of more of a formal role, and that's really what speaks to our first recommendation here.

If you agree with sort of that recommendation and, you know, how do you sort of adjust the objectives of this portfolio

basically by lowering that return threshold from CPI+4 to CPI+2, you're really reducing the growth orientation of this portfolio and really allowing the portfolio to play more of that diversification role.

I should add, looking at many of your peers, some of the larger plans, many do view portfolios in sort of that earlier view that I shared where the various asset classes play different roles. And so that diversifying piece, again, was missing. By changing the return objective from CPI+4 to CPI+2, that allows for the growth-oriented tilt in the portfolio to be more diversified and to really allow for more of a diversification within the portfolio.

And specifically what this leads to is the structure of what is in the portfolio. Again, there were these four or five different buckets that were resident in the portfolio. Private equity, for example, is clearly in our view more of a growth-oriented asset. Does it make sense for private equity to remain in strategic investments when there is arguably another natural home for it within the private equity bucket?

So, basically, if you reclassify some of what's in here into existing other asset classes, really by aligning the return drivers of what's in this portfolio and putting them in the right bucket, you end up reallocating private equity to the private equity portfolio.

The real assets, their role is mainly inflation hedge. If you combine the real assets with real estate you have more of a diversified real assets portfolio, and so reclassifying those two segments of the strategic investments allows you to really focus on more of the diversification pieces within strategic investments to really -- that home becomes more a home for hedge funds and private credit fundamentally.

MR. OLMSTEAD: Do you mind if I ask a quick question?

MR. SHOOSHANI: Sure.

MR. OLMSTEAD: When you look historically at the plus four and you have those two asset classes of real estate and PE in there, did you guys quantify what percentage of, you know, the results were of the PE and the real estate

aspects? If we're taking it from four to two, is the delta 2 percent right now?

MR. SHOOSHANI: Yes. So private equity is about 1 percent of the 12 percent overall bucket right now. We didn't exactly quantify the return drivers, what led to what. There's a whole lot in this portfolio, so quantifying, frankly, that is really tough to do.

But, you know, we did look at sort of what the amount of this strategic investment portfolio that's in each of those buckets. Private equity is about one, real assets I think it's around -- it's a good portion. I think it's around 22 percent of the portfolio.

And so putting that in -- combining that with real estate really gives it more of a diversified real asset focus where inflation hedge becomes the --

MR. WEBSTER: I'll give you some color. So, the private equity portfolio, we started investing in February 2009. That includes -- this also includes the Florida Growth Fund. The return has been 10.9 percent per annum compared to a benchmark return of 7.2. And then if you look at our real assets since inception, the net return has been 6.3 percent and the benchmark has been 6.9.

So combining the two, and that was -- it's right now 22 percent, but it's been around 20 percent of the total fund.

MR. OLMSTEAD: Okay. In trying to assess whether going from four to two, right, because that's what you've proposed -- I think that's per the recommendation, and if you strip out those other two, you know, I don't know the math off the top of my head, but it sounds like the PE piece is much higher and the real assets are sort of close to the same. So I don't know if that delta from four to two makes sense, or if it should be four to three if you look at (inaudible) --

MR. SHOOSHANI: Yes. So I think the way we came up with that CPI+2 was really looking at what remains there today if you strip out those two components --

(Overlapping conversation.)

MR. OLMSTEAD: If you strip them out, do you think it goes from +4 to +2?

MR. SHOOSHANI: Yes. Yes, exactly. And it's really more from what remains, what's sort

of the reasonable expectation of returns from those, and we think CPI+2 is appropriate.

MR. OLMSTEAD: Chairman, a question.

MS. CANIDA: Mr. Olmstead.

MR. OLMSTEAD: I guess I don't understand that. I would think that if you took out real assets, maybe private equity hinders it a little bit, but, I mean, there's so many different strategies that you're taking -- I mean, it's not like they're risk-free, right, these strategies? You're taking good risks.

Now, it's negatively correlated. I will give you that, but from a risk standpoint I don't know why CPI plus 4 percent wouldn't be -- why we would have to take that down if we take these two -- if we take real estate and private equity out.

MR. SHOOSHANI: So, you know, specifically what would remain in the portfolio as it's constructed today, right, the two big buckets are private credit and generally return expectations. There are some -- over the long term, some are between six to nine, and hedge funds. And in hedge funds we just came through a very long period where performance really wasn't there.

MR. COLLINS: Sheila knows how I feel about hedge funds, but, yeah. No, I'm with you.

MR. SHOOSHANI: But they do play a --

MR. COLLINS: But we're not doing long/short, right?

MR. SHOOSHANI: Exactly. And so what we were trying to balance is every part of the portfolio needs to create enough returns because these are not inexpensive assets that you're investing in. So if you're going to push it, we do think that it does make sense to sort of have a goal of beating CPI, right?

MR. COLLINS: Yes.

MR. SHOOSHANI: And CPI+2 is really where we landed. Where, you know, again, you don't have really growth-oriented assets in there. Private credit is more of a contractual return, generally returning between 7 to 9 percent over the long term, and then that's balanced by hedge fund.

MR. COLLINS: So if CPI was two --

MR. TAYLOR: If I could just kind of maybe give you -- because this was one of the -- this

is not the only -- I mean, this was a recommendation, but there's another way to come at this which is a little bit -- a little bit of a bottoms-up approach in terms of -- the real conundrum was sort of how do we -- what are the objectives we're trying to get from the asset class when we take a look at what we've already got and where we can efficiently get those returns, because we've got a lot of -- we've got a lot of growth exposure in equity and private equity.

The CPI+4 when this asset class was created was largely an opportunity cost. That's why it was there. Because back when this asset class was created, a lot of the focus was on its ability to be opportunistic and to take interesting exposures that didn't fit elsewhere. And if you were going to do that, you didn't want to lose money relative to your opportunities in the total fund. So that was kind of the target.

And what I think we saw as the asset class developed is it kind of pulled -- it kind of pulled you in multiple directions because you had this opportunity cost target, but you also had this diversification requirement, which is why when you look you've got this spectrum when you sort of decompose what the return drivers are, a lot of this very funky cool credit, it does look a lot like equity when you look at return drivers. And so it kind of had this hodgepodge.

The other way to do it, rather than sort of set a CPI+2 is to say, well, what are we trying to achieve from the asset class? And if it's diversification, if it's low beta we can look at a portfolio construction exercise and optimization exercise and come up with where we want to allocate those assets and how we want to drive that asset allocation and put benchmarks with respect to those exposures.

Say there's a private credit benchmark, for example. And if you wanted to have 20 percent of the portfolio private credit and 10 percent real assets, we would sort of build that portfolio. Then what you've got is a weighted average benchmark for the portfolio based on the targets that you're trying to achieve for each of those sub-asset classes, which is kind of the way we run right now from

strategic's primary benchmark.

Well, I guess it's a secondary benchmark. The primary benchmark is CPI+4, but from an implementation perspective we're looking at a weighted average approach. So we could do it that way. We wouldn't necessarily have to have CPI+2.

MR. COLLINS: Can we agree that just because you have low beta doesn't mean you should have low return?

MR. TAYLOR: Absolutely. Absolutely. And that's exactly what -- and again, I don't necessarily -- I think this was a recommendation that they had come up with, but it's not one that we necessarily have to do.

We can come at it from a bottoms up and we could say if you want to build an asset class with sub-asset classes that have low beta, they may very well be volatile themselves to counteract the volatility of the total fund. So from a return perspective, that sub-asset class might have a pretty healthy return objective, but be offsetting and diversifying for the total fund.

So we could have more of a -- we could

come at it from the standpoint of a weighted average composite of benchmarks of the sub-asset classes relative than target these CPIs. I think this is another way to look at it. And I take your point.

MR. GOETZ: Madam Chairman, could I jump in a minute?

Yeah, it's an interesting question because I think you can get diversification without sacrificing return as long as you're in completely different categories. Measuring the correlation -- I want to ask a study question. The deviations that you're measuring correlations between, were they monthly, were they annual? I'm talking about the correlation of the returns.

MR. SHOOSHANI: Quite honestly, I wasn't as involved in the quan piece of it, so that's a question I can follow up on, but I don't know if we looked at it --

(Overlapping conversation.)

MR. GOETZ: Okay. Well, the reason I was asking that is over the long run we have a long duration asset here, right, in the pension. So in the long run we've just learned from Aon

that we had low liquidity it appears, right? Is that fair? So it would make sense that you're trying to diversify away 10 percent down in the equity market when you know that the 10 percent isn't a long-term negative, it's just that near-term event.

MR. SHOOSHANI: Right.

MR. GOETZ: So when I go with Peter's argument, we're playing a long game. That long game has to have return. So if we had to diversify at zero return, I think Tim would say no, just give me the money in the equity market, right, because I'm going to get some return.

So I think what we're talking about, Lamar, is what should the sacrifice in return be to get this diversification when it's still only 20 percent or 10 percent of the total anyway.

And, by the way, I wanted to compliment you, Trent. So far it looks like we've gotten good return for the diversification that we've had there.

MR. WEBSTER: Well, I think that we also -- and again, I'm just thinking aloud here -- when we think about the different components of what we currently are, and if you carve out private credit that would have its own benchmark. If you carved out real assets that would have its own benchmark. And then kind of strategic investments is what's remaining. Hedge funds, insurance, and our activists.

And so we'd expect the activists to do well, but the insurance and the -- the insurance could do well. We think insurance is going to do well and be uncorrelated (phonetic). The hedge funds would act like bonds, right? So whether or not CPI+4 is the right one for the remaining -- for what's remaining as strategic investments is an open question.

If you would combine private credit, real assets, and strategic and CPI+4 -- I think it's doable personally. But if you carve out and say, okay, well, private credit is this, real assets is that, and what's remaining, it's probably a lower returning --

MR. GOETZ: But, I think that -- can I just jump in there? I think the question on

the table is for our long-term health of our pensioners, should we pay for diversification? So, for example, if the benchmark said hedge funds -- I'll just make it up. The hedge funds are diversifying, but now the expected return is zero. Should our expected return be zero? There is some line --

MR. TAYLOR: And I guess just from my sort of Mickey Mouse -- the way I would look at it is it needs to be higher than fixed income.

MR. GOETZ: Yes, absolutely.

MR. TAYLOR: It needs to be diversifying, but higher than fixed income and generate a cash yield. From my perspective, I think that's where, in my head, where I was hoping we would see this move.

MR. COLLINS: So if I told you, Trent, this is your job, and you've got to get CPI+4, you'd look at me and say it can't be done. Or, okay, I'm going to go do it. And if it can be done, then why are we lowering it?

MR. WEBSTER: Again, my personal opinion, and there are people in this room who disagree with me. Fair enough.

MR. COLLINS: Everybody raise their hand

who disagrees with him. I just want to see who that is.

(Laughter.)

MR. WEBSTER: But I'm a little biased. I think with the collection of assets that we have here we can do it, but I do think that, again, if you -- if we make a decision to say we're going to put X percent in private credit, Y percent into real assets, what's remaining as strategic will be the other stuff, right? Whether or not those can do CPI+4, I'm not sure. They should do better than bonds, that I do agree.

But what I would look at is what are the expected returns and what is remaining in strategic after you carve out private credit and real assets, right? Because the private credit and the real assets are where a lot of our return generation is coming from.

Now, if you were to put the three together, then, yes, I think we can. But if what we want to define here is private credit, what do we want private credit to do? What do we want real assets to do? What do we want the remaining stuff to do? And I think that what

we're talking about is CPI+4 for the remaining stuff. I would think that would be --

MR. TAYLOR: So let me just kind of further cloud it. And let me revise my -- let me revise my previous remark. I think -- I think we would expect returns higher than core fixed income. I think that we can get -- we're moving into an environment now where non-core and higher yield -- there's returns in fixed income, again. So I would say that a target of returns higher than fixed income.

But the other aspect to think about too is that -- and this came out as we were looking at the structural review, there was this iterative and in some part chicken and the egg conundrum here around the strategic investments restructuring and asset allocation, right?

Because strategic investment has been this kind of plug asset class. And that's what we saw and I think what we'll see as we get back into where Aon is coming from. Some of that as we got into this and hearing the recommendations not only from Verus but Cambridge had very similar recommendations around the competing objectives of the asset class.

And so as we saw this, frankly, the only thing that I think we all saw as a way through was, well, let's just go back, take a step back and look at asset allocation at the total portfolio level, and looking at it from a portfolio optimization perspective what do we think capital market assumptions are, what do we think the opportunities are, and where can we get the most efficient return for the risk that we take in those spaces.

And when we did that, a lot of interesting things came up, where also it validated some of the very points that both of the consultants had come to that strategic investments was largely a completion bucket when you look at -- when you look at the total fund opportunity set that's there and the capital market assumptions that are available to us, strategic investments became kind of the completion bucket and had done exactly what it was supposed to do, which is to incubate asset classes, namely private credit, which it did that for years.

And so it kind of of -- it kind of of led the way forward, which I think we get to some of

the questions and the points that you're getting at. We don't have to sacrifice overall return. We can get the diversification in these areas that they're recommending that we get exposure to, and the way it works is not necessarily to kind of come up with a return target for a specific asset class, but it helps the total fund overall generate equivalent returns at less risk or higher returns at equivalent risk.

And that's where we ultimately came to. So not to keep spinning this in circles, but that is exactly --

MR. WEBSTER: That has been our journey.

MS. CANIDA: And, Lamar, this conversation is going to continue. In March it will be our primary objective to do the asset allocation, so this is good discussion going into that.

MR. COLLINS: If I could say one last thing?

MS. CANIDA: Yes.

MR. COLLINS: Going back to my comment before, if interest rates were 2 percent and I said, hey, you had to do CPI+4, it's different than today, right? It's a smaller -- that would be a smaller number.

MR. WEBSTER: Well, we did do it with --

(Overlapping conversation.)

MR. COLLINS: Well, yeah, but just because they're six doesn't mean we shouldn't try to get the four on top, right? I mean, otherwise you would just say okay I'm out of this asset class, and, you know, that number can't be done.

MR. WEBSTER: Well, I would look -- I think of it a little different. What is the expectation for your private credit portfolio, and to reinforce what Lamar said is what does private credit play in total.

MR. COLLINS: CPI+4.

MR. WEBSTER: There you go.

(Laughter.)

MR. OLMSTEAD: Well, this is partially an apples and oranges conversation, right? You're looking at diversifying assets versus strategic investments, so I think that's where --

MR. TAYLOR: And maybe that's -- maybe that's what this comes to. I mean, is strategic investments an asset class or is it a composite of asset classes?

MR. OLMSTEAD: Right.

MR. WEBSTER: Yeah. And again, one of the things that we were created for was to grow, you know, to grow new asset classes, and my belief is that private credit is now an asset class. It wasn't 15 years ago, but now it is.

MS. CANIDA: Thank you, Faraz. Do you have any other comments?

MR. SHOOSHANI: Just to continue, one of the things we did was run this optimization exercise, which is basically we mapped out the various asset classes that are within strategic investments as well more broadly within the FRS. The column on the left that is highlighted in yellow, I will just summarize the Sharpe ratio there is lower than the Sharpe ratio that you would achieve by moving the various pieces of the SI that don't really quite fit there, and we think if you reclassify it makes sense.

So if you optimize to the sort of new regime of having a more diversification role for strategic investments and then optimize the overall portfolio with exposure to equity, specifically an increase to private equity and

SI, you will end up with a better risk return profile overall.

I won't go through the rest of it. Really the remainder is adjustments to the various benchmarks which are pretty much in line with what you already have. We think it makes sense to still -- as Trent mentioned -- continue having the implementation benchmark. So whatever ends up being the components of strategic investments, each one of those strategies would have its own benchmark and (inaudible) would be that implementation benchmark. The strategic benchmark, I guess that's where we're saying CPI+2, but potentially higher.

MS. CANIDA: Any other questions? Thank you very much. Well done report. Thank you.

Cambridge.

MR. GRIMM: We're back. So we'll dive right in. Obviously we know the portfolio well, but for this exercise we really stepped back and said if we had a blank sheet of paper how would we look at strategic investments. And the way we think about that is the component parts that would create strategic

investments. How do we think of that in terms of a percentage of the overall plan, and what would be most complimentary and we think the best structure. And then also what would the components parts of strategic investments be.

So, one, to go through just at the outset sort of our high level conclusions. Number one, we would recommend that the SI allocation be increased, and Sheila is going to get into a little more of the specifics here, but, you know, today, as Trent pointed out, it was as of June at least 11.7 percent, so close to that 12 percent target. But we would advocate increasing that, and we have here a 20 percent level. So, you know, we think more would be -- would be better for the overall plan.

Secondly, and I think similar to, you know, Verus's conclusion, you know, what is the objective of strategic investments. And we think -- and when we talk diversification we don't -- when we think of a long-term perspective, we're not thinking of that as providing less return, but we're thinking of it as being complimentary to the overall plan.

What elements of strategic investments

will provide downside protection when public equities aren't doing that, when private equity maybe isn't doing as much of that. So on and so forth. So, you know, prioritizing diversification over return maximization.

And really by emphasizing -- we have here on the slide debt. We mean private credit there and other diversifying strategies. You have a lot of that in your portfolio today, but we would be emphasizing that more, which would then in turn further reduce the element of equity risk that's built into the SI portfolio.

And then three and four on this slide. You know, the team is doing this today, so this isn't sort of a new objective other than the point on co-investment, but it would be leaning into this a little bit more. So point number three is considering larger strategic relationships and core relationships where, you know, and I can think of in the context of private credit, especially if it's on the more sort of risk averse direct lending strategy where you have a significant relationship with the fund manager, but you set up co-investment through a side vehicle that allows you to bring

down fees and expenses even further and create additional differentiated opportunities.

And then the fourth being, again, you're doing a lot of this today, but where appropriate we think there are areas where you could put in place more SMA structures where you can define a little bit more exactly what you want to go into that portfolio as well as some evergreen structures.

The last thing that's not on here that I would comment on, and maybe we'll park it. I think Andre is going to touch on it. We do have some perspective on CPI+4 as a specific target for this portfolio versus as an overall target for the plan as we look at the other drivers within the plan overall.

So now I'll hand it off to Sheila.

MS. RYAN: Okay, great. So the next two slides are the key outputs from an asset allocation analysis that we did specific to this asset class. And if we focus on the far right-hand column, there's a lot of numbers here. I'm not going through them all in detail. But the big takeaway as what Richard alluded to earlier is by increasing the strategic investment allocation from 12 percent to 20 percent at the expense of global equities largely speaking, what ends up happening is you have an improvement in overall return and risk profile.

So you've got the Sharpe ratio you'll see down there on the bottom right. An improved Sharpe ratio being driven by the fact that you're pretty much reducing volatility in a meaningful way while essentially holding expected return fairly constantly. And you can see this on the next page as well, which is the same data, same analysis, but just a different graphic to capture it.

And you're seeing here on the Y axis, this is expected return, and the X axis is asset volatility, or risk. And you'll see -- it's a bit of an eye chart here, but the little purple box is the proposed portfolio, which is that 20 percent allocation to strategic investments. And you'll see that that portfolio results in a reduced level of risk for roughly the same relative return.

And this is being driven from an increase to private credit from 4 percent to 8 percent;

from real assets, 2.8 to 5 percent; hedge funds from 4 to 6 percent; with global equities down from 51.5 percent to 43.2 percent. So those are the sort of asset allocation movements that we made to come up with this output, which reduces risk and produces a higher Sharpe ratio.

So that was the key takeaway from that asset allocation work. I'm going to turn it back to Richard. He's going to spend some more time talking about thoughts specifically around private credit.

MR. OLMSTEAD: Could I ask a quick question? You've probably covered it. It's obviously very important because I hear we're shifting global equities to private credit, which is one of the recommendations. But when we have a conversation in March around overall asset allocation, will this look the same then or different, right?

Our PE and VC has performed, you know, very well. We're not saying increase that at all. We haven't been able to deploy more than 12.7 -- whatever the number is, 11.7 percent in our strategic investments for a while. So the question is, is this the prelude into our conversation in March, or is there a different study that's going to be done there? And then what is the reality of us or the time frame in us being able to go, if we decided to, from 12 to 20 percent when I think we've had a harder time.

Maybe private credit -- it has a lot more opportunity all of a sudden, or over the next six years we're going to be able to do that, but how we think about timing on that if we were to do it.

MR. TAYLOR: I think that this is a prelude to more in-depth conversations, but it's one of multiple options that we would have. And key among them is our ability legislatively to be able to allocate above 20 percent, right? So that's part and parcel of it.

The way we did that before, because we've actually crossed this bridge before, was back in 2008, I believe, we had a transitional asset allocation. So you had an asset allocation that was based on your current limitations, but then you had an asset allocation based on the

assumption that you would get an expansion into alternatives. So originally we were capped at 10 percent and then we moved to 20 percent.

And I envision that that would be similar to how we would approach it this time. We would have an asset allocation that would be based on our current limitations and we would have a transitional asset allocation based on expanded allocations in March, because the Legislature would not have concluded by then.

But, part and parcel of that, which I think the most important one is that transitional asset allocation, because we really do hope we get the ability to allocate more in the space. Because as we looked at these asset allocation runs and the optimizations, it certainly -- there's a lot of support for being able to allocate more in space because of the more efficient risk return opportunities that are available.

So I think this is an outcome, and there are others that are possible as well, but that's what we would come to. And, by the way, we have certain recommendations that we would come to you with in terms of -- you know, which we would try to implement.

MR. WEBSTER: Right. And I think also on implementation, the way I would envision it, is it's a target over time. So you would gradually move it. It would be very difficult to implement it unlike private markets in a year, because you would be blowing stuff out at 70 cents on the dollar. But the idea would be to have benchmarks over time where you add how you're approaching, you know, things like that.

MR. TAYLOR: And to that point, because you're absolutely right, particularly in the alternatives, because a lot of these asset allocation optimizations are done, it happened like that, and you're just sort of assuming this is where you're at with allocations, but it will take time.

We have policies, so we have proxies for it, so we'll look at -- if we have -- if we have 10 percent unallocated in alternatives, we would proxy some component of the rest of the fund as a way to sort of gauge our process along. So we have liquid -- we would have an allocation to liquid components of the portfolio that kind of helps us get along here,

but we would have to make those -- that transition would have to take time. We just can't ramp up an additional 10 percent in alternatives.

MS. CANIDA: Right.

MR. GRIMM: So, now, you know, this slide, I'll just touch on it very quickly as an aside. It's part of the conversation we had going into this analysis. We wanted to assess the current portfolio and the amount of equity exposure versus credit exposure.

I won't go through it in a lot of detail. What I would note is if you look at the line items that build up to that first purple row there, they're going to look a little bit different than what Trent walked us through previously. Those are our sort of reallocations of some strategies. Ultimately, the punchline is if you look at private investments, which was more of a granular analysis, and then public strategies, which was a little more of a rough top-down number, we look at the portfolio, SI portfolio as having roughly 50 percent credit exposure. So that was just a little bit of a sidebar on that.

MR. WEBSTER: Yes. And, Richard, just so -- if you could go back to that. So we would probably do something like this to replace the wheel of color. That's the Cambridge framework for private credit, and so that's probably what we would -- some sort of modified.

UNIDENTIFIED SPEAKER: Never. Never replace the wheel of color.

(Laughter.)

MR. TAYLOR: We'll just change the wheel of color.

MR. WEBSTER: More shades of blue.

MR. GRIMM: Yeah. So one of the points we made -- and obviously we're advocating for an increase to private credit, but one of the points we made is on diversifying. And this slide, I think, is helpful just to capture, you know, while -- if there was growth in the SI portfolio, a disproportional amount would be in private credit. But then a disproportionate amount of the growth within private credit would really be that top row, which is that is our index for senior debt.

So, put differently, think of direct

lending. And this data goes back to '96. It's measured quarterly. And senior debt -- and intuitively it makes sense if you're 40 to 50 percent loan to value, you should have less volatility when valuations are whipsawing around in the market like they are today. And that's what this data proves out.

So if you look at that top row and you trace across, one of the benefits you have with direct lending, and to Trent's point, it has become so much more institutional. You have teams with, you know, now 20-year track records, so through credit cycles. So much easier to get comfort on backing a team.

But you have seen that not only historically have you been able to outperform the liquid public market equivalent, but you're also getting an asset class that's not highly correlated to the rest of your overall plan.

The top right is the S&P 500, and you can see that correlation ratio of .29. So that was something that we wanted to highlight as well as one of the benefits of increasing private credit.

MR. GOETZ: Yeah. Richard, just on that

point, though, I don't think, even though we now have a bucket of senior debt, that's not mark to market, right? It's not mark to market.

MR. GRIMM: You know, that's true, although, you know, a number of managers will adjust their marks for spread widening. You know, typically private credit managers will really take markdowns when they think there's a risk that they wouldn't get back par. So that's the main driver of when you're seeing markdowns.

So, to your point, it isn't mark to market, but what you will see -- I have another slide here. If you looked at Q1 2020, there were markdowns taken by managers. What you don't have in some of the drivers of that lesser volatility is there is an element of it not being truly fully mark to market.

But in terms of dislocation you have four sellers in the public markets. You don't really have that in the private credit market. So that also helps mitigate your volatility in an authentic way. Not in a -- we're not marking it.

MR. GOETZ: Yeah. I would say probably the lack of correlation -- it's a little bit better than it probably really would be if you were forcing --

MR. GRIMM: Yeah. Absolutely. I think that's a fair point. But, again, I think -- you know, again, this goes back to '96 through cycles. I think it's absolutely a fair point. It also is, though, I think that element of not having a forced seller, that's where you see the credit markets align very closely with the equity markets is when you have forced sellers pushing --

MR. WEBSTER: Just a comment -- just a comment on that, Trent, because we asked the same question. And so when we do our annual work plan, I ran the numbers using the LSTA as a proxy for private credit, that's your big loans. They are mark to market. And what we actually found from that is that the correlation to the S&P 500 is 0.6, and this goes back to formation of the benchmarks I think in 1996.

And the most efficient, not the highest returning, but the most efficient portfolio would be 70 percent LSTA, 30 percent in stocks. Lower return. But in terms of your Sharpe ratio that's your highest Sharpe ratio. I wouldn't recommend that, but it just shows you, if you use the LSTA as a proxy for private credit, that it's diversifying and beneficial.

MR. GRIMM: But to your point, there's a little bit of an artificial depression of that correlation number.

MR. GOETZ: And just one other, you know, bugaboo from my perspective as an equity guy is the measure of risk we're using in the Sharpe ratio is standard deviation, and the longer the period of the standard deviation the lower the standard deviation of any return in the equity market.

So what happens is -- that's why I asked the question earlier, are these monthly, are they daily, right, because if you do annual, and you said, well, over a year, how do these return variances look? What you would see is these mark to markets coming down and the non mark to markets staying steady, you know, over a longer period because you're not getting the mark to market --

MR. GRIMM: That's true. But the other interesting outcome from the work that I did on this was in the LSTA the volatility in any five-year period was relatively stable. For stocks it would be this, and then this, and then this, and then this. For loans it was a lot more stable and the return was a lot more stable than you would think. Now, it did gap down in 2008. It gapped down in 2020. But it was a lot -- the volatility --

MR. GOETZ: There's no question it's less volatile. I was just making a point on that exact math of it.

MR. MEHTA: Yes. And just as an aside, like we several years ago -- because I had the same question, right, because we have a lot of private market stuff, so we went and hired a Ph.D. student from Florida State in the finance program, and we asked them to -- if you were to proxy our public markets, or our private markets portfolio onto a public market. What he found was that -- he said that you kind of look like a high yield index and your volatility would be about 50 percent higher than what the mark to markets would be.

And even when we -- because one of the things that we do, or one of the things I do is when we look at our portfolio is I adjust the volatility 50 percent higher, and it still shows a high -- a relatively high Sharpe ratio compared to the rest of the organization.

So it's an interesting question to the debate we have internally about how you treat mark to market. It's a lively debate, but those are -- we're asking those same questions, too, and they're perfectly fair.

MR. GRIMM: And then just going through these next couple fairly quickly. You know, this is a chart going back, again, over 20 years, I believe. I'd have to look at the footnote a little closer, but I believe it's over 90 senior debt funds, and that's that second column that we're highlighting.

Again, the reason we're focusing a little more on this is that would be -- we would be advocating adding more to this relative to other strategies, and you can see that in our benchmark we don't have an example of one of those funds not returning capital.

You know, that may not look the same in

five or ten years as you've had a proliferation, but I think, you know, obviously when we look at managers we're going sort of under the hood and looking at their lending practices such that in our ultimate benchmark we think you're still going to have that sort of composition. That just speaks to that downside protection.

And then this other slide is what we were touching on before. You know, that one quarter return. This is as of March 2020 purposefully. The dark blue is the Cambridge senior debt benchmark. The Credit Suisse leveraged loan index is your public market equivalent, and then we also show equities, S&P 500.

You know, there is volatility there. This goes to the point of, you know, the senior debt managers that we spend time with the most, they tend to be pretty reasonable in making those marks. Again, you know, not pure mark to market. But part of that difference of the senior debt drop in return in that of the leveraged loan index is, again, you know, you have forced sellers. You have panic in the markets and that drives those valuations down further. So, again, a little bit less volatility that you would be gaining from increasing exposure.

MR. MEHTA: That's different than the public fund markets, and one of the things that we've observed more recently as mentioned in a different slide is you have increased relationship between stocks and bonds in this case, looking at the sort of equity beta, if you will, of bonds and how that has increased.

So, again, as we have sort of revisited, you know, what we do and how the strategic investment asset class is composed, one of the things that was done, what, eight or ten years ago or so was to really bring down the beta. The portfolio really deemphasized some of the strategies like long/short equity, for example, in favor of those that have a very different return profile that are very uncorrelated or unrelated to the public equity markets, and that is reflected here in the blue line that stayed relatively steady and relatively low.

I won't belabor the next slide other than to say that, again, we believe, at the risk of opening a can of worms, but diversification

really does add value, especially for an investment portfolio that makes regular distributions to keep that volatility low to not impair the ability to pay out the constituents, not just in the present, but going forward.

MS. RYAN: Okay. Just changing topics here a little bit. One of the summary conclusions we had, and we highlighted these findings here on this slide and the next one, is around fund structure. And there's really kind of three key areas. There's evergreen structures, separately managed accounts, and then incorporating some of these co-investment overflow vehicles.

And so just as an example, an evergreen structure allows you to compound capital really more efficiently than the traditional lockup vehicle because principal is automatically reinvested as opposed to letting it run off, and then coming back and having to recommit to that fund every two to three years.

It also really helps with the J curve, because you're typically buying into an existing portfolio. So there's lots of benefits here of these evergreen structures. And to be fair, these structures have become much more common in the market today as the private credit market has grown. People have started to be much more aware of the benefits of these structures, and so we would look to encourage the SBA to continue to explore some of these structures for efficiency and fee saving purposes.

The other area is in the separately managed accounts. These would be large custom accounts for the SBA where you can negotiate some fee savings. You could implement at scale, and you can put some customized requirements around strategy, guardrails, and the like. You can prohibit certain types of investments or include more in a specific area that you're interested in.

And then the last area is to incorporate more co-investment and overflow vehicles to allow you to further concentrate your exposure with high conviction managers, get some fee savings and some efficiencies there.

And we flagged these because on the next slide you will see the actual exposure in the

portfolio today. The evergreen are shown here. This is slide -- is that 397? Yes. In the blue, both on an NAV and an NAV plus unfunded basis. So fairly limited exposure to evergreen vehicles.

And then the separately managed accounts are in the orange. And then the green is the total portfolio. So there is definitely some headroom, so to speak, to add more of these structures and more exposure to these structures from an efficiency and fee savings perspective.

MR. OLMSTEAD: Sheila, are you seeing your other clients able to, again, create -- you know, big managers and leverage from co-investments and whatnot, are you seeing this happen and we're not taking advantage of it right now, or --

MS. RYAN: Yeah.

MR. OLMSTEAD: -- do you see that everything is changing going forward?

MS. RYAN: It really depends on size, right? I mean, the SBA is one of the few very large institutions that can really leverage the SMAs as well as these co-invest overflow vehicles. So, you know, why not do more of that to leverage the size and scale. A lot of our other clients are going to be smaller and not have the ability to write the, you know, 250 million, $500 million kind of commitment.

And we're comfortable with a lot of these, you know, more concentrated relationships on the private credit side, particularly because the underlying portfolios are typically very, very diversified. It's not like a private equity fund where you've got ten to 15 underlying positions. Here you could have a hundred plus underlying positions. So there's a lot of diversification in the underlying portfolios.

MR. WEBSTER: Now that that's on the record, I imagine I'm going to get a lot of calls this week.

(Laughter.)

MR. GRIMM: And to answer that question, Vinny, amongst your peer group, specifically within private credit, yeah, other groups are taking this approach and having those overflow vehicles to bring fees down further.

MR. MEHTA: One of the other

recommendations is to reconsider the use of a CPI plus a spread benchmark in strategic assets. When you look at the sensitivity to changes in inflation of other assets, there are quite a few that have a fairly high degree of correlation and others that have sort of a low sensitivity. And, you know, point being that, you know, CPI plus a spread can be achieved better -- rather CPI or inflation sensitive assets can be achieved better through other asset classes rather than strategic.

I think the next slide, you know, shows this as well. So this is looking at the performance of various asset classes over, you know, various time periods. So, one-, three-, five-year time periods, and the frequency with which they outperform inflation.

And so you can see if -- I mean, if you were an investment -- if you were trying to maximize returns over the long run, you would probably want to be -- you know, have a high degree of allocation to equities, if not be all equities. But again, given the need to make payouts sort of continuously to meet the obligations of the plan, having a degree of diversification makes sense. And then in looking at this -- again, if you wanted to really have inflation-sensitive assets, there are other ways of really achieving that.

And, you know, the last slide here, I won't read all of these. It's just one more slide to advocate for that increase in private credit. You know, in the end what makes private credit interesting, again, is it's now institutional. You have groups that effectively -- rather than using an intermediary like an investment bank to arrange a deal, you know, the manager is doing that directly, capturing all that fee income, structuring their own documents to provide downside protection.

So there is real structural reasons why we think private credit is attractive and is an all-weather asset class, and it should be able to, for the long term, outperform public market equivalents in the credit space.

MS. RYAN: So those are our key findings. We also in our longer paper -- we didn't really include it here, but we also advocated for moving, you know, private equity style assets

into the PE portfolio. That was part of our writeup; we just didn't include it as part of that today. But those were our key findings. If any questions, we would be happy to field them.

MR. OLMSTEAD: In your asset allocation slide, though, you transferred the PE stuff into PE and the real estate into real estate, where we're looking at the 10 percent in PE going to 8 percent, or the 11 percent in real estate going to 10 percent. Did you reallocate strategic investments into the appropriate asset classes?

MS. RYAN: I'd have to go back and take a look, but what we did -- and you'll see this back -- yeah, on this slide here, we held the private equity constant at 8 percent. We kept real estate constant as well. So within the SI categories, I believe we had the private equity in that other category. And you can see we did shift it around a little bit. I think we raised it up to 2.8 percent from 2 percent.

MR. OLMSTEAD: And I would think when we talk about this in March that we should at least normalize where those assets end up.

It's confusing if private equity and real estate are in there.

MS. RYAN: The other includes real assets, too. So it's really not broken out here, but --

MS. CANIDA: Any other questions? Thank you very much.

MR. TAYLOR: Madam Chair, if I could just for purposes of some guidance for us, which we can take back and then -- because one of the -- strategic investments, unlike the other asset classes, has quite a bit of discussion in our investment policy statement.

And so the restructuring here in terms of some of the changes that we might make need to be reflected in our investment policy statement, because right now, you know, there's a number of the things -- CPI+4, for example, is an objective of the asset class.

So what I would ask, and the recommendation that I would have for consideration is that there be some -- sort of an affirmative vote, or feedback, direction from the IAC to kind of combine what's on pages 341 and 386, and as follows, and it's

kind of incorporating some of the feedback we have here.

So if you look at page 341, the third bullet point there, Verus's recommendations around strategic objectives, that the primary -- which is also on page 386 in the second item of Cambridge's, that we look at getting rid of the CPI+4 return target for strategic investments objectively, but its return target becomes the composite of the return targets of its sub-asset classes, essentially right now its secondary benchmark, that its objectives become dampening the volatility, improving risk-adjusted returns in the FRS, outperforming the FRS during periods of significant market declines, increasing portfolio flexibility by investing in new strategies and opportunistically across current strategies.

Those recommendations, which align with -- and if we need to incorporate specifically Cambridge's recommendation on 386, of prioritizing diversification over return seeking, and emphasizing debt and diversifying strategies, so reducing exposure to equity risk.

That would be my recommendation, the first recommendation, and request for feedback from the IAC in terms of support for that recommendation. To move in that direction, which would give us a framework for when we come back for asset allocation, this is embedded in the assumptions that we can make to present further recommendations with respect to asset allocation moving forward.

MS. CANIDA: Go ahead, Vinny.

MR. OLMSTEAD: So, one thing I hear from Trent is that private debt is its own (inaudible). I don't know how fundamental of a conversation we're going to actually have in March, but do we create a sixth asset, which is private debt, or do we stay within the confines of strategic investments versus equity?

MR. TAYLOR: If I could -- I would say that I feel like we will have a very good discussion in March around that very question. Right now this would assume that private credit stays in what we call strategic investments asset class, and that that becomes an element to help achieve the objectives that we've

outlined here.

Now, in March, we might make further changes. But I'm just trying to get a sense of as we look at some optimization exercises, this completion bucket that I sort of look at strategic investments being, if that completion bucket is largely centered around these objectives, that gives us -- that gives us direction that we can come back to you with some recommendations that we think can be more specific.

And maybe there will be from that a private credit or an active credit asset class, and then more specifically, which then you'll look at what's remaining in terms of the return expectations there. But again, the overall return objective would be the weighted average return of those sub-asset classes.

MR. WEBSTER: Yeah, Vinny. And I think that in terms of the discussion we've had, you could have a set target for the -- or you have a set target within SI. Because right now, like, we have some very wide bands and all the different things that we can do, and it's essentially tightening the bands.

Like right now our credit, or what we call debt, is between zero and 60 percent. That's a wide band for strategic. So tighten it. And you can either do that at the fund level or within strategic.

MS. CANIDA: I'm sorry.

MR. WEBSTER: Go ahead.

MS. CANIDA: My personal opinion is I like the way it's worded in 341, the remaining current strategic objectives versus right now getting ourselves into what we're going to do, like reduce the risk. So I like it more broader until we have further discussions on where we're going. I don't know if that makes any sense.

MR. COLLINS: The question about the sub-asset class benchmarks, or sub-strategy benchmarks, is there a benchmark for private credit?

MR. WEBSTER: So that's an interesting question on whether we would want to do that at total -- the top, like they do in private equity, right? In private equity it's Russell 3000 plus whatever it is plus 300 basis points.

MR. COLLINS: And it's more -- I think

it's more than that.

MR. WEBSTER: It's MSCI plus 300 basis points.

UNIDENTIFIED SPEAKER: It's the global equity benchmark plus 300.

MR. COLLINS: That's what your benchmark is?

UNIDENTIFIED SPEAKER: Correct, yes.

MR. WEBSTER: And so that's an option if we have a private credit sleeve. What we're doing currently is looking at the different funds and then allocating a benchmark to each of the funds. So, for example, if we've got something that's a junior capital, it's like the BAML high yield plus 180 basis points. If it's a lending fund it's the LSTA plus 150 basis points.

The premiums are based upon the historical outperformance of these investments relative to their public market comps. And then it rolls up. So that's one way.

And then in distress we've always -- we have always, or most of the time we've put it on the CPI plus 400 because a lot of these distressed funds can go across different asset classes.

So if you're buying a utility in Argentina, real estate, NPLs, and a bankrupt, you know, flatware company in the U.S., that's a whole bunch of different asset classes in one. So the distressed are in there. But that's a discussion that we can have on how you want to benchmark the private credit.

MR. COLLINS: Yeah. So my issue with that is if we're talking about making the benchmark an aggregation of the sub-strategies, but those benchmarks and the sub-strategies are MSCI plus 300, I mean, it's like, what are we doing?

It's not like there's some index out there that we're looking against. We're just creating some sort of benchmark for the sub-strategies. So why can't we just create the benchmark for the overall strategy?

MR. WEBSTER: You could do that.

MR. COLLINS: Yeah. And why can't it be CPI+4? I mean, I'm just kidding on that, but maybe it's not CPI. Maybe it's MSCI plus something, or maybe it's something else, but the idea that it's going to be an aggregation of the sub-benchmarks when those sub-benchmarks

were -- you know, we're just pulling an index plus something. Is that somehow better? I don't know.

MR. WEBSTER: Just to back up a little bit. In our benchmarking process, when we change -- when we change this what we're trying to do is replicate what others were doing in the rest of the -- the rest of the fund, right? So in private equity they were looking at a public market plus a premium.

Well, so if we're doing mez, which is above the private equity, we should be doing a public market plus a premium if it exists. So for all our mez funds we use a high yield index plus a premium. The premium is less than private equity, but there is a premium on it. And then further, we go further up the capital stack and we do an LSK plus 150.

Now, for your thing I think what you're going to ask is, well, why can't we just do it at the top? So what we could do is make a determination where we say we want 50 percent in lending strategies and 50 percent in kind of the funky cool stuff, then maybe you have like all the lending -- the LSTA plus 150 and all the funky cool stuff is high yield plus the premium.

MR. TAYLOR: So maybe what we can -- I hear you. I get your point. I think these are things we can wrestle with internally and we can kind of -- and with our consultants, and we can come back. I think if we could -- if you're board with at least the bigger -- as Tere was -- sort of general, the general objectives of let's look at a lot of where we are and where we've come from in Trent's asset class, and basically pivot a little bit and focus on going forward. What we want to try to do is spend more time thinking about how his team and we can think about how they're going to generate diversification, dampening volatility to the total fund.

The objective of the total fund is not going to change. It's still going to be CPI+4, but what I'm hoping can improve is the volatility that it takes to get CPI+4 year over year. And I think that's where I feel like this is where this asset class can play that role.

Now, how we get there in terms of an

implementation benchmark, lots of conversations we can have, but I feel like if we can at least get some buy-in that going forward what we're going to try to focus on in this area are these principles on page 341.

MR. COLLINS: When you say that, I totally agree with you. But then we come back to, well, we need to lower volatility. And because we're lowering volatility, the return is not going to be as high.

MR. TAYLOR: But I feel -- well, that's what -- I don't necessarily -- I think that's what we're going to see, and I think we'll see some of the proof in the pudding, so to speak, at least in terms of some of the portfolio optimization. And it's all models and everything. But, I guess, that's what -- our premise -- that's not necessarily the trade-off, that we think that you can get at least equivalent returns or lower volatility or higher returns at equivalent volatility, particularly in the sort of -- what's now is more secular transition.

But what I think is critical is the other thing I would like to ask for recommendations and feedback from the IAC, the only way we think we can get there is if we have that higher allocation of alternatives. And I feel like part two is if there is some agreement around moving to the sort of dampening volatility objective, that's part one.

Part two would be some feedback around, yes, we would support our moving ahead with getting an increase in allocation to alternatives because that's -- frankly, that's the only way we can get there. That's where the getting the equivalent return at lower volatility or higher return at equivalent volatility, that's where I think it comes from.

MR. NEAL: Madam Chair, may I make an observation?

MS. CANIDA: Yes, please.

MR. NEAL: And then a little support and maybe a motion if appropriate.

First, I wish, Lamar, that we would always keep sight of our overall objective here, which is not only the assets we have before us, but the liabilities, and we still have a duty to the pensioners of this state to improve this 82.4 percent ratio. And we have always a time

frame that we have to accomplish this, especially as the investment plan mix is changing the number of people paying into the fund. So it worries me as to what our responsibility is here.

Two, I much favor a greater proportion of return seeking assets, and I much favor an increase in strategics and your statutory change that you need. But between these two alternatives I much -- like Peter, I much prefer page 386 to page 341. And I don't want to participate in a motion where we really recommend any long-term annual return be CPI+2. I think those will be established by the assets that fall out of this policy statement.

And to be specific, I don't want to be part of it if it says CPI+2 in any statement --

MR. TAYLOR: Thank you for clarifying. That was not part of my recommendation. That would not be part of -- we would not target a CPI+2 target return. It would only be that we're focusing on some objective emphasizing dampening volatility of the total fund outperforming FRS during periods of --

MR. NEAL: If I were to make a motion it

would be, quote, I think there's a lot to be said for page 386 and the bottom four lines of page 341 after the words "2 percent asset bucket." But I can form it more explicitly if you desire, or if you're just trying to seek a set of attitudes from the individual members.

MR. OLMSTEAD: Look at the third bullet point --

(Overlapping conversation.)

MS. CANIDA: Yes, exactly. We're looking at increasing the total SI allocation to 20, and considering a larger strategic relationship, or whatever. But what I was saying was that instead of putting ourselves in what we're saying, we're going to go more into private debt than equities, let's leave that for when we do the asset allocation. So we can do all of that without --

MR. NEAL: I move that we adopt the Chair's recent statement as the recommendation of the board and to come back to us in March.

MR. COLLINS: The only thing -- could I say one thing on that? So on 386, the second bullet point is I think what John started this whole thing off with. It says prioritize

diversification over returns seeking/maximization. I'm not sure I agree with that.

MS. CANIDA: That's why I didn't want to put -- I didn't say that. I didn't want that in there.

MR. COLLINS: Okay.

MS. CANIDA: That's my personal opinion.

MR. NEAL: There is a motion and a second, Madam Chair.

MR. OLMSTEAD: Sorry. To clarify, are we recommending that the allocation -- that the recommendation is go to 12 --

(Overlapping conversation.)

MR. OLMSTEAD: -- we can't even get there by March, then we haven't had a broader discussion.

(Overlapping conversation.)

MR. TAYLOR: And I would reframe that to increase alternatives to 30 percent of the total fund. Let us choose where we want to do it.

MR. OLMSTEAD: That's exactly where I want to go.

MR. TAYLOR: So we would increase

alternatives to 30 percent of the total fund and then -- and I'm kind of -- maybe striking number two on 386, and really just focusing on the bottom -- bullet point three with the little three lines, or bullet points -- the last two bullet points on that page as a target for us that we can then take from an asset allocation exercise and come back with more specific recommendations.

MR. NEAL: And the last few words of the Chairman's recommendation is to come back in March with a more concise statement of what we just said with the last --

MS. CANIDA: Yes.

MR. NEAL: There is a motion and a second, Madam Chair, and I would call the question.

MS. CANIDA: Everyone in favor?

(Vote taken.)

MS. CANIDA: Thank you.

MR. TAYLOR: Thank you. That really does help us move forward, and we'll come back to you with some more specific recommendations. Thank you.

MS. CANIDA: Do we want to move forward or take a five minute?

MR. TAYLOR: Yeah. Do we want to just take a real quick five-minute break? Thank you.

(Recess taken from 3:45 p.m. to 3:50 p.m.)

MR. TAYLOR: All right, everybody. I think we're ready to get started again.

Madam Chair, if I could propose an agenda modification --

MS. CANIDA: Please.

MR. TAYLOR: -- where in light of kind of the topicality of the conversation we just had, maybe if what we could do is move the Aon asset allocation teaser up front. I mean, that's the Aon slide. If I could, before we get to the Aon slide, if I could just -- just one slide for context -- just for a little bit of context.

MR. NEAL: Where are you, Lamar?

MR. TAYLOR: Yes. So I am -- let's go with -- let's just start here. If anybody's got a clicker, I can click through some of this stuff. Thanks.

So in the interest of time, I'm not going to go through all of these slides. I think they sort of say a lot of the same thing. The point I was trying to make in this asset allocation context was just to make sure everybody -- as we go look at on a go-forward -- where we are today on a go-forward basis, sort of as you mentioned, Mr. Neal, thinking about what our objective is, which is there is a liability on the other end of these investments.

There are pensioners on the other end of these investments and we have to think about the cash flows both in terms of the benefit payments that we're obligated to make and what's coming in to support that from a contribution perspective.

And so this is just to go to show from a membership perspective sort of where the plan -- how the plan is evolving. And you can see that the yellow bars over time are the retirees. And so we've gotten more and more retirees and fewer and fewer of the green bars, which are the active participants who are contributing to the plan.

So the yellow bars are the payments that are going out. The green bars represent all the folks who are making contributions or on

whose behalf employers are making contributions. So that has trended down over time. A lot of that has been a function here recently of kind of some structural changes in terms of the default retirement plan for new hires.

This just shows that after 2018 the blue bars were all of the defaults into the pension plan prior to 2018, and in 2018 the law changed and the default retirement plan became the investment plan. You see now you have all the defaults going into the investment plan and that has resulted in about 35,000 people a year defaulting into the investment plan. Those 35,000 people had been defaulting into the pension plan.

So that's kind of that. Again, just a further indication that the plan itself is a mature plan, so what we call a support ratio, that's the sort of active -- the number of active people who are supporting retirees and inactive people as a ratio. So the inactives and retirees are on top, the active people are on the bottom, so if it's greater than one, then you've got more than one retiree that you need to support per active member. So it means you are a mature plan.

And over time we have continued to become more and more mature. And relative to our peers, we are pretty significantly mature. Cash flow from -- another indication of a mature plan in terms of negative cash outflow is not problematic from the structural standpoint, it just indicates you are a mature plan. You've got a lot more cash going out the door than you have cash coming in the door. And the importance about that is that means those benefit payments -- you're relying more and more on investment earnings to make those benefit payments because they're not coming from contributions is the whole point about that.

This is the chart that I wanted to kind of highlight a little bit more than most, which is where we fit relative to the five large public pension plans in the country in terms of our maturity and net cash outflow and how that plays into or could play into the assumed rate of return.

So what I have here are CalPERS, CalSTRS,

New York Common, us, and Texas Teachers. And you can kind of look at it from a net position perspective, sort of the relative sides of these plans and their funded status across the board. And you can look at the contributions and the benefit payments. Now, you would expect those contribution/benefit payments to be significantly different just because of the size of the plan and the number of participants that you have to take into account. But from a cash flow perspective, when you look at the amount of cash that's going out to support benefits, us and New York Common are very, very similar in terms of -- it's a very highly cash flow negative set of plans.

If you look at New York -- in fact, New York Common is slightly more negative cash outflow on an absolute basis than we are. We are, however, supporting more retirees than they are. They are more funded than we are, and yet their assumed rate of return is almost 100 basis points lower than us in terms of -- and so it was instrumental to me in terms of just trying to think about from an asset allocation and risk return perspective how other folks are considering these structural issues.

You know, again, from a -- as we talked last time, these forward-looking rate of return, which are -- they tend to be long-term objectives which have over -- at the end of this long term you have a very narrow range of distribution outcomes. In the very early years you have a very wide range of those distribution outcomes. That's not particularly insightful, but it is a fact.

It does play into another phenomena, though, which is path dependency. And this chart just goes to show that all else being equal, not taking into account a plan's funding policy and how they would make up for these big market drawdowns, you can have a situation where, depending on when you incur this drawdown, because of all the subsequent compounding that has to occur versus all the previous compounding that came before it, if these drawdowns are early on you have very little previous compounding on a higher balance. And all of that compounding going forward is on a much lower balance from an

early on perspective.

So if these drawdowns occur early on, you'll end up with a lower ending balance down the road. So it's just an important thing to consider in terms of as you're looking at investing the risk of these early drawdowns to the extent you need to fund for benefit payments.

Now, in reality, if this were to happen to us, contributions would adjust and that funding policy could put you in a much better position at the end of the road. But this just sort illustrates the point that path dependency is real.

MR. COLLINS: Back on that slide. Explain the dips to me.

MR. TAYLOR: So --

MR. COLLINS: Like the second dip.

MR. TAYLOR: So they are each separate scenarios. So the green line represents a percentage --

MR. COLLINS: Is that the bottom line?

MR. TAYLOR: Yes. Sorry, the bottom line.

MR. COLLINS: I'm not color-blind, it's just hard to see.

MR. TAYLOR: I think each dip is, I think, 18.4 percent drawdown. And so the bottom line is if that 18.4 percent drawdown occurred essentially on day one, then that line is where you'll end up from a fund balance, even if you're going to assume a constant -- the same constant rate of compounding across all these scenarios. So you'll end up at the end of where that green bar is.

The second one is if that drawdown were to occur a little bit later on, the same percent drawdown, the same percent compounding going forward, your balance will be slightly higher.

And that third line is if you would experience that percentage drawdown even further later on, the same compounding rate going forward as all of these other scenarios, you'll end up with a higher ending balance. And it's just a function of the fact that this compounding -- it matters what you're compounding. It matters the balance that you're compounding.

MR. COLLINS: Sure. So, I get that. I guess my question is, you're trying to affect the space between the bottom -- the end of the

bottom three lines?

MR. TAYLOR: Well, it just goes to show that there is a space. In other words, you can have an 18 percent drawdown. You can assume an overall compounding rate of 6.87 percent and an 18 percent drawdown, but you'll end up in very different spots depending on when you incur that 18 percent drawdown.

MR. COLLINS: I agree with all of that. I guess I'm trying to find out what the point to the slide is. Are you trying to say here is what we need to do to mitigate that?

MR. TAYLOR: Nope. It's pointing out that volatility -- the volatility matters, and if you incur volatility early on as opposed to later on, you're going to have a deeper hole to dig out of.

So, again, the path dependency of your fund balance depends on when you experience volatility. If you experience volatility later on in the cycle, you're better off. Which goes to show where we are today just means early drawdowns are more painful than later drawdowns. So when you're managing assets from a risk/return perspective, lower volatility is helpful is basically the bottom line.

MR. COLLINS: But to that point, whatever -- it's my contention that whatever we tweak in strategic investments is not going to make a big impact on an 18 percent drawdown, the volatility.

MR. TAYLOR: And that's a fair point. This was for illustration only.

MR. COLLINS: Okay. All right.

MR. TAYLOR: It's a fair point. And again, another just sort of stating the obvious, when we experience these periods of volatility it takes time to actually work its way through the system. So when we had volatility in the dot-com and the financial crisis, when you look at these subsequent periods' smooth rates of return, it took a while for that to work its way through the system. These drawdowns can be impactful for a pretty long period of time. They can affect contribution rates for a pretty long period of time because you've got to make all of that up.

Again, just for illustration purposes. I'm not going to dwell on it. I'm just sort of making the point that on balance higher returns

and low volatility is better than higher returns and high volatility, all else being equal.

And so that's -- I'm not going to go through this slide. We've seen this slide before. It just goes to show that when we have these periods of high drawdowns they unfortunately tend to occur at the worst possible times economically. So, from a state budget perspective, the last time we had a big drawdown was the financial crisis, and as a result it wasn't that the Legislature didn't see the wisdom in funding the required contributions, they just couldn't do it. And so from a similar perspective just thinking about when these drawdowns occur is helpful.

MR. COLLINS: So the revenue estimate or the estimates are coming out on the surplus, right? And I think the last surplus estimate I saw was like 12 to 14 billion of nonrecurring money. If we got a billion dollars of that and you put it to work today, what's the effect of the change on our unfunded liability?

MR. TAYLOR: Well, we have a 32-billion dollar present value unfunded liability today, so it would reduce it by a billion. The other complicating factor is we are a multi-employer plan, so if the state contributes a billion they are basically subsidizing the contribution for 900 other employers.

That has always been kind of the conundrum in terms of a state surplus relative to the deficit in the plan. That becomes harder to --

MR. COLLINS: So really getting them to lower the actuarially required rate of return is way better than getting them to give us a billion dollars?

MR. TAYLOR: That's right. That's right.

So that was it from my contextual analysis, and I think we can just move on to Aon. So this is the context around thinking about asset allocation and what may be considered when given the range of options around risk return. So, thinking about low volatility versus high volatility and the impact on risk and return.

MS. CANIDA: Aon.

MS. COMSTOCK: Great. Well, good afternoon, everyone.

So, as Lamar mentioned, this is kind of a

continuation of the asset liability study that we presented at the last meeting. And we're going one layer deeper. But just from a reminder, the key takeaways from that study was, one, that the plan is in good shape. We see it trending toward full funded status expected in 2039. The expected rate of return is above your actuarial assumed rate of return. And it also tells us that you have about the right level of risk in the plan when we think about return seeking assets versus safety assets.

So the next layer that we're going to talk about is, are there ways to improve that. How is that return seeking bucket constructed, how is the risk reducing bucket or the core bonds constructed, and are there ways to improve risk adjusted returns. Are there any gaps in the portfolio.

And so hopefully this will bring together some of the previous conversations or presentations that you heard, and we'll be able to look at strategic investments specifically in the broader context of the total portfolio.

I'm not going to spend too much time on

this page. Y'all can read this, just given the time, but these are some of the key attributes that we look at from more of a qualitative perspective when thinking about your plan circumstances and the nature of the plan. You have the right level of diversification.

What are your return needs? Is there a right level of inflation protection, both short term, long term? What are your liquidity needs both in normal periods as well as in very stressed economic times? Do you have the right level of downside protection? Where is that coming from? How efficient is the portfolio both in terms of taking risk, earning return, as well as cost, and is there enough flexibility in the portfolio to allow your team to take advantage of opportunities that are appropriate for your circumstances?

And you do have coverage across all of these. But when we look forward we do think there is an opportunity that you can improve your asset allocation.

And so that's what we studied. This is what we did since the last meeting with an iterative process with your investment team,

and it was largely quantitative, a quantitative analysis, and what we saw is, yes, there is an opportunity to improve your risk adjusted return. But does that specifically mean whether that's return at the same level of risk, lower risk at the same level of return, or some balance thereof depends on kind of the feedback and where we land.

And so we're going to show those options and show those curves and hopefully that will help kind of frame this conversation and options with asset allocation.

So some of those specific takeaways that we found during this, and likely most of these are not going to be a surprise, there is our ability to improve returns -- improve risk adjusted returns by lowering global equity in favor of other alternatives or bonds, potentially core bonds, again depending on your preference of risk versus return.

We prefer the aggregate fixed income and there is a presentation later today on that over the intermediate duration over the long term for the risk reducing portfolio. This one assumes that -- or this analysis assumes that some of the increased allocations to alternative are long-term strategic.

So right now we're under the strategic investments. They're more fluid, right? There's wide ranges. There may be 7 percent to -- you know, assume a percent to private debt right now, but that doesn't mean that -- that is not a target. These assume a target over the long term, so maybe there is, like, a dedicated kind of policy. And then the last one, increasing the alternatives cap. Again, that will help improve results as well.

So I'm going to turn it over to Phil to kind of walk through what the inputs were to this so you can understand what the process was, and then go through some of those curves to put some numbers behind what the takeaways are. And then we'll kind of wrap it up and show you how strategic kind of fits into this. And hopefully, again, this will kind of bring the whole conversation that you've heard on the strategic in the context of the total portfolio.

MR. KIVARKIS: All right. So, everything we're doing here is simply building on the

asset liability study that we had conducted. And just to reinforce the point, you were in good shape with the asset liability study. The portfolio was -- we found well constructed, well diversified, was expected to hit full funding in 2039.

And so this step then says, well, can we nudge those summary statistics and slightly improve them? And so that's the goal of this effort is to just review from the total plan context, the total portfolio context that your portfolio shifts, which might subtly enhance the portfolio build.

So, we'll start with, you know, our process of analytics. And so here we're just going to focus on the portfolio build. We're going to -- we ran a mathematical mean variance optimization using the same capital market assumptions that we used for purposes of the asset liability study that you saw. We deconstructed the portfolio and reconstituted it into Aon's standard building blocks, much like what you've seen earlier today.

I'll show you what that looks like. We applied constraints to our optimizations just to ensure that we're not looking at portfolios that are 100 percent private equity, right? Let's look at portfolios that are reasonable in their construction. And then also we targeted portfolios that had returns of at least 6.8 percent, but we looked at a range of portfolios.

So we're not going to focus on any one point on the curve, but rather look at ranges of portfolios that you can examine the risks and rewards associated with several.

All right. So this is the building block approach that I mentioned. What we do when we're talking about portfolios, we're looking at broad categories. Equity, public and private; returns seeking fixed income, public and private; real assets, open-ended and closed-ended; and also liquid alternatives.

And so everything that we're going to talk about in the portfolio build is going to use these basic building blocks. Of course, there are several subcomponents to public equity, for example, but we're going to look at these large chunked up building blocks.

We deconstructed the strategic investments

so you'll see on the left side of the page is maybe how you're familiar with the portfolio. We deconstructed the 12 percent strategic investments -- of course, several subclasses there -- and then we reconstituted it into our building block approaches with the subcategories as you can see here.

And so there are some important takeaways. For example, you can see that equity, if you look at the left side of the page, global equity is 53 percent, private equity is 6 percent. After we broke it down and reconstituted it, it looks like equity is more like 54 percent -- public equity is more like 54 percent and private equity is more like 9 percent. So we reconstituted it and rebuilt the portfolio based on kind of a more in line with our building block approach.

I mentioned the capital market assumptions which were used for purposes of the asset liability study. I'm not going to spend a whole lot of time here other than to say there are a variety of classes with returns for things like global equity around 7 percent, private equity closer to 9.6 percent, so there is a premium there, an illiquidity premium if you will. And the correlation coefficient is off to the right as well.

MS. COMSTOCK: The other thing maybe to point out here are the constraints that we put on. And this was iterative as well, but when we ran the portfolios, you know, an obvious constraint would be the allocation to alternatives. So we did that within your current cap, and then we expanded that to 30 percent. And that is, again, just so that you're not looking at portfolios that are unrealistic and unattainable.

There were other constraints here and we list them all. And that was, again, a process that we worked with your investment team to see what is doable, what is achievable, and what's realistic for this process.

MR. KIVARKIS: So that's just kind of the background.

Now on to the actual analysis. The analysis that we ran was effectively three different iterations of analysis. So, we started with the existing portfolio as it stands. We tested three things. And, number

one, if we were to keep the asset classes as they stand today, but simply change the allocations to those asset classes, that is the first scenario, diversify within the 18 percent alternative cap. And we used 18 percent because we wanted to have a little bit of a buffer versus the 20 max. So using the existing asset classes, how might we construct a portfolio build.

The second was to say, well, let's now add asset classes. Let's use the same 18 percent alternatives cap, but let's add asset classes to the mix and see if we can improve the risk/reward stats even further.

And then the third is to test and increase the alternatives cap to 26 percent. And here again, assuming the 30 percent legislative limit and how much -- you know, let's have some buffer there. Just a little bit of margin for error.

So these are the three things we studied and they build upon each other. And so you will see a kind of three curve that they build up from one to the other as we go.

All right. So this is the first analysis and this to say okay, well, let's start with the current portfolio and let's build a new efficient frontier, if you will, with a variety of portfolio points along the way, portfolios 1 through 5.

And if we were to simply take the existing asset classes and change the allocations to those existing asset classes, can we improve the risk/reward characteristics? And so you can see the curve is slightly above the current portfolio. And what that tells me is that the current portfolio is pretty darn good, but the curve represents a slight risk/reward enhancement versus the current portfolio.

How did we accomplish it? Well, you'll notice there that portfolios 1 through 5, we just, for purposes of reference, we compared the current portfolio to portfolio 3. And so you can see on the left side of the page we have summarized what that current portfolio looks like. We have summarized what portfolio 3 looks like in the second column, and the delta is the third column.

And effectively what happens is we -- the theme here -- and, by the way, throughout the

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discussion is diversification. Further diversification leads to slightly enhanced summary statistics.

So when we say a diversification, what are we talking about? Well, here you'll notice global equity, that is public equity, goes down 6 percent. Private equity goes up 1 percent. Hedge funds goes up 1 percent. You'll see real estate non-core goes up 1 percent. Infrastructure goes up 1 percent.

The theme here is the asset classes that we're nudging up 1 percent, that is effectively diversifying, those are diversifying classes that have a little correlation versus public equities, for example.

So you can see we're also increasing the fixed income allocation from 19 percent up to 23 percent, and that is allocated to core fixed income. You can see what the summary statistics look like. Effectively, the expected return, 6.91 percent for both portfolios, but the volatility -- I'm just reading the numbers off the bottom of the page -- 12.8 percent versus 12.2 percent. So there is a volatility reduction.

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And, of course, that's not to say that you should pick portfolio 3, but portfolio 5 is a portfolio that's slightly north of the current portfolio. It has the same expected risk, but a slightly enhanced return.

And the converse is true with portfolio 1. You will notice portfolio 1 is all the way to the left. That's the lowest risk portfolio, and it has an expected return of about 6.8 percent, which was the threshold we had defined in the analysis. So, portfolios 1 through 5, what we'll call the red curve, that is portfolio analysis number (inaudible).

What I would like to do is now examine on the next page what happens when you add asset classes. And here we added credit, multi-asset credit. This is public credit. Things like high yield bonds, emerging markets debt, bank loans and the like.

Now, you add the asset class and you maintain the same 18 percent alternatives cap, and what happens? Well, the curve shifts up. And so moving from the red curve to the orange curve, you can see that the curve is slightly higher.

And so you can see portfolio 3 to portfolio 3, the red three is the first column, the orange three is the second column, and the delta -- and so you can see what's happening. Effectively moving -- adding 10 percent to this new asset class that is multi-asset credit, 10 percent moves in there, and where does it come from? Well, effectively it comes 5 percent out of global equity and 5 percent out of your bonds.

And so just taking 5 percent out of each and putting the 10 percent into multi-asset credit enhances the risk/reward characteristics further still.

And so you can see the expected return ever so lightly higher. Both are in the 6.9s. It's not night and day. But a slightly higher expected return and slightly lower volatility by virtue of the diversification. The Sharpe ratio is improved as well from .329 to .34.

So slightly higher returns, slightly lower risk by moving from the red curve to the orange curve. And again, portfolios 1 through 5 were examined. We're simply using .3 as a reference point, but of course there is a range, a range of portfolio solutions on the orange curve.

And then to take that one step further, we changed the alternatives cap from 18 percent to 26 percent. And so you can see now the progression of curves to go from the red curve to the orange curve to now the blue curve. So you can see that effectively you move further to the north and west. In other words, further enhancing return, respective return, and further reducing the expected volatility.

Here you can see -- just reading summary stats off the bottom of the page -- expected return moves -- nudges north of 7 percent to 7.09 percent, I believe, and volatility, 11.56 percent to 11.8 percent.

So, again, enhancements of expected return and reduction of expected volatility. How did we do it? More along the themes of diversification. So, again, diversifying with your public equity, reducing that by 7 percent and increasing private equity by 2 percent, increasing private debt by 6 percent. And so you can see that it's largely the same otherwise.

So that's the, you know, comparison of the

current, and again, the current being a good starting point already and how might we improve upon the current. And so we studied the red and the orange and the blue curves, and we studied points 1 through 5, portfolios 1 through 5 on each of those curves to examine not just one point, but rather a range of potential portfolio solutions across those various curves.

MS. COMSTOCK: Are there any questions on this? Otherwise, I might jump to a slide that kind of repacks this into your current policies and that might help.

So we just picked -- we picked the last curve, portfolio 3, and the last curve that has the cap at -- the alternatives cap at 26 percent. It's on the left-hand side. We show our construct, our building blocks with your current policy. How we break out your exposure. And then we show that portfolio 3 on that last curve. And so this is -- that's the data we just looked at.

Then we repacked it in that middle table to the policies that -- the current policy that y'all have. So you can see you're at

53 percent global equity; your target of private equity is 6 percent; real estate, 10; strategic, 12; and then fixed income is at 18 percent.

If we repack that portfolio 3 based on our analysis, you see what that does, it takes global equity down quite a bit to 36 percent. Private equity would have a long-term target to 12 percent. And so kind of to marry that with your current exposure, your current exposure to private equity was about 9 percent, and that includes -- the exposure to that is within strategic investments. But this assumes that you have a long-term target to private equity of 12 percent.

Real estate is similar, although underneath we can see we have more allocated to non-core real estate than core, so a little bit different makeup under real estate. And then within strategic the long-term allocation does increase to 14 percent. You can see the underlying allocations are modified. The greater allocation to debt, and this is direct lending is how we modeled it.

Real assets at 2 percent, which I believe

is infrastructure, and then the other. And these buckets are kind of the broader buckets of how strategic labeled them, but the other bucket is roughly 5 percent and that's diversifying, flexible strategies, strategic, special situations, excuse me, at 5 percent.

And then there is the return seeking fixed income allocation at 10 percent, which would be a new asset class potentially, and then U.S. fixed income at 17 percent. So a similar risk return seeking versus risk reducing portfolio, but a different construct across the return seeking portfolio.

This isn't a recommendation, but what we wanted to do is kind of repackage this so that you could see what it might mean moving from your current policy to one of an allocation on the curve. And I think what it shows is that what does that mean for strategic. So if you move the private equity out from under strategic, you have a large chunk to debt which we spoke about, and a large chunk to other, which could be hedge funds diversifying.

So think about this as what has the role of strategic investments become. Is it a diversifier? Is it to provide stable income? It seems to be less return enhancing, given that the private equity is stripped out of that. But this was kind of to help maybe have that conversation and put the strategic investments into the context of the broader asset allocation.

MR. P. JONES: A quick question, if I may. This is Peter Jones. Can you hear me okay?

MS. CANIDA: Yes, Peter. Go ahead.

MR. P. JONES: All right. Thank you. These numbers all look favorable. Expected return, volatility, and so forth. What market environments would cause this not to work out favorably? Big recession, higher -- you know, increasing rates, interest rates, or what kind of market environments would this end up and cause this not to be a good move? Just curious.

MS. COMSTOCK: Well, looking back probably over the last ten years when global equity had, you know, a strong bull market, having less exposure there would likely be unfavorable -- though when we look at expected return -- so maybe backing up, just as a reminder, these are

looking out 30 years. This is a very long-term assumption, so there are -- we're looking at -- underneath this there is, you know, 5,000 scenarios of including high inflation, high interest rates, low inflation scenarios. So this is a long-term assumption.

The volatility, you know, is around 12, 11.5 percent of this portfolio, but in any given year, you know, any given three-year period different market environments would impact these returns.

MR. KIVARKIS: Yeah, I think it's a great question. So in most scenarios we think that the more diversified approach is favorable. A better expected return, lower volatility.

The worst-case scenario is you sell an asset right before it has an enormous run, right? And so here you can see on the top of the page, global equity would be reduced from 53 percent to 36 percent. Well, generally we think that's good. However, if global equity were to run over the next decade as it had over the past decade, well, then in retrospect you would prefer to have not diversified, right?

So that would be the scenario where you

would be better off to stay put. And frankly, you know, that's more akin to the eggs all in one basket. Well, if that basket is going to provide enormous profit, well, then, that's fantastic. But the rub is you don't know what's going to happen in the future, and diversification is an effort to kind of control and manage the risks for a smoother pattern of performance over time.

UNIDENTIFIED SPEAKER: Madam Chairman?

MR. P. JONES: Won't any change in the market condition affect these conclusions?

MR. KIVARKIS: Yes.

MR. P. JONES: Bonds up, bonds down, stocks up, stocks down. This is just mathematical, right? This is just --

(Overlapping conversation.)

MR. KIVARKIS: The capital market assumptions were those that were used for the asset liability study. Of course, our capital market assumptions change as market dynamics change. As interest rates go up, our fixed income returns expectations go up, right, because we're expecting to earn the yield, for example.

So our capital market assumptions do ebb and flow with the market.

Two points to make, though. Number one, recall that the asset liability study uses an averaging method, so we used an averaging of three different investment advisers, capital market assumptions to avoid any inherent bias in one investment adviser's assumptions, and then we do benchmark Aon's capital market assumptions. We're generally middle of the pack in that regard.

But, yes, as markets change so, too, do our assumptions. But, you know, our 30-year capital market assumptions, they're fairly long range in nature. They tend to be pretty stable over the long run.

MR. WENDT: Well, anyway, the major thing we should be looking for is flexibility.

MR. COLLINS: Chairman?

MS. CANIDA: Yes.

MR. COLLINS: So, Gary, I agree with you. We should be looking for flexibility. I think this is the most important thing that we do, right, as a board is asset allocation. They're executing against it every day, but we were early. I think Katie would tell you we were probably a little early on reducing the fixed income, or maybe going to the intermediate benchmark instead of the aggregate. We went a little early. But it ended up paying off. I mean, global equity had its run. We were high (phonetic). I mean, it was all good.

I would caution us not to look at asset allocation as, like, a 30-year exercise, because we address it every three years, right? What do we think is going to be happen in the next three years? I totally agree, and we've come full circle, Katy, right? Their recommendation is, you know, we've got to increase fixed income. I agree with that.

I don't understand what return seeking fixed income is. I mean, don't you seek returns all the time? So why are we creating a new class of fixed income that's return seeking?

MS. WOJCIECHOWSKI: It's credit, I believe.

MR. COLLINS: Oh, okay. Credit. So I'm assuming you agree that we should shift to the aggregate index instead of the intermediate?

Okay. Yeah, I would love to have that conversation. But, look, we ought to look at this as three to five years, what we think is going to happen, and then we have to adjust. And like Gary says, we have to be flexible and we have to be -- we were a little early last time.

I think we're probably a little late this time, but that's okay. I mean, we're not perfect market timers, but we are market reactive, but I think in a three- to five-year window.

So, that frontier that you look at for the next 30 years, I don't know, I'm just focused on the next three to five.

MR. TAYLOR: And if I could. So that's a great point about next steps, because what Aon has helped us do is parameterize -- give us a framework for where we can take the next steps. So some of the things that John and I have been talking about from the next steps perspective is -- and we've engaged our team here -- let's take a good hard look at what we think the capital market assumptions are going to be over the next ten-year period of time. Some shorter more implementable period of time, take a good hard look at what we think those opportunities are and what we think the risk/return tradeoffs are.

Trent's got a lot of views around why even from an optimization perspective you see a lot of people put money in infrastructure. He's got a lot of views around why we wouldn't necessarily agree with that and all the reasons. So I think from a next steps perspective is to take this framework, take our team's input around what we think, the capital market assumptions from what their experience is, and then start building portfolios from there.

The real question is at which end of the spectrum should we start -- should we think -- where we do think we're going to end up. And we'll come back to that, but you'll see where this is going.

We're going to have -- we're going to have options at this lower end of equivalent return lower risk and a higher end of equivalent risk slightly higher return, and then somewhere in the middle. And then sort of seeing what --

and hopefully we'll have a recommendation around all else where we think the right sweet spot is and then get feedback from the IAC.

MR. COLLINS: And I think -- they're related, and I think it behooves all of us to think about that interconnectivity. So if we don't think global equity is going to be good, right, maybe not bad, but not great, and we're going to be down to 36 percent, the private equity exits happen in the public equity markets and those public equity markets aren't good enough for us to have a high allocation to them. And, you know, interest rates are going to be higher, and the cost of capital is going to be higher. I'm not so sure that I wouldn't bet on fixed income in the next three years over private equity.

MR. TAYLOR: And as you said, I think at least from my perspective that is a theme. I tend to think there's going to be some good opportunities in actively managed credit, whether it's private or public, over the next -- but from a risk/return trade-off. It doesn't mean there's still not good opportunities somewhere else.

But that's, I think, what you would -- I would expect that's what you will see in some of the subsequent runs that we come back with.

MR. OLMSTEAD: So I think in summary from all three of the consultants is create flexibility by increasing alternatives.

MR. TAYLOR: Yes.

MR. OLMSTEAD: And my biggest takeaway is I'm going to go start a private debt fund.

(Laughter.)

MR. OLMSTEAD: It sounds like it's going to be a good trend.

MR. COLLINS: CPI+2. That's all you've got to be. That's all you've got to be, CPI+2.

MS. CANIDA: I think there has been great discussion. I think in March we should allow a lot of time so that we don't get ourselves against the wall. You know, because I think another thought along Peter's line is if you think about what has happened to the public equity markets, and the private equity markets haven't adjusted, maybe there's more value in the public markets. I mean, there's all sort of discussions, all places we can go, so --

MR. TAYLOR: And I think -- I think they

have a lot of really good views on all of that.

MS. CANIDA: Right. Thank you. Any other discussion on the asset allocation? Thank you, guys. We'll see you in March.

Katy, we owe you an apology because we -- and Mercer, also. So you guys are on.

MR. LOVE: Maybe we should have a return seeking real estate class. We missed that one.

MS. WOJCIECHOWSKI: So I'm not allowed to make a proposal, but if I would -- if we're going to have evening meetings, I would propose cocktail hour --

(Laughter.)

MS. WOJCIECHOWSKI: -- at the beginning of it. It definitely makes it a lot more fun.

UNIDENTIFIED SPEAKER: Second.

(Laughter.)

MS. WOJCIECHOWSKI: There we go. I promise you I will not touch on many or most of these pages, but I do have a couple of points. And your spoiler alert from Peter, but normally what we do is to sleep well at night. That's what I always say. We will not sleep well at night this year because it has been abysmal. A hundred-year flood, I sincerely hope, and that's it.

The one thing I will say is -- I've never said this, I don't think, in the last five years -- there is actually return in fixed income, so I know we're not return seeking, but there is actually a return in fixed income.

We've provided liquidity this year, almost 3 billion in liquidity. In August, you'll remember we moved some money into the liquidity portfolio just to shore us up in case we -- because we definitely had increased volatility.

It's like I'm echoing here. And I just want to touch on something. Usually I say we're diversifiers to equity. This would say no. And I think it was some -- Aon had tried going back to the '60s, but what it shows is during times of non-inflationary periods we are a great diversifier. During inflationary periods, we are not a great diversifier, and that came in spades this year.

This did not change. I just want to point out our makeup did not change with benchmark. I did want to point out, this time last year Powell was just pivoting, the agg yielded -- the intermediate agg yielded 1 and a half

percent less than, and now we're almost 5 percent.

In credit we're over 5 percent. So, you know, you look at all of these assumptions. Like, wow, you can make a pretty good return in investment grade credit. We touched almost -- and I know that yield does not equal total return, but we touched almost 10 percent in high yield, like the high yield index. That's a pretty decent return, right? Unlevered, unlevered investment.

The coupon (phonetic) did not go up that much. Duration did adjust a little bit, so you're taking a little bit more risk in the duration space than you were a year ago. We're currently at the low end of operating (inaudible). I wanted to let you guys know that. We have been most of the year, so underweighting fixed income. I didn't (inaudible) I didn't like fixed income.

This did not change. So I'm just going to flip through a lot, so just come with me if you will. Fed funds, as I said a year ago, we were zero, right? Now we're at 4, probably 4 and a half at least tomorrow. It looks like, if you look at fed funds futures or the expectations, it's 5, maybe 5.25 in March. Sticking there for awhile. Fed funds futures expectations looks like it comes down, but a lot of economists say, you know, we'll be here at 5 percent.

And that's where my discussion about agg versus intermediate agg, we're like two basis points off in yield right now between intermediate agg and agg. So, yes, I believe there is a time. I just don't think it's today to jump to the full agg. I'm not saying not, I'm just saying it's a consideration.

MR. COLLINS: She wants flexibility.

(Laughter.)

MS. WOJCIECHOWSKI: But we have the flexibility to go up, and there are some opportunities that we missed by not being full agg, too, and I'll get to that in just a little bit.

So, again, hundred-year flood. Everything sucks. Sorry to use a technical term. Every asset class underperformed in fixed income. Cash did okay. This is what it looked like. So I'm not going to -- because it didn't change

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from last year. If you have any questions, I'm happy to discuss it.

We outperformed, and that's how bad it was -- even outperforming, how bad it was this past year. So calendar year to date was horrible. Fiscal year to date a little bit better. Like, November was a good month. December. Maybe we're on a roll here.

This is just securities lending. I do want to just touch on a couple of things, because we've talked about with our external managers a little bit. We looked to -- we recently have done some due diligence on our managers. We're expanding what we use our external managers for. They suggested multi-asset credit. We have core plus managers that do essentially multi-asset credit within a core mandate. So we give them high yield and emerging markets as levers, right? More duration flexibility as levers.

And we found that to be pretty good, because then they can be very nimble in moving back and forth. And what they've done this year, we see with all our current core plus managers, they've pulled in their horns.

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They've pulled back on EM significantly. Pulled back on the high yield significantly and just reduced their risk in general. And, you know, while they weren't underweight, which we all wish we would have been, they were much less overweight, and that has served us well this year.

So, our performance has been good. You know, we stick to our guns. None of our managers will be the top manager every year. That doesn't happen. They might not even be in the top ten, but they really come through and they come through over a long horizon. That's what we look for, durable managers who are institutional good managers.

And we will expand it when we need to, and, you know, we'll keep it stable. We think it's appropriate to manage what we want. And as you remember, we expanded our risk budget this past year, and so we can be more active within fixed income, and we are doing that. We will do that, and we will be expanding their guidelines to be more of the plus sectors, if you will.

Just a quick note. You'll see this

always. This is our positioning. We're underweight in treasuries. We're overweight in credit. And we do have high yield in there. Secure types include CLOs. It does include other asset -- esoteric asset-backed securities, credit risk transfers, things like that. And we are roughly flat, our benchmark in duration space. Just a little bit short in the ten-year, which I wish we weren't today, but there you have it.

I think we touched on this a little bit. Volatility has been higher this year. Just absolute risk. Even though our relative risk, our active risk is lower, just the absolute volatility everywhere, but in fixed income particularly, it has been much higher this year.

If we looked at this a year ago, think about if there was, like, 13 trillion in negative interest rate, and the only negatively yielding bonds today are in Japan. So, we've had a huge shift in the past year. You can actually have yield. Yield does not equal return, but it gives you a lot better shot at it.

Spread opportunities also widened this year. We took down -- our credit was a lot, and when spreads tightened a lot earlier this year, and we've been adding it back a little bit. And we had a pretty big rally the past month or so. We're seeing volatility in credit spreads as well. What we haven't seen is fundamental distress in our markets, in investment grade. We've seen -- even though the outlook is not terribly robust, we haven't seen a lot of downgrades or distressed -- fallen angels a lot, let's put it that way.

Oh. Just a note on liquidity. So there's a lot of talk about there is no liquidity, you'll see less liquidity in the government market, and that is true for some off-the-run things, but we're seeing transactions still pretty robust and pretty liquid. And what we've done is we've shifted from, you know, the traditional broker dealers to more regionals and more peer-to-peer, actually, transactions. So we'll do that on electronic platforms, and that has been a big advantage for us.

So I just want to talk a little bit about -- as you mentioned it, Peter, there is

agg versus intermediate agg. And right now there's like 2 basis points' difference in the yield between intermediate agg and agg. And that's because the yield curve is so inverted. It got a little better today, but it is so inverted. And the spread curve is also fairly flat. So it makes it tough to have a compelling discussion about let's jump today.

When we started -- I actually proposed it and we had talked about this ad nauseam. I was going to propose it today, and it's tough to make that proposal right this second. It is still -- you pick up a little bit in yield, but not very much.

And here we are in just intermediate and long credit. That's where we are. Highest in a decade, so it is finally actually positive.

MR. TAYLOR: And if I could add to that. But that's not to say that there might not be a time where the yield curve gets more normal where we start thinking about --

MS. WOJCIECHOWSKI: Yes. And if I wasn't clear on that, yes, that is absolutely -- I'm just not saying I wouldn't implement this today.

So this is a -- what I've done since we (inaudible) benchmark to the intermediate agg, I apologize. And we've given up. Until this year we had given up nominal returns. This year it came back and has actually served us well finally and over the long haul.

Risk adjusted returns. It has generally been a good move to move to intermediate agg. And it allowed us to spend those risk dollars elsewhere. Primarily probably in strategic investments, frankly. We're in the process of continuing our research on does it make sense to move and what would the timing look like to move to full agg. And so probably at the next IAC meeting I would anticipate us discussing that further. I hate to push everything off, but I think that's prudent to do so.

And I think I touched on all of this already. So, I know that was a wild ride, but it's also pretty late in the day.

So any questions on that, guys?

MS. CANIDA: Thank you. Great presentation. Jay.

MR. LOVE: Okay. I will try to go as fast as Katy. Generally -- I don't know if I can

pull it off. Generally, I move pretty quick, but we'll see.

So, again, this is -- Mercer's review here is kind of a high level report card overall, just kind of a check on results. So, real quickly on governance. We think the program is running extremely well. Everything is managed in a very prudent way. As you can see, Katy pays a lot of attention to things like risk, and she's very thoughtful in the approach. We think you're giving them the appropriate level of flexibility, so staff has a good amount of delegation.

The plan does use more passive management than most of your peers. We've talked about that a few times over the years, that we do think fixed income, particularly these broad mandates like you're able to use, is a good place for active management. So that's one thing we would nudge toward.

And in terms of active risk level, the team does a very good job of monitoring the level of active risk, as has also been discussed a couple of years. Your active risk level is not all that high, so it seems like you could be taking a bit more active risk, which is something that you've been working on.

So that's the high level report card. My colleague, Yasmin, who I think most of you have met now, is going to go through some of the actual numerical details.

MS. BEN-YOUSEF: So, this slide just shows a little bit of the breakdown of the passive/active management split, and of the SBA versus the peers. And when we say peers, that's based on the 2021 CEM survey, that's 17 public funds that are ranging in size from 40 billion to 400 billion, as you will see on the benchmark. And as Jay said, we can see that 39 percent of SBA's portfolio in passive management compared to your peers, which are about 16 percent in passive management.

When we drill down a little bit further into sort of the split between passive -- within that passive management, most of your peers manage that passive allocation externally. And so it appears that about 76 percent (inaudible) were managed externally, whereas SBA, you entirely manage your passive allocation internally.

And then on the active side it's going to be the opposite. Most of your peers internally managed their active allocation, whereas SBA funds it through externally.

MR. LOVE: So performance relative to kind of the peer groups. So this is where I think some of what Katy was saying kind of shines through that, you know, you were a bit more conservative. You had the shorter duration. That probably was a little -- it kind of left you a little bit behind some peers for a period up until kind of the COVID crisis came in, then particularly this year it has paid off significantly to have that shorter duration, that more defensive positioning.

So we can see kind of the one-year results. You're in the 20th percentile of your peer group, outperforming the benchmark. Actually a little bit behind the benchmark for the quarter, but then you get to the one year, again, the 22nd percentile. Three years you're kind of now at the median.

You had been a fair bit behind during the kind of period where rates were just constantly low and falling, but you caught up a fair bit.

So that defensive posture has paid off and been beneficial to the plan.

(Inaudible conversation.)

I didn't mean to throw her off.

So, in terms of comparisons to other active managers, results are -- I think overall I would say that -- well, this is actually internals, so I apologize.

So this is the internal active and passive. So generally adding value here pretty much across the board over the longer periods of three and five years. So if you look at the value added line, which is kind of the third line there of numbers, year to date a little bit ahead. One year is slightly behind, but then beating benchmark by about 18 or 17 basis points or so over the three- and five-year periods.

Internal passive management -- and I have to talk to Katy about this -- is actually outperforming by even more. That's a good trick. But in both cases our tracking error is quite low. Information ratio on the internal portfolio isn't real high, but -- on the external. I mean, on the internal active

portfolio it wasn't real high. On the internal passive portfolio, though, it does look very good. Again, it's tough to add a lot of value with a low tracking error passive portfolio, but Katy has done it. So she should be recognized for that.

And, finally, on the external portfolio on the next page, here are the results. You know, I don't think these are the strongest results. You know, the portfolios have been run in kind of a conservative way. Again, the longer term results, this has been a period where higher risk being more aggressive in fixed income has generally paid off. Longer duration, lower credit. So the portfolio has generally been a little bit more conservatively positioned, so it's been a little bit behind, but it's beginning to pay off.

So that's kind of the highlights. Any recent activity you wanted to cover, Yasmin?

MS. BEN-YOUSEF: The next slide is --

MR. COLLINS: Can I ask -- I'm sorry, can I ask a quick question? Katy, what do you attribute that to, the performance in this external portfolio?

MS. WOJCIECHOWSKI: In external?

MR. COLLINS: Yes.

MS. WOJCIECHOWSKI: I think it's a tough comparison sometimes because we may or may not have the same guidelines. We may be much more conservative, and so during risk on periods we would have lagged our peers a lot, which would have helped this year. But I think that's what we've seen in the past, is it is really tough to get a true peer group. And even if you say it's core or core plus it can be very different.

MR. LOVE: Yeah. We use a -- we created a custom peer group for you guys a few years ago trying to nail down and get strategies that are relatively well aligned, so it's tough to get something that's kind of dialed into your guidelines. But I think it's relevant -- perhaps the relevant thing is that you're outperforming pretty consistently. The value add here is pretty good.

MS. WOJCIECHOWSKI: I mean, I will say that all of our general managers are very highly rated and, you know, they're doing well in your universe.

MR. LOVE: Yes.

MR. COLLINS: Okay.

MR. LOVE: Any final things you wanted to add, Yasmin?

MS. BEN-YOUSEF: I was just going to say (inaudible) will be active managers, and obviously you adding three new core managers as well. (Inaudible.)

MR. LOVE: So that's a quick whistle stop review at just a high level.

Any questions?

MS. CANIDA: Thank you very much.

So we will go to the asset class CIO updates. And I apologize again because in the interest of time -- we did it last time, but I'm going to ask each of you to give us the two most important things in your asset class or that we should be aware of instead of a full review. And again, we apologize. And hopefully we'll make this up to you next time.

So, Steve, do you want to start? You have a very well-performing asset class so I'm going to pick on you first.

MR. SPOOK: A little bit of pressure on the two most pressing things, but -- is that better?

MR. COLLINS: No.

MR. SPOOK: Is that better?

MR. COLLINS: Yes.

MS. CANIDA: Yes, that's better.

MR. SPOOK: The two most important things facing the asset class, I guess, are valuations to look at as kind of returns through Q2. They are still strong. The benchmark is up 28 percent. We're up almost even with that, so we still haven't seen the effects of interest rates yet. We expect in the fourth quarter we're going to start to see more write-downs.

Actually in the third quarter there was a very small, for the first time in several years, depreciation component of the -- of the benchmark, but the total benchmark was still positive.

So that's the biggest thing is valuations and transaction volume, because valuations still have not caught up to reality. They're still big (inaudible) spread out there in the marketplace, but there's no transactions. There's not a lot we can do right now to require stuff or to sell stuff, and that's

basically the state of real estate right now.

The high growth sectors are likely to see the most cap rate movement, because they were already down in the threes and low fours for cap rates. And where interest rates are now in the sevens or so, those industrial and residential have the most probably price adjustments to go.

It's kind of counterintuitive. Retail has taken a lot of their hits over the last couple of years. There's probably less of a leg down going forward.

Those are the two most important things, transactions and interest rates.

MR. NEAL: Steve, how long or at what interval do your managers reprice their assets?

MR. SPOOK: We do -- on our direct down portfolio it's quarterly. Three times a year at three-quarters is interim evaluations. One time a year is an external evaluation. All of our valuations, internal and external, are reviewed by third-party appraisal administrators.

MS. CANIDA: Questions of the real estate?

Thank you, Steve.

MR. T. TAYLOR: Thank you. Good afternoon, everyone. Thank you, Madam Chair.

I guess the most important things that I would say -- go to the next slide -- markets continue to be very volatile, and I think more and more people are thinking we've seen a change from the investment environment we've seen over the last decade plus, and now we're going to be dealing with interest rates increasing and inflation increasing and decreasing at times.

We're going to see reserve central banks throughout the world not flooding the markets with liquidity. They're actually going to tighten and tighten very aggressively as needed. And I think all that calls for active management. And I think we need to probably emphasize active management because not all boats will be lifted as the flood of liquidity is not going to be there anymore.

So that's something we're continuing to just ensure we're comfortable with all of our strategies, internal and external, that we're diversified in terms of structurally value growth, fundamental and quantitative.

Just a quick update on our performance. Our one-year return is under. Everything can be taken back to the first quarter of this year. We underperformed by 95 basis points, and I talked about that at previous meetings. I won't go in detail again, but I will tell you the last two quarters we're having now positive alpha, and then this quarter to date we are just above. So we're seeing positive momentum in terms of active performance. And indeed absolute performance. Quarter to date through yesterday our target was up, I think, 12 or 13 percent and we are outperforming that modestly. So absolute and relative.

The last thing I will mention just on the last page, during the quarter, Madam Chair, I think most important we funded three new emerging markets, small cap strategies. That's an environment -- it's what I call fertile ground for active management. Great in efficiency, and at this point in time great valuation attractiveness. Those markets have been hit really hard.

And we did a restructuring. We did step away from an existing relationship. We restructured that aggregate. We did it as quietly as we could. I was pretty concerned about how much is this transitioning going to cost us. In the end it cost us a little bit, but not nearly as much as feared. So that has been completed. And again, three new managers up and running.

Then, finally, I'll just report we continue to be a significant provider of liquidity. We raised 1.2 billion in the third quarter. That's 3.4 billion calendar year to date. And for a little trivia at the cocktail party later, since 2010 when global equity integrated, became an asset class, we've provided over $50 billion of liquidity. The vast majority of that is for beneficiary payments. It's more than I even thought.

Madam Chair, those are all my comments. I would be happy to take questions.

MS. CANIDA: Thank you very much.

Any questions on the equity? Thank you very much.

John.

MR. BRADLEY: Thank you, Madam Chairman.

I will do -- go through two slides

quickly. First, just look at the private equity market and our portfolio in general. And so activity continues to slow in private equity through the third quarter. Both rising rates and stock market volatility is weighing on deal flow. We saw globally LBO volume was down 60 percent in the third quarter, while in Europe volume was down a shocking 90 percent.

And then fundraising continues to slow. So the third quarter was down 20 percent, and today I would just say it's taking much longer for funds to hit to a close or to even hit their targets. Our portfolio is down 5.3 percent. This is as of quarter two, 2022. Third quarter statements are still coming in, but directionally I would say that Q3 looks to be similar to Q2. I would put my estimate somewhere -- we'll be down in the range of 5 to 7 percent. That would put our year-to-date performance in PE somewhere down about 15 percent through the first three quarters of the year.

As we would expect, ventures has been our worst performing asset class. For the year down 10.7 percent. Cash flows continue to remain positive, which is nice to see. We have a positive $322 million net cash flow. This is as of October.

And then as we look through the portfolio, if we look quarter over quarter, contributions are down 30 percent. We expect that trend to continue. Distributions are down a bit more at 37 percent. Also a trend that we would expect to continue.

And I will end on one more slide, a positive slide. Performance continues to remain strong. This is as of the second quarter, but positive over all time periods. On that point, especially strong performance over the three-, five-, and ten-year time periods. And good colors on those slides.

(Laughter.)

MS. CANIDA: Yeah.

MR. BRADLEY: When it turns negative, we will go orange and blue.

(Laughter.)

MR. OLMSTEAD: A quick question, John. So there's only a lag with VC and PE with regards to normalization evaluations? I think we talked about this once before. I don't know if

you view these as four quarters, six quarters. We'll probably see a little bit more. When do you think it sort of levels out?

MR. BRADLEY: We would look to probably first quarter next year. I think we've been positively surprised on the venture portfolio that we've been seeing markdowns in the private positions. And so I think average markdown of public positions in our portfolio are down 40 or 50 percent, but those non-public positions are down 10 to 20 percent. So we've been seeing our GPs kind of being proactive in the cycle and marking things down.

MS. CANIDA: Any other questions?

Thank you. Great numbers.

Mike. I'm sorry, Dan, I was going to leave you for last. Dan. I can't even read, I know.

MR. BEARD: I'll be quick here. Total assets -- and I'm going to give you updated numbers from what we have up here. Assets as of market close yesterday, we have about $3.3 billion. So since September 30th, we've actually increased by a billion dollars.

Lamar went over what the current choice

stats are, and no changes there. We had about 292,000 members, of which 191,000 are active, and then another 101,000 are inactive members.

And then what you see there is the performance as of September 30th. Just to give you updated performance as of market close yesterday, fiscal year to date we're at 3.32 percent. That's positive, so the last two months have been pretty good as we've changed those negatives into positives.

And I would be happy to answer any questions.

MS. CANIDA: Thank you very much.

Mike.

MR. McCAULEY: Thank you, Madam Chair.

Not much to report really. I will be very brief here with two minutes left or whatever it is.

On the left side it has continued to be a very dynamic regulatory environment. One of the most recent final rules that came out of the SEC was on executive compensation, and specifically on the clawback policies. This is kind of a throwback to the Dodd-Frank Act of 2010 if you can believe it. They're still kind

of rolling out new regs on that.

The Department of Labor came out most recently with a final rule related to fiduciary duty on pecuniary issues. We talked about that a little earlier in the meeting, as well as the treatment of proxy voting rights as a plain asset. So it just kind of reverses some of the more recent guidance and tone at the Department of Labor. Kind of reverting back to kind of a traditional fiduciary core responsibility.

We touched on pass-through voting before. We continue to implement that. We're up to about 99.5 percent or a little over that in terms of votable assets. So we're voting virtually everything that we can.

I touched on -- a little bit in the standing (phonetic) report on a more recent development in the industry basically called polling where a lot of asset managers will try to gauge the preferences of their clients. It's a little bit more of folks on the retail end than the institutional end, but it's kind of within the broad theme of just trying to survey the ultimate clients and the beneficiaries in terms of their preferences and their views.

It doesn't necessarily mean that that will translate into specific voting direction, although that's also being explored, I think, within some firms. So it's kind of something to be on the lookout for.

On the right side of the slide is just our Q3 voting statistics. Really nothing to draw out there. It's been pretty stable.

With some of the pass-through changes that we did earlier in the year, we're forecasting probably a 7 or 8 percent increase in the calendar year, forward-looking fiscal year. Not a huge change, but a little bit of an uptick.

I would be happy to answer any questions.

MS. CANIDA: Questions?

Thank you very much.

Yes.

MR. TAYLOR: If you have time, Katie. I know y'all have a tight schedule.

MS. CANIDA: Katie, do you have time? Okay.

MS. COMSTOCK: I can do the quick version if that's okay, unless someone else wants to

Compensation Subcommittee Meeting
December 13, 2022

see the long version.

I think we all know what happened over the third -- this is performance through the end of September 30th. I will very quickly just hit the highlights.

Asset allocation in line with policy as expected. Slight underweights to global equities, just giving market moves. The portfolio is about 170 billion at the end of September. Performance for the quarter, down 3.9 percent net of fees. As expected, as global equity was down about 6.7 percent. Fixed income was down close to 4 percent. And private equity we saw is holding negative marks over the quarter. Real estate and strategic investments can help offset that. Over the year also negative results.

However, the positive news is that there is outperformance from your total fund when we look at it relative to the blue bars, which is your policy benchmark. And the portfolio has outperformed across these time periods. Private equity, which is benchmarked against public equities plus a premium, as well as your global equity asset class are pretty consistent

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contributors. But across asset classes the longer time periods value add came from your asset classes. So it's nice to see that spread out.

The nominal of that -- absolute nominal target rate of return, again, is at CPI+4 percent now, so obviously the CPI is up 7/8 percent. This is a tough bogey to meet.

Over the long term the FRS has achieved this over the past 20 and 30 years. Slightly below over the last 25 years at 6.6 percent versus 7.1.

When we look at it relative to the TUCS Top Ten, this every quarter is a rush to get this data, so I would take it with a grain of salt. We do always go back and try to rectify it, but what you can see here is a consistent story. When we look at it relative to peers, is that the FRS does have greater exposure to global equity, 47 percent versus 37.7, which is shown here. That's a little bit lower than what we've seen. Usually it's in the low 40s. But a similar story. Again, greater allocation to international equities specifically relative to peers, and that has had an impact to asset

allocations, specifically when we look at performance.

Which I will jump to this slide to show where the FRS is ranked in this peer group of ten other U.S. pension plans, not necessarily public. But again, greater allocation to public equities in a tough period for global equity, as you're ranking at the bottom of this peer group for the one year. Over the ten year about at the median. It's likely driven by that global equity exposure, which is not surprising.

We covered performance for the investment plan, which is about 12.2 billion at the end of September. What I, again, just highlight here is the relative performance, which is the third row in the top table. Active managers struggled over that one-year period; however, over the longer time period the active managers collectively have added value for participants.

The last two mandates that we cover are the Hurricane Catastrophe Fund. There's about 12.6 billion at the end of September in the operating fund. You can see some negative returns where interest rates have dipped over the near term or the long term. Some pretty unique returns, but on a relative basis this portfolio outperforms its benchmark over all trailing time periods.

And then a similar story in terms of relative performance with Florida PRIME. Florida PRIME at the end of the quarter had about 17.4 billion. That's down over the quarter, which is typical due to seasonal flows.

Some positive results. I think the yield is now about 3 percent, which is nice to see, and strong performance relative to this benchmark, which is the peer group of other government investment pools.

A strong relative performance across the board, and hopefully as you have heard we've gotten some positive results in capital markets since the end of September, so hopefully that can continue through year end.

MS. CANIDA: Thank you.

MS. COMSTOCK: I know I went over it too quick, but thank you.

MS. CANIDA: Any questions? Thank you.

I think we've covered it, but I will send

it back to Vinny to discuss the IAC compensation subcommittee update, but I think you gave it -- okay.

(Inaudible.)

MS. CANIDA: Last, if there's any comments or questions from the audience we will entertain them.

MR. TAYLOR: Do we not have any speakers? Okay. There are none.

MS. CANIDA: Okay. Well, I want to wish everybody a happy holiday season. I know it's been a tough year for everybody in the investment world. So, enjoy a happy, healthy 2023, and thank you for all you do for the SBA.

So with that we adjourn.

(The proceeding concluded at 5:04 p.m.)

COURT CERTIFICATE

STATE OF FLORIDA
COUNTY OF LEON

I, JANE FAUROT, RPR, certify that I was authorized to and did stenographically report the foregoing proceedings, and that the transcript is a true and complete record of my stenographic notes.

Dated this 19th day of January, 2023.

Jane Faurot

JANE FAUROT, RPR

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Date:	February 27, 2023
To:	Board of Trustees
From:	Mark Thompson, Audit Committee Chair
Subject:	Quarterly Audit Committee Report

The State Board of Administration's Audit Committee met on February 27, 2023. Please see the attached agenda for the items discussed. Also please see the attached Office of Internal Audit Quarterly Report presented to the Audit Committee at the meeting.

STATE BOARD OF ADMINISTRATION
Audit Committee Open Meeting
Agenda
February 27, 2023
9:00 A.M. – Conclusion of Business

1. Call to Order
2. Approve minutes of closed and open meetings held on November 21, 2022
3. SBA Interim Executive Director & CIO status report
   - SBA Update: investment performance, risks, opportunities and challenges
4. Presentation on results of OPPAGA Reports
5. Presentation on the results of the SBA Local Government Surplus Funds Trust Fund (Florida PRIME)
6. Presentation of Crowe's audit plan for the financial statement audits of the Florida Hurricane Catastrophe Fund for the year ending June 30, 2023
7. Presentation of Crowe's audit plan for the financial statement audits of FRS Pension Plan and FRS investment Plan for the year ending June 30, 2023
8. Presentation of Real Estate Title Holding Entity audits
9. Chief Risk & Compliance Officer Quarterly Report
10. Office of Internal Audit Quarterly Report
11. Interim Inspector General Quarterly Report
12. Approval of the Committee's Annual Independence Statement
13. Election of the Committee's Chair and Vice Chair
14. Other items of interest
15. Closing remarks of the Audit Committee Chair and Members
16. Adjournment

OFFICE OF INTERNAL AUDIT

SBA FLORIDA

STATE BOARD OF ADMINISTRATION

Office of Internal Audit (OIA) Quarterly Report to the Audit Committee

February 27, 2023

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Status of the FY 2022-2023 Annual Audit Plan

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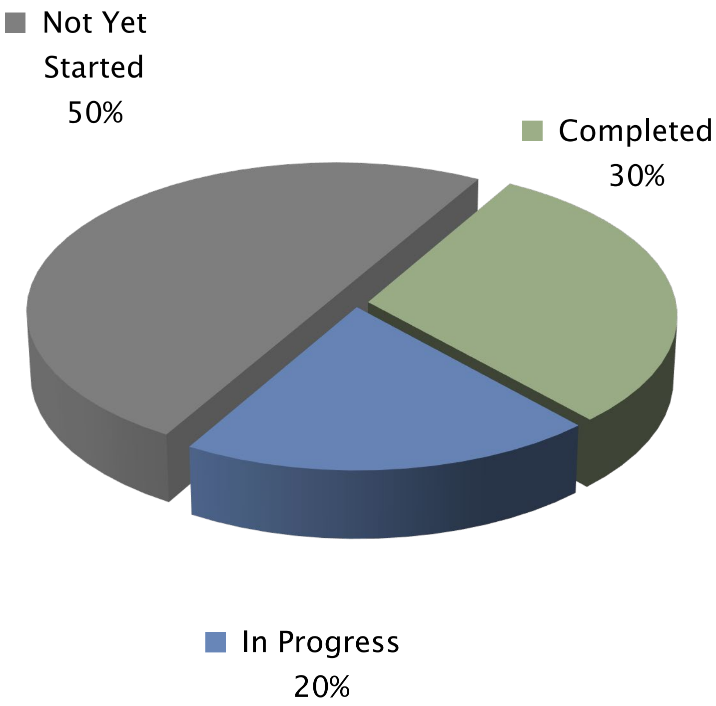
Status of the FY 2022-23 Annual Audit Plan

- Internal Audit and Advisory Engagements

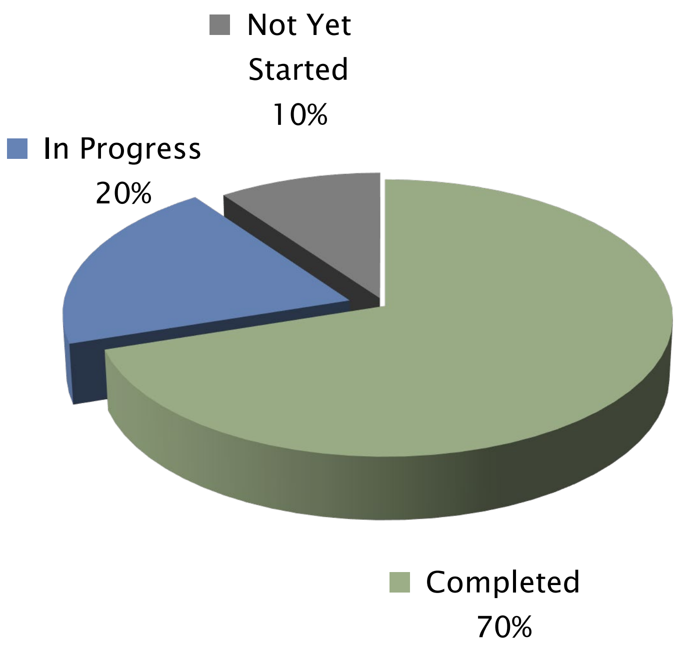


Highlighted: Completed since prior quarterly report.

Projects Status	Type	Planned Timing
Completed		
Performance Reports for Alternative Investments	OIA Operational Audit	Q1
Identity and Access Management Advisory	OIA Advisory	Q1
Public Market External Manager Oversight	OIA Operational Audit	Q1-Q2
In Progress		
Cybersecurity Incident Response Plan	OIA Operational Audit	Q2
External Real Estate-Search/Selection	OIA Operational Audit	Q3
Not Started		
Critical Programming Documentation	OIA Advisory	Q3
Payroll	OIA Operational Audit	Q4
Incentive Compensation	OIA Operational Audit	Q4
Vendor Management	OIA Operational Audit	Q4
Periodic Follow-up Audit	OIA Operational Audit	Q2-Q4

Status of the FY 2022-23 Annual Audit Plan

- External Engagement Oversight

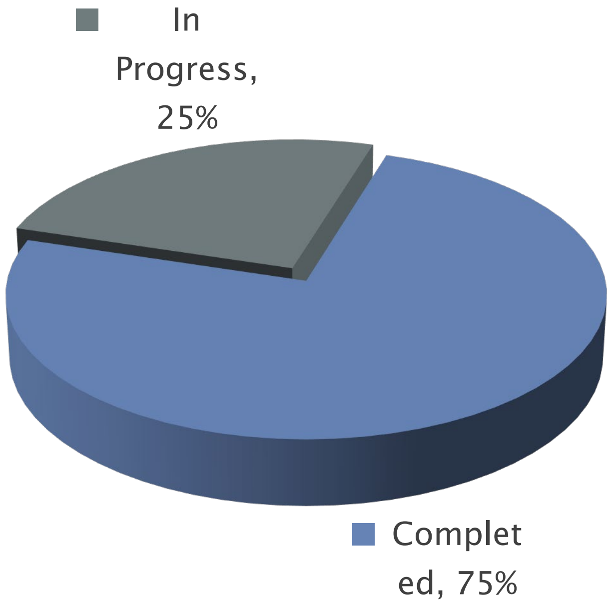


Project Status	Service Provider	Type	Planned Timing
Completed			
Florida Retirement System (FRS) Trust Fund	Crowe	External Financial Statement Audit for FY21-22	Q1/Q2
FRS Investment Plan Trust Fund	Crowe	External Financial Statement Audit for FY21-22	Q1/Q2
Florida Hurricane Catastrophe Fund	Crowe	External Financial Statement Audit for FY21-22	Q1/Q2
Network Security Assessment, outsourced	Peraton	External IT Assessment	Q1/Q2
Florida PRIME Financial Statement Audit	Auditor General	External Financial Statement Audit for FY21-22	Q1/Q3
FRS Biennial Review	OPPAGA	External Review	Q1/Q3
Florida Growth Fund Initiative	OPPAGA	External Review	Q1/Q3
In Progress			
AG Statewide Financial Statement Audit	Auditor General	External Financial Statement Audit for FY21-22	Q1/Q3
AG Financial Systems – PSFS, Eagle, PRIME	Auditor General	External Operational Audit	Q2/Q3
Not Started			
AG Operational Audit – Topic TBD	Auditor General	External Assessment	TBD

Highlighted: Completed since prior quarterly report.

Status of the FY 2022-23 Annual Audit Plan

Special Projects, Risk Assessments, Annual Audit Plan and QAR



Project Status	Type	Planned Timing
Completed		
None		
In Progress		
Annual Quality Assessment Review - Self-Assessment	OIA Quality Assurance	Q2/Q3
GRC Assessment	OIA Special Projects	Q2/Q3
Investment Performance and Risk Analytics Data Assessment Project	OIA Special Projects	Q2/Q3
AuditBoard Configuration Updates and New Templates	OIA Special Projects	Q1-Q4
Continuous Risk Assessment	OIA Risk Assessment	Q1-Q4
Complimentary User Entity Control Testing Validation	OIA Special Projects	Q1-Q4
Not Yet Started		
Annual Risk Assessment	OIA Risk Assessment	Q4
Annual Audit Plan	OIA Risk Assessment	Q4

Completed Projects & Status of Management Action Plans/Recommendations

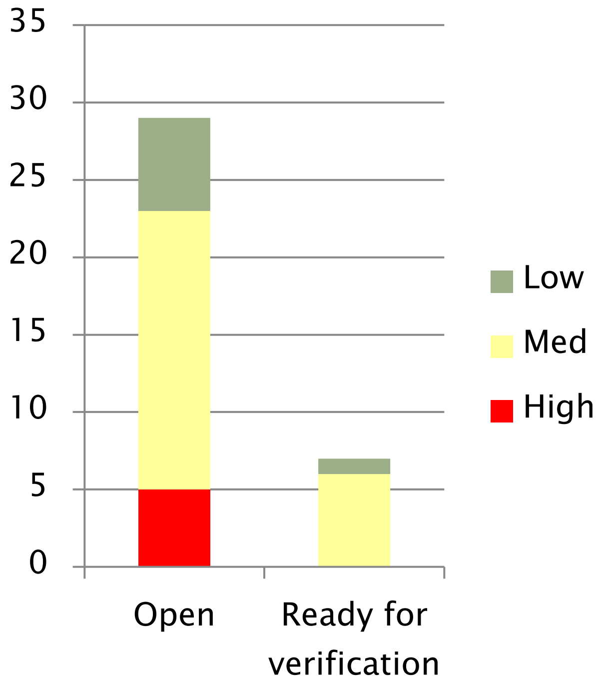
Public Market External Manager Monitoring Operational Audit

We completed the Public Market External Manager Monitoring Operational Audit. Our risk-based audit assessed the existence, adequacy and effectiveness of key internal controls, the efficiency of operations, and compliance with relevant policies and procedures for the related processes for the period July 1, 2021 – May 31, 2022. We performed data analytics on select data for the same period. In certain cases, we reviewed information after our cut-off date to provide updated information. *For detailed flowcharts of these processes, see the appendix included in the report.*

Legend for Control Effectiveness Rating	# of Key Controls
Effective	17
Improvement Needed	3
Not Effective	0
Not Tested (tested in other audits, etc.)	4
Total Key Controls	**24**

Observations:		**Status of Action Plan:**
1	High	Partially implemented
1	Medium	In progress
2	Low	In progress
4	**Total Observations**	

Status of Management Action Plans–Audits



Report Title	Report Date	Risk Rating for Open Recs: High	Med	Low	Status: Open	Ready for verification	*Verified during Qtr*
AG - Operational Audit 2017	11/13/2017			1		1	
Procure to Pay Operational Audit	6/30/2020		3		1	2	*1*
Real Estate Direct Owned Operational Audit	10/6/2020		1		1		
AG – ITGC and PRIME 2020	10/16/2020		2		2		
AG – ITGC and PRIME 2020 Confidential	10/16/2020		5		5		
AG – FRS Investment Plan Operational Audit 2021	2/22/21		3		3		
Business Continuity and Disaster Recovery Operational Audit	3/19/2021		3		1	2	
Private Equity Operational Audit 2021	9/9/2021		1	2	3		
Derivatives Collateral and Cash Management Operational Audit	3/31/2022			1	1		*1*
Performance Reports for Alternative Investments Operational Audit	9/19/2022	4	5	1	8	2	
Public Market External Manager Monitoring Audit	1/9/2023	1	1	2	4		
		5	24	7	29	7	
		14%	67%	19%	81%	19%	

For details, see Appendix A.

Changes highlighted in yellow

Management Action Plans relate to findings from audits performed by internal or external auditors. The OIA monitors and performs follow-up procedures on the management action plans in accordance with the IIA Standard 2500. A1. In certain cases, follow-up procedures are performed by external auditors.

Status of Recommendations – Advisory Projects

Report Title	Report Date	Open	Closed per Mgmt	Total	*Verified during Qtr*
Governance, Risk Management, and Compliance Assessment (Funston)[1]	1/15/2018	2	4	**6**	
Network Security Assessment 2018 (BDO)[2]	11/15/2018	1		**1**	
Network Security Assessment 2019 (BDO)[2]	11/21/2019	1	1	**2**	*4*
CIS CSC Framework Gap Assessment Advisory[1]	3/19/2020	12		**12**	
Network Security Assessment 2020 (BDO)[2]	1/5/2021	8		**8**	*6*
Security Configuration and Vulnerability Management Advisory[1]	8/3/2021	24		**24**	
Network Security Assessment 2021 (BDO)[2]	2/2/2022	17	11	**28**	*2*
Identity and Access Management Advisory[1]	9/27/2022	9		**9**	
Network Security Assessment 2022 (Peraton)[2]	11/14/2022	25	4	**29**	
		99	20	**119**	

(Status columns: Open, Closed per Mgmt, Total, Verified during Qtr)

Changes highlighted in yellow

Advisory Recommendations made by OIA or external consultants resulting from an assessment of a program or activity such as governance, risk management, compliance, ethics, disaster recovery preparedness program, etc. The OIA monitors the disposition of these recommendations in accordance with the IIA Standard 2500.C1.

[1]At the advice of the Audit Committee, the OIA closes Advisory Recommendations that management represented as "complete" once the OIA has considered those in the annual risk assessment.

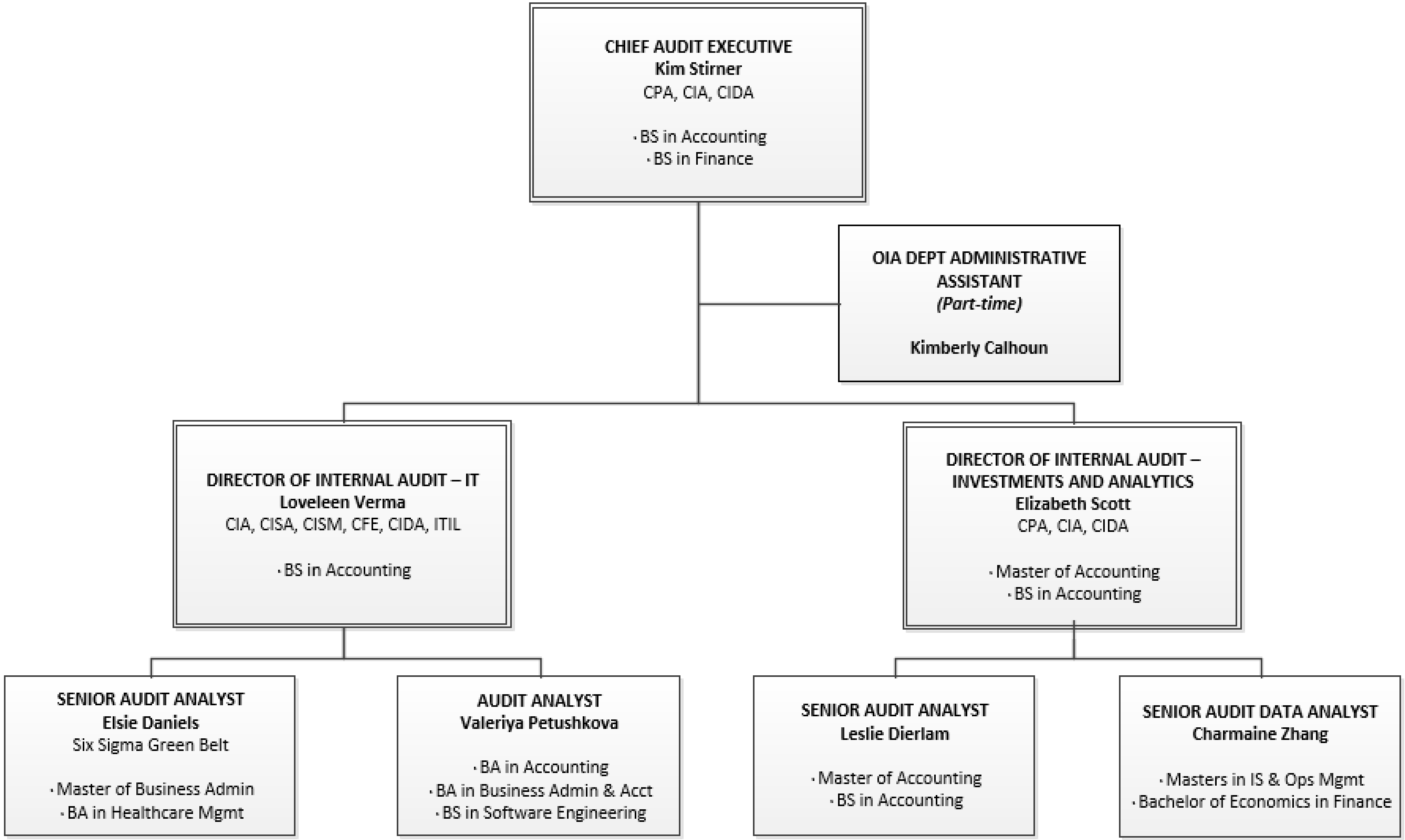
[2]Recommendations will be reviewed for remediation and closure as part of the subsequent Network Security Assessment.

Other OIA Activities

Status of OIA Department Goals FY 2022-23

TOPIC	ACTIVITIES	IMPLEMENTATION EFFORTS	STATUS
INTERNAL AUDIT PROCESSES	Data Analytics: Use for continuous risk assessment (CRA), engagement planning, continuous monitoring and auditing, and evaluate the potential use of robotics process automation for audit projects.	The use of data analytics is underway for engagement planning, continuous monitoring and auditing. Also, an RPA is in the queue to assist with the dashboards for continuous monitoring. The CRA development is ongoing.	In progress
INTERNAL AUDIT PROCESSES	Engage consultants (co-source or outsource) to assist with high-risk areas relating to investments and IT audits.	Peraton is engaged to conduct the network security assessment which is scheduled to begin in August 2022. ITCI is engaged on a retainer basis to assist with investment-related audits throughout the fiscal year. Contracting is complete.	Complete
INTERNAL AUDIT PROCESSES	Identify and discuss with management potential areas where we may add value either as advisory/consulting projects or informal initiatives.	The current annual audit plan includes IT/IS related advisory projects.	In progress
INTERNAL AUDIT PROCESSES	Update the pipeline of projects on at least a quarterly basis. Consider agile focused audits and advisory projects.	We set up a tab in our Risk Channel in Teams to document and review pipeline as needed.	In progress
USE OF TECHNOLOGY	Continue to increase automation of continuous data analytics where possible and support the SBA's use of Tableau Server and data governance.	Continue to do this in conjunction with the data analytics activity mentioned above under internal audit processes.	In progress
USE OF TECHNOLOGY	Begin using our new automated workpaper solution, AuditBoard for all audit projects.	Templates have been developed for audit projects and it is being utilized for two audit projects. Additional templates for advisory are in progress. We are currently evaluating AuditBoard for recommendation monitoring.	In progress
PEOPLE	Develop a training plan based on knowledge gaps for each member of the OIA to close those gaps.	Draft complete for the budget submission.	In progress
PEOPLE	Have at least one team building event during the fiscal year to enhance the team.	Team building event held August 2022 and December 2022.	Complete
PEOPLE	Fill the open Audit Analyst position.	All current positions filled as of January 2023.	Complete

OIA Organizational Chart



Other Items for Discussion

- Changes to OIA organizational chart
  - New Senior Audit Analyst - Elsie Daniels
- Audit Committee meeting dates in 2023
  - May 22, 2023
  - August 21, 2023
  - November 20, 2023

Questions/Comments

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MEMORANDUM

To: Lamar Taylor
From: Michael McCauley
Date: March 7, 2023
Subject: Quarterly Standing Report - Investment Programs & Governance

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GLOBAL PROXY VOTING & OPERATIONS

During the fourth quarter of 2022, SBA staff cast votes at 1,617 meetings worldwide, voting on ballot items including director elections, audit firm ratification, executive compensation plans, mergers & acquisitions, and a variety of other management and shareowner proposals. These votes involved 10,076 distinct voting items—voting 80.8% “For’’ and 16.5% “Against/Withheld,” with the remaining 2.7% involving abstentions. Of all votes cast, 16% were “Against” the management-recommended vote. SBA proxy voting occurred in fifty countries, with the top five by meeting volume comprised of China (519), United States (188), India (150), Japan (63), and the United Kingdom (57).

CORPORATE GOVERNANCE & PROXY VOTING OVERSIGHT GROUP

The most recent meeting of the Corporate Governance & Proxy Voting Oversight Group (Proxy Committee) occurred on December 6, 2022, and the next meeting will be held March 21, 2023. The Proxy Committee continues to review ongoing governance issues including the volume and trends for recent SBA proxy votes, company-specific voting scenarios, corporate governance policies, governance-related investment factors, major regulatory developments and individual company research related to the Protecting Florida’s Investments Act (PFIA), and other statutory investment requirements related to Israel and Venezuela.

SBA staff recently enhanced the level of proxy voting information through the addition of four new dashboards disclosing votes made on all shareowner proposals (“SHPs”). This SHP voting data includes volume and support trends broken out by equity market, time period, company, and proposal type. Like all the existing dashboard data, the SHP voting data is updated shortly after each quarter-end and covers all proxy votes in all voted global markets. A new User’s Guide was also added to better explain the included information across all dashboards, which are available within the ‘Historical Proxy Voting’ link on the SBA’s homepage (see by hovering over the ‘Governance’ tab).

ACTIVE OWNERSHIP & CORPORATE ENGAGEMENT

The SBA actively engages portfolio companies throughout the year, addressing corporate governance concerns and seeking opportunities to improve alignment with the interests of our beneficiaries. Since early December 2022, SBA staff conducted engagement meetings with several companies owned within Florida Retirement System (FRS) portfolios, including Philip Morris Intl. (external consultant), Amgen, and Cigna.

LEADERSHIP & SPEAKING EVENTS

Staff periodically participates in investor and corporate governance conferences. Typically, these events include significant involvement by corporate directors, senior members of management, and other key investor or regulatory stakeholders. The following items detail involvement at events that occurred recently:

- In January, SBA staff participated in a quarterly meeting of the Best Practice Principles (BPP) Oversight Committee, discussing several issues affecting the proxy advisory industry. The BPP Oversight Committee is the governing body that provides: 1) an annual independent review of the monitoring of the Best Practices Principles; and 2) an annual independent review of the public reporting of each BPP Signatory. The BPP Oversight Committee aims to provide confidence in the principles that underpin the services provided by BPP Signatories and also provides guidance and advice with respect to the operation and development of the principles.

- In January, SBA staff participated in a meeting of the Board of Directors of the Council of Institutional Investors (CII), discussing a range of topics affecting the organization.

- In March, SBA staff participated in the All-Members meeting of the Investor Stewardship Group (ISG), discussing the group's strategic direction and future policy objectives.

- In March, SBA staff attended the Fall Conference of CII, participated in a meeting of the Board of Directors, discussing a range of topics affecting the organization, and also spoke on a panel covering current issues in shareowner activism.

HIGHLIGHTED PROXY VOTES

Stellantis N.V.—For the upcoming annual shareowner meeting on April 13, 2023, for Stellantis N.V., the SBA joined an effort to protect minority investor rights by calling on the company to withdraw plans to enable multi-class voting shares. The company initiative was listed as an adoption of special voting shares, or loyalty shares, for long-time shareowners. However, three large "reference" shareowners (the Agnelli family, the Peugeot family, and Bpifrance) would gain de facto control of the company with their portion of the loyalty shares, resulting in over 50% of voted shares at future meetings. The three reference shareowners also maintain four of the eleven current board seats. The draft resolution by minority shareowners to discuss the special voting shares at the next Stellantis AGM did not gain the required threshold of shareowner support to be placed on the agenda. However, thirteen institutional investors, in addition to the SBA, supported the resolution and future engagement with the Senior Independent Director of Stellantis is forthcoming. The SBA has registered concern with other governance practices at Stellantis in recent years. This has resulted in votes against the 2022 and 2021 remuneration reports due to a remuneration strategy that failed to align executive pay with long-term performance, created special incentive plans and discretionary bonuses that awarded at elevated levels, and provided a lack of disclosure on amended compensation targets (which were adjusted downward).

Cisco Systems, Inc.—at the December 8, 2022, annual shareowner meeting, the SBA voted against three of the twelve Cisco directors due to their status as over-boarded directors. Sitting concurrently on over three corporate boards, while also being fully employed, can result in overwhelming time commitments to the detriment of the shareowner base. It is rare to see three or more over-boarded directors at large-capitalization companies such as Cisco. The SBA also voted against Item 4, a shareowner proposal requesting that Cisco report its tax payments in accordance with the Global Reporting Initiative (GRI) Tax Standard. Cisco's response to the proposal appeared sufficient as the company noted that it provides information regarding its tax contributions in its SEC filings in accordance with U.S. generally accepted accounting principles, which include disclosures on its "total worldwide corporate income tax paid and the amounts of [its] corporate income tax expense attributable to US federal, state, and foreign taxes." The board also noted that providing "additional granular data for every country in which [it operates]," as requested by the proposal, would be "neither useful nor informative to [its] investors." In addition, the GRI Tax Standard is not commonly used by companies in the U.S. or by Cisco's peers.

REGULATORY AND MARKET DEVELOPMENTS

Department of Labor (DOL) Issues Final Rule on Prudence and Loyalty in Selecting Plan Investments and Exercising Shareholder Rights

In its final rule adopted in late November 2022, which aligned closely with its October 2021 proposed rule language, the DOL takes the position that an ERISA plan fiduciary's consideration of environmental, social, and governance (ESG) factors is consistent with its fiduciary duties under ERISA when such factors are relevant to the risk-return profile of the investment. The DOL reaffirmed a core tenet under ERISA's duties of prudence and loyalty, that when selecting investments and/or investment decisions, plan fiduciaries must focus on the relevant risk-return factors and may not subordinate the interests of participants and beneficiaries to objectives unrelated to the provision of benefits under the plan. The rule also reiterates a second principle, that when a plan's assets include shares of stock, the plan's fiduciaries duty to manage plan assets includes the management of shareholder rights related to those shares, such as the right to vote proxies.

The final rule includes the following elements: 1) requires plan fiduciaries to reasonably determine which factors, in connection with investment decisions, are relevant to a risk-return analysis and clearly states that such factors may, *but need not*, include ESG factors; 2) streamlines the "tiebreaker" test (which allows fiduciaries to consider collateral benefits where the fiduciary has prudently concluded that competing investments equally serve financial interests over the appropriate time horizon) by eliminating the need for special documentation or disclosure in connection with investment decisions, including with respect to designated investment alternatives offered under participant directed plans; 3) provides that decisions made with respect to qualified default investment alternatives (QDIAs) are subject to the same standards (a focus on relevant risk-return factors) as other investments; 4) clarifies that fiduciaries may, without violating their duties of loyalty and prudence, take into consideration participants' non-financial preferences when constructing a menu of investment options for participant directed plans such as a 401(k); and 5) requires plan fiduciaries to prudently select and monitor proxy voting advisory firms (and any other related service providers).

With respect to proxy voting, the final rule underscores that a fiduciary's duties extend to the management of shareholder rights, including with respect to proxy voting, when an ERISA plan holds shares of stock. The final rule returns to an interpretation clarifying that fiduciaries should vote proxies unless they have a good reason not to do so, for example there are significant costs associated with exercising their voting rights. The changes embedded in the final rule reflect the DOL's intended shift to a more neutral and principles-based approach, focused on the financial relevance to the investment.

The final rule also removes the two 'safe harbor' examples for proxy voting policies permissible under paragraphs (e)(3)(i)(A) and (B) of the prior 2020 rules. One of these safe harbors permitted a policy to limit voting resources to types of proposals that the fiduciary has prudently determined are related to the issuer's business activities or is expected to have a material effect on the value of the investment. The other safe harbor permitted a policy of refraining from voting on proposals or types of proposals if the plan's holding in a single issuer relative to the plan's total investment assets was below a quantitative threshold. The DOL viewed these two safe harbors as an incentive to abstain from voting as the normal course and stated it, "…does not believe the regulation should encourage abstention as the normal course because of the importance of prudent management of shareholder rights in enhancing the value of plan assets or protecting plan assets from risk."

The new rule went into effect in late January 2023, with certain proxy voting provisions applicable in early 2024 to allow fiduciaries and investment managers additional time to review and make any needed proxy voting policy changes. There is uncertainty surrounding many of the issues in the final rule, as both chambers of Congress have passed legislation to amend ERISA to explicitly prohibit consideration of ESG factors, setting up the potential for a Presidential veto. Many States, including Florida, have passed, or proposed new laws to circumscribe the use of ESG factors in their respective pension plans and other state-controlled funds.

Securities & Exchange Commission (SEC) Amends Insider Trading Regulation
On December 14, 2022, the SEC adopted amendments to Rule 10b5-1 trading plans, which provides an affirmative defense to insider trading for individuals and issuers that trade stock under a plan that was entered in good faith at a time when they do not possess material nonpublic information. According to SEC Chair Gary Gensler, "Over the past two decades...we have heard from courts, commenters, and members of Congress that insiders have sought to benefit from the rule's liability protections while trading securities opportunistically on the basis of material nonpublic information. I believe today's amendments will help fill those potential gaps." The changes include extensive new disclosures and procedural requirements, notably the imposition of "cooling-off" periods before trading under a plan can commence. These cooling-off periods for directors and executive officers is the later of 90 days following the adoption or modification of a plan or two business days following disclosure of the issuer's financial results for the quarter in which the plan was adopted, subject to a maximum of 120 days following plan adoption or modification. Other new disclosure requirements include representations made by directors and executives at the time of plan adoption that they are not aware of any material nonpublic information about the issuer, or its securities and the plan is not part of a

scheme to evade the prohibitions of Rule 10b-5. Most affected persons will be required to comply with the new regulation beginning with their first filing covering the full fiscal period that begins on or after April 1, 2023. The SEC has recently been active on the topic, bringing contested insider-trading charges against the executive chair of Ontrak, Inc., on March 1, 2023, alleging the employee was in possession of material non-public information at the time he entered into two separate 10b5-1 trading plans.

U.S. Congress Inquiry into SEC Shareowner Resolution Submission Rule
On January 11, 2023, members of Congress wrote to Securities and Exchange Commission (SEC) Chair Gary Gensler, questioning the appropriate use of its shareholder proposal rules following an increase in ESG-related resolutions. The letter stated that, "in recent years, countless groups have been pressuring companies to take action on a broad array of environmental, social, and political issues often unrelated – or even detrimental – to the companies' ability to create shareholder value." Their concerns follow changes introduced by the SEC which impact companies seeking no-action relief on whether a shareholder proposal should be excluded from its proxy statement.

SEC Issues Regulatory Guidance
In early January 2023, the SEC announced updates to its Fall 2022 Regulatory Flexibility Agenda, telegraphing a substantial agenda for 2023. Through the remaining months of the year, the SEC is expected to prioritize its rule making on climate change/emissions disclosures, shareowner proposal exclusions, human capital reporting as well as board member and nominee diversity. Many of the proposed or finalized rules are expected to be released by October 2023.

ISSB Board Approves Inaugural Standards
In February 2023, the International Sustainability Standards Board (ISSB) approved two separate disclosure standards for companies encompassing references to the Global Reporting Initiative (GRI) and EU Sustainability Reporting Standards (ESRS). The ISSB standards adopt an enterprise value approach, which measures how sustainability impacts a company’s valuation. The new standards come into effect in early 2024.

Sharp Increase in U.S. Boards’ Minority Directors
In February 2023, Institutional Shareholder Services (ISS) Corporate Solutions, Inc. (ICS), announced the results of an analysis of the largest 3,000 U.S. companies, which showed for the first time that racial and ethnic minorities comprised over 20% of all board directorships. The analysis covered a four-year period, from January 1, 2019, through January 1, 2023, and indicated that among the racial and ethnic minority groups analyzed, each group saw growth in the proportion of total directorships. ICS stated, “Asian directors saw a 55% increase in directorships during the period studied while the number of directorships held by Hispanic/Latin American individuals grew by 37 percent” and “…directorships filled by Black individuals saw the most pronounced growth, increasing by 90% over the study period with 2,190, or 8.3%, of all board seats now held by Black directors.”

Adoption of Advance Notice Bylaws Skyrockets
Shortly after the implementation of universal proxy cards (UPC) in August 2022, hundreds of companies have amended their bylaws to require investors provide advance notice to companies when nominating director candidates and submitting other items. Market data supplied by Deal Point Data

shows almost four hundred companies amended their bylaws in the last two months of 2022 alone. Company bylaws prescribe the process by which a shareowner proposes certain items, which include board of director nominations, bylaw amendments, and non-binding resolutions. Advance notice bylaw terms require that an activist investor must notify a company of its board of director nominee(s) prior to the conduct of an annual shareowner meeting, typically three to four months before the date of the annual meeting, and also disclose extensive detail about itself and its candidates.

The Delaware Chancery Court, which opines legally on the largest proportion of U.S. public companies, has allowed numerous forms of restrictive advance notice bylaw terms as long as they do not disenfranchise shareowners. Most of the concern surrounds not the advanced notice period itself but the additional information being asked by companies regarding the director nominees and the investor organization making the director nomination(s). Some companies have amended their bylaws to impose disclosure requirements of an activist investor's fund investors, past and future investment projects, and even investment projects made by family members.

Some forms of bylaw changes have been viewed negatively by investors. These concerns have prompted at least one activist investor, Politan Capital, to sue one of its investment companies, Masimo Corporation—a subsidiary of UnitedHealth Group Inc.—for making what it believes are onerous amendments not in the interests of its investors or the general market. Masimo's board of directors adopted bylaws imposing two conditions for investors to meet in order to nominate directors: (1) identify any limited partners they have; and 2) disclose any plans to nominate directors at other companies. Law firm Mayer Brown opined on Masimo's other governance features, stating, "Besides the new bylaws, Masimo's board had already created another deterrent to anyone considering nominating new directors: a platinum parachute payment to the founder—running to one billion dollars—is due if shareholders ever elect two new directors or if the board designates a lead independent director. In addition, Masimo has a traditional poison pill and staggered director terms. The investment community, and especially activist shareholders, criticized these new bylaws as Draconian—a term courts use to describe defensive devices that thwart exercise of the shareholder franchise." After intense opposition from other investors and prior to any legal ruling, the Masimo board unilaterally rescinded the advance notice bylaw amendment.

Many investors view these bylaw requirements as nothing more than an obstacle to investor pursuit of certain types of shareowner action and a hurdle to an efficient market for control. SBA staff supports proposals that allow shareowners to submit proposals as close to the meeting date as reasonably possible and within the broadest window possible. Requests to shrink the window and/or move advance notice deadlines to as early as 150 days or 180 days prior to meetings have been presented by company boards in recent years. Such early deadlines hinder shareowners' ability to make proposals and go beyond what is required for sufficient board notice. While the SBA appreciates increased disclosure of the qualifications of nominees (and incumbents), we disapprove of such requirements if they serve to frustrate shareowner-proposed nominees. Current SEC regulations tied to the use of UPCs, require investors to send director nominee information to all a firm's shareowners about one month prior to the annual meeting.

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MEMORANDUM

To: SBA Trustees
Lamar Taylor, Interim Executive Director & CIO

From: Maureen M. Hazen, General Counsel Maureen M. Hazen

Date: March 7, 2023

Subject: Office of General Counsel: Standing Report
For Period November 11. 2022 – February 28, 2023

SBA Agreements.

During the period covered by this report, the General Counsel's Office drafted, reviewed and negotiated: (i) 26 new agreements – including 5 Private Equity investments; 5 Strategic Investment; and 9 for Real Estate; and (ii) 229 contract amendments, addenda or renewals.

SBA Litigation.

(a) Passive. As of February 28, 2023, the SBA was monitoring (as an actual or putative passive member of the class) 636 securities class actions. During the period covered by this report, the SBA collected recoveries in the amount of $392,551.39 as a passive member in 37 securities class actions.

(b) FRS Investment Plan. During the period covered by this report, the General Counsel's Office monitored and/or managed the following cases for the Florida Retirement System Investment Plan (the "Investment Plan"). The SBA issued 3 Final Orders, received notice of filing of 8 new cases, and continued to litigate 8 cases that were pending during the periods covered by previous reports (including one case at DOAH and appellate cases).

Other Matters.

(a) Public Records. During the period covered by this report, the General Counsel's Office received 44 new public records requests and provided responses to 37 requests. As of February 28, 2023, the General Counsel's Office continues to work on 4 open requests.

(b) SBA Rule Activities. During the period covered by this report, SBA staff reviewed the rules in Rule Chapter 19-11, F.A.C., to ensure they are up-to-date. The only required changes to the rules are the adoption of the latest versions of the forms referenced, such as the plan election and second election forms for the FRS Investment Plan. The amendments setting forth the revision dates of the forms have been prepared and will be filed shortly with OFARR ("Office of Fiscal Accountability and Regulatory Reform"). Once OFARR approves the revisions, the Rulemaking process with Bureau of Administrative Code and the Joint Administrative procedures Committee ("JAPC") can commence.

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MEMORANDUM

DATE: March 7, 2023

TO: SBA Trustees
Lamar Taylor, Interim Executive Director & CIO

FROM: Maureen M. Hazen, General Counsel and Interim Inspector General Maureen M. Hazen

SUBJECT: Quarterly Report on SBA Inspector General Activities

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The SBA's Inspector General, Ken Chambers, retired on March 31, 2022, and I have been serving as Acting Inspector General since his departure. The SBA Inspector General (IG) is responsible for serving as the organization's ethics officer; conducting certain internal investigations; and handling special projects as directed by the Executive Director & CIO.

Ethics and Training

- Mandatory ethics training and certification of compliance are required for all SBA employees on an annual basis. The on-line training covers gifts, conflicts of interest, financial disclosure, outside employment, lobbyist/principal restrictions, honorarium related events, etc. In addition to ethics training, mandatory training is required annually for all employees in the areas of harassment prevention, personal investment activity, insider trading, incident management framework, and use of information technology resources. Employees are also required to complete training courses for public records, confidential information and the Sunshine Law every other year (these were required in 2020) and a fiduciary responsibility course every 4 years. The deadline for completing the courses was June 30, 2022, and all SBA employees are in compliance. New employees are required to take all of the mandatory training courses (which also includes a fiduciary responsibility course) within 30 days of their start date. In addition to the annual mandatory training classes, employees are also required to complete quarterly on-line training courses concerning cyber security awareness.

- During the period from November 16, 2022 to March 6, 2023, no instances were reported to the Inspector General concerning non-compliance with the SBA's Ethics Policy (including with respect to gifts).

SBA Fraud Hotline

Since July 2006, the SBA has utilized an independent provider of SBA Fraud Hotline services. Through an 800 number, SBA employees, service providers, and others may anonymously report tips or information related to fraud, theft, or financial misconduct. The telephone number and information is prominently displayed on the SBA intranet home page. Additionally, the hotline information is available on the SBA internet site as part of the SBA contact page, and online reporting is available. In September, 2021, the SBA transitioned to a new hotline service provider, EthicsGlobal.

During the quarter, no complaints were received by the Hotline.

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MEMORANDUM

DATE: February 15, 2023

TO: Lamar Taylor, Interim Executive Director & CIO

FROM: Sooni Raymaker, Chief Risk & Compliance Officer SR

SUBJECT: Trustee and Audit Committee Report – February 2023

The following is a summary report of Risk Management and Compliance (RMC) activities and initiatives completed or in progress since the last dated report of November 2022 to the current period. All RMC activities, reviews, controls, and processes are continuing to operate effectively and as expected during this reporting period.

The role of the RMC unit is to assist the Executive Director & CIO in maintaining an appropriate and effective risk management and compliance program to identify, monitor and mitigate key investment and operational risks. RMC plays a critical role in developing and enhancing the enterprise-wide system of internal controls. RMC proactively works with the Executive Director & CIO and designees to ensure issues are promptly and thoroughly addressed by management.

SBA senior management has created a culture of risk management and compliance through the governance structure, allocation of budgetary resources, policies and associated training and awareness. Management is committed to ethical practices and to serving the best interests of the SBA's clients.

Compliance Exception:
Due to negative market conditions and lagged alternative market valuations, the 20 percent allocation limit for alternative investments was exceeded for most of the time period. There were a few market days in late January and early February in which, due to positive market conditions and increased volumes in trading, the alternative investment net asset value fell below the 20 percent cap. This allocation requirement is contained in section 215.47(15), Florida Statutes, which states: "With no more, in the aggregate, than 20 percent of any fund in alternative investments through participation in an alternative investment vehicle as those terms are defined in s. 215.4401(3)(a), or in securities or investments that are not publicly traded and not otherwise authorized by this section".

Enterprise Risk Management (ERM) The Risk & Compliance Committee (RCC) held its quarterly meeting February 1, 2023. The results of the 2022 Enterprise Risk Assessment were reviewed and discussed. Seventeen risks were assessed during November and December which were developed from a Risk

Identification Questionnaire which asked participants for feedback on top risks faced by the SBA. Various members of senior and middle management participated in the assessment. The overall results were in line with management expectations and there were no unexpected high-risk ratings. Based on the results of the assessment, management risk response plans will be developed.

Trading and Investment Oversight

The Trading and Investment Oversight Group (TOG) issued an e-meeting report dated January 2023.The report provided quarterly internal trading activity, compliance reports and trading counterparty oversight updates and other standard trading information reports. The quarter had no compliance escalations, and no monitoring standards were exceeded. An ad hoc TOG meeting is scheduled later in February to discuss revisions to the permitted securities list.

External Manager Operational Due Diligence (ODD)

During the period, the ODD team reviewed and commented on eight consultant operational due diligence reports on investment managers as part of the investment approval process, which represents approximately $1 billion in potential investments. The team reviewed two real estate property acquisitions which represents approximately $200 million in new investments. Twenty-two new consultant ODD reports were added to the Manager Operational Risk Oversight page for use by the asset classes since the last meeting. The team is participating as a non-voting member on the Real Estate Consultant fact finding review that is currently underway.

A revised Manager Investment Protection Principles certification that also includes the section 215.4755, Florida Statutes, requirement for public market external investment managers was requested on December 1, 2022, with a due date of January 31, 2023. Almost all certifications have been received by this reporting date.

The ODD team conducted three ODD onsite meetings with external investment managers during the quarter.

Public Market Compliance (PMC)

During the reporting period, PMC reviewed ten Investment Portfolio Guidelines and Schedule B (investment guidelines) in external manager investment agreements, which included the onboarding of three new public market portfolios.

Following the recommendation from the recent mock exam, PMC began the implementation of a routine compliance rule validation process. The periodic re-validation process will become a routine practice that includes reviewing compliance parameters for accuracy to their governing documents as well as the accuracy of the associated automated rule(s) after the initial coding and testing of the rule. Through review and testing, PMC re-validated fourteen compliance rules within Charles River and Bloomberg systems this period.

PMC participated in several projects including Disaster Recovery testing, reviewing Bloomberg AIM Compliance functionality, Risk Assessment Survey, the PRIME audit, and the Public Market External Manager Monitoring audit.

Performance Reporting & Analytics (PRA)

The PRA team is continuing to work towards the completion of a project to leverage the existing Eagle PACE (a performance management system) to build portfolio composites based on General Investment Performance Standard (GIPS) best practices. The PACE system can aggregate all composites and produce reports with performance returns in a more efficient manner. PRA has also begun the next project, to utilize PACE to calculate Time Weighted (TW) Returns and Dollar Weighted (DW) returns. Currently, PRA uses a different database to do this. By utilizing PACE to calculate TW and DW returns, there will be more efficiencies gained as another database will not have to be maintained. Moreover, preliminary TW calculation reports from PACE are yielding positive results by providing only true differences that are not due to the configuration of separate systems. This allows for efficiency gains in the reconciliation process, in addition to the elimination of additional database maintenance.

In addition to the Eagle PACE projects, PRA created a single source location for reconciling items that reduced the manual keying of duplicated information, as well as consolidated error tracking as part of the reconciliation and Custodian tracking processes. During this time, PRA also worked with the current vendor of the TW and DW calculations, to automate report generation through their web-based platform. The automation of these reports reduced the manual intervention previously required in the desktop version of the product, as well as reduced the amount of analyst time spent on the process. The efficiency gains through the automation of the reports reduced the time spent to only twenty minutes from over an hour for one asset class alone.

PRA is continuing with educational training, and members of the team have completed Corporate Finance Institute (CFI) training which includes training on Business Intelligence & Data Analyst (BIDA). This will enhance skills on data analytics and business intelligence tools

Policy Activity and Regulatory Monitoring

Since the last report, revisions were implemented to nine policies ranging from updates to cash collateral investment guidelines, workplace attire and delineating and updating the responsibilities of the Chief Operating/Financial Officer (CO/FO) and Deputy Chief Financial Officer and Senior Information Technology Officer. Additionally, a new Risk Budget Implementation policy, which provides detailed descriptions of the implementation and evaluation processes for the Risk Budget policy, was also approved during the review period.

Investment guidelines were revised for the Reinsurance to Assist Policyholders (RAP) Administration and Disbursement Funds to update benchmarks, as well as permitted and prohibited securities. Guidelines were also approved for the new Florida Optional Reinsurance Assistance (FORA) Program Administrative Account, which receives appropriated funds and provides for administrative expenses associated with the program. In addition, the revised Florida Retirement System Defined Benefit Plan Investment Policy Statement was approved by the Trustees in January.

On the regulatory front, SBA exposures to companies conducting business in certain designated Japanese business sectors continued to be monitored daily, to ensure compliance with the Japanese Foreign Exchange and Foreign Trade Act, which established a 1% reporting threshold for share ownership or voting rights held. The semi-annual Periodic Report, also required under FEFTA to reflect exposures exceeding 1% as of each June 30 and December 31, was filed with the Japanese Ministry of Finance on January 12, 2023.

The annual Form 13H Large Trader filing was completed with the Securities and Exchange Commission on February 6, 2023.

The Regulatory and Collateral Management Working Group met in December and reviewed updates on various topics such the SBA's centralized management and processing of regulatory related filings and requests; the implementation in 2024 of a new SEC Form N-PX to disclose proxy voting on executive compensation; and a proposed SEC rule, which will require centralized clearing of repurchase agreements backed by U.S. Treasury securities.

Personal Investment Activity (PIA)
During the period (November 1 – January 31st), there were 181 requests for pre-clearance by SBA employees, with 143 being approved, 37 being denied (due to blackout restrictions), and 1 being retracted (not traded). There were seven violations which were all reviewed by the CRCO, Acting Inspector General, SOO-Human Resources, and the Interim ED & CIO.

December 1, 2022, marked one year since implementation of the of the Personal Investment Compliance system. In CY 2022, requests for pre-clearance increased approximately 60% compared to CY 2021, when all PIA activities were being done manually.

During the quarter, SBA colleagues were required to complete a Semi-Annual certification covering the period July 1 through December 31, 2022 and confirm all transactions executed in the system during the specified period. Additionally, Annual Certifications for CY 2022 required SBA colleagues to confirm all Covered Accounts reported, Covered Securities in those accounts, and any Private Investments previously reported.

State Board of Administration

Real Estate Asset Class Review

Steve Spook, Senior Investment Officer-Real Estate

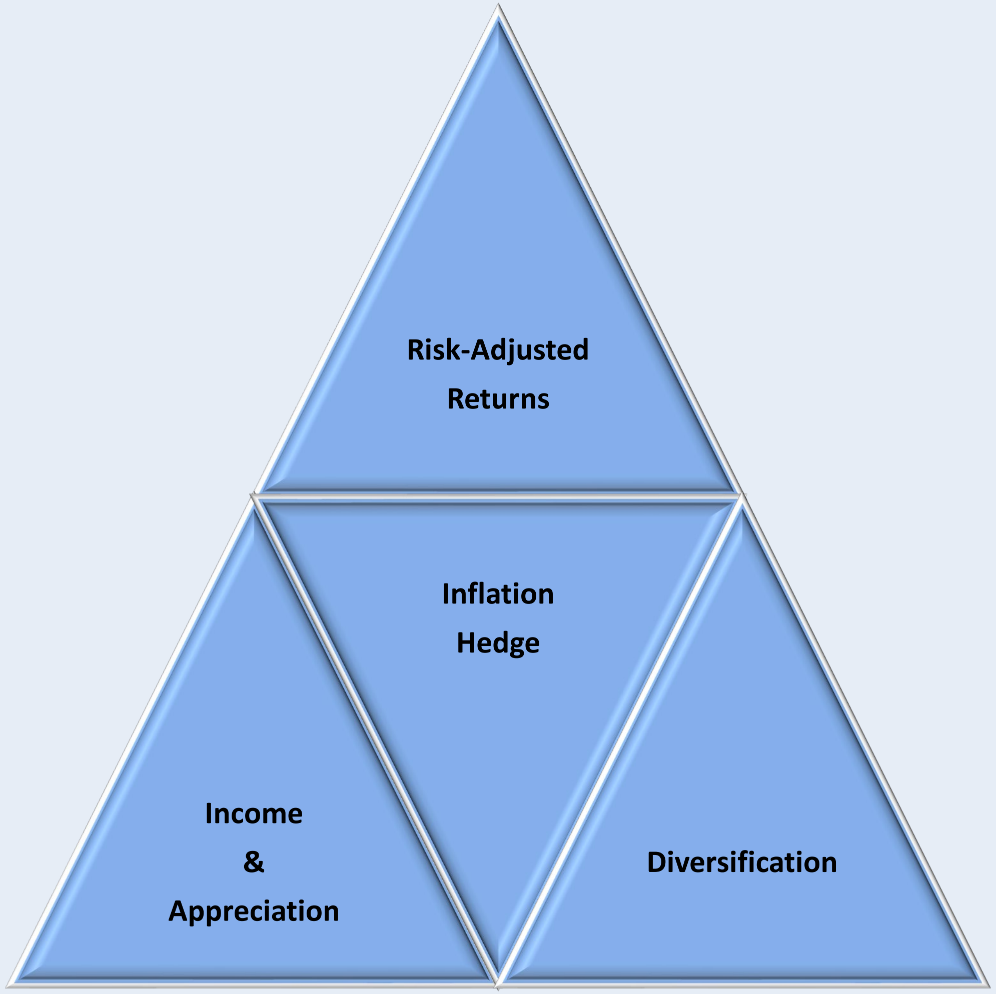
Investment Advisory Council Meeting
March 28, 2023

SBA FLORIDA
STATE BOARD OF ADMINISTRATION

AGENDA

- Asset Class Overview
  - Objectives
  - Benchmark
  - Staffing
  - Structure
  - Consultant
- Investment Process
- Portfolio Review

Strategic Role of Real Estate



Designed to provide:

- **INFLATION HEDGE**
- Attractive risk adjusted returns
- Diversification for total fund with low correlation to equities
- Income and appreciation

Real Estate & Inflation

- Economic growth, fueled by inflation, can lead to increased demand for real estate space.
- Leases and revenue streams are directly or indirectly linked to inflation.
- Leases with expense pass-throughs are a hedge against inflation.
- Construction cost inflation slows new construction and can result in price appreciation of existing assets.
- Debt hedges against inflation. As NOI grows with inflation, debt gets paid down at the same interest rate.

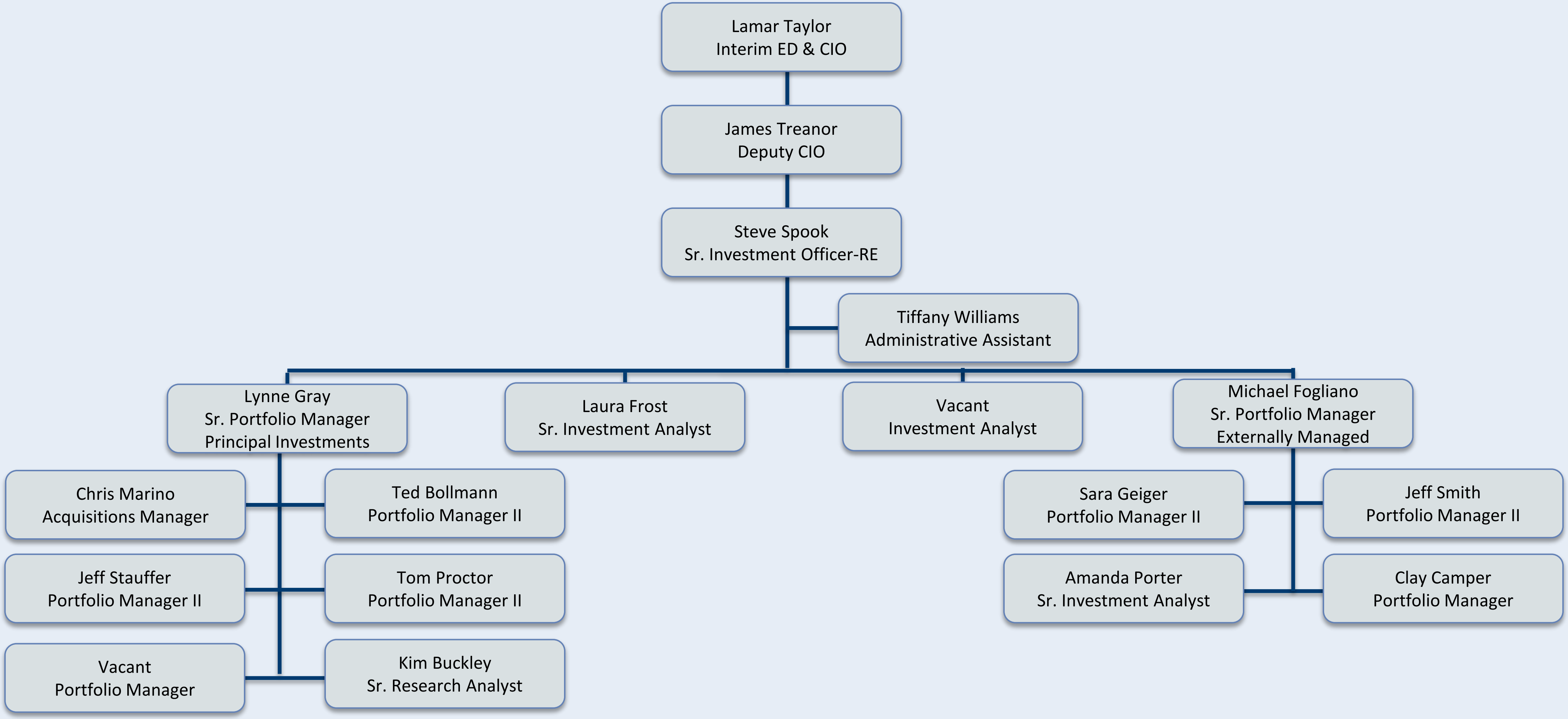
Benchmark

Primary Benchmark

- 76.5%[1] NFI-ODCE[2] net of fees (Core)
- 13.5%[3] NFI-ODCE net (Non-core) + 150 bps
- 10.0%[4] EPRA/NAREIT[5] Global net (REITs)

1. Represents private core Allocation
2. NCREIF Fund Index – Open End Diversified Core Equity
3. Represents private non-core allocation
4. Represents public (REIT) allocation
5. European Public Real Estate Association/National Association of Real Estate Investment Trusts

Organizational Chart



Investment Vehicles

- **Principal Investments** – Direct owned investments owned through separate accounts. Staff retains key discretion over major decisions including acquisitions, dispositions, financing, major leases/capex, and annual business plans.

- **Externally Managed Portfolio** – Includes pooled funds, club investments, co-investments, and REITs.

Investment Strategies

Private Real Estate

The Portfolio is anchored by the Core component. The Non-core component is expected to be a source of excess returns.

89% Core

(Strategic)

- Income focused
- Institutional quality
- Stabilized (high occupancy)
- Low immediate capital needs
- Low leverage (less than 50%)

11% Non-Core

(Tactical)

- Most return from appreciation
- Value (creation) to include:
  - Lease-up
  - Development
  - Redevelopment
  - Repositioning
  - Recapitalization
- Higher leverage
- Includes international
- Build-to-core: lower cost basis

Core Target (Range)	85% (70% - 100%)
Non-core Target (Range)	15% (0% - 30%)

Risk Management

- Core/Non-core Allocation
- Property Type Ranges
- Geographic Ranges
- Manager Concentration
- Leverage Limits

Real Estate Consultant

Real Estate Consultant – The Townsend Group

- Prepares quarterly and annual performance reports
- Investment monitoring and annual review
- Sourcing-pooled funds
    - Staff sourced
    - Townsend best ideas
- Operational due diligence
- Research
- Ad hoc projects
- Prudent Man Opinions – Co-investments

Investment Process

Total Portfolio:

- Consultant Pacing Model – controls vintage
- Annual Work Plan – anticipated portfolio activity

Principal Investments:

- Sourcing through separate account advisors, staff, brokers, and operators
- Due Diligence by separate account advisors and staff
- Legal negotiation by outside counsel and SBA’s General Counsel’s Office
- Asset management by separate account managers and staff. Quarterly reporting, annual business plans, regular calls, site visits

Externally Managed Portfolio:

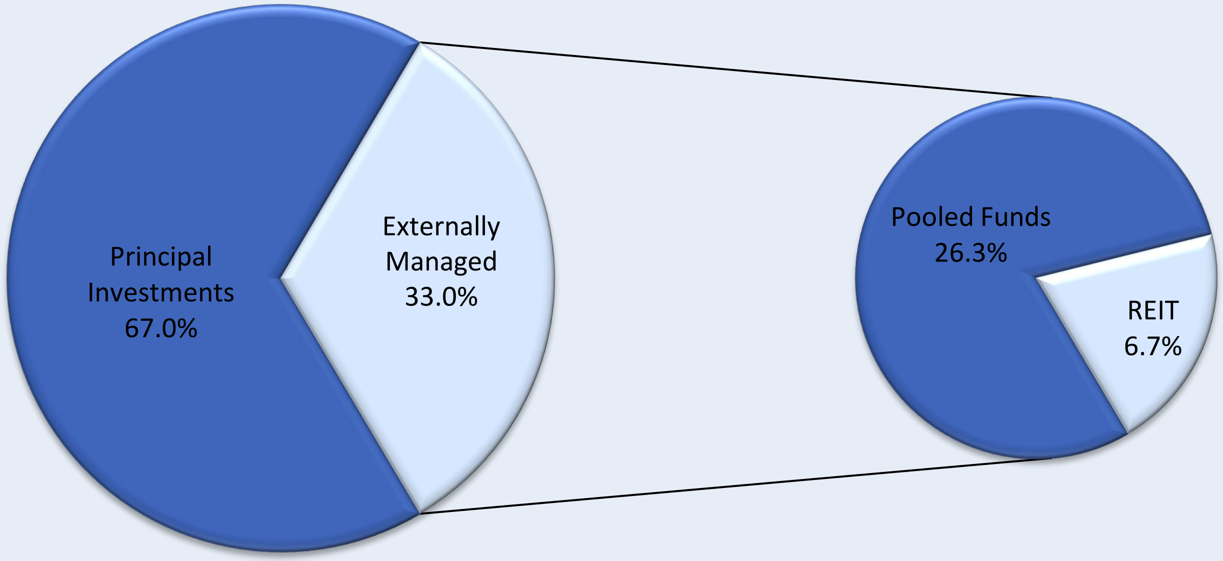
- Sourcing through consultant, staff, brokers, and fund managers
- Due diligence by consultant and staff
- Legal negotiation by outside counsel and SBA General Counsel
- Monitoring by consultant, reporting packages, annual meetings, LPAC’s, and staff

Portfolio – Total Real Estate

Policy Target Allocation:	10% of Total Fund
Allocation Range:	4% - 16% of Total Fund
Allocation 9/30/2022:	12.4%
Allocation 3/02/2023 :	11.8%

Real Estate Portfolio

as of 09/30/2022



Real Estate Net Asset Value
$21,117M

Principal Investments	Pooled Funds	REITs
Direct Investments-JVs and wholly owned	High diversification	Competitive L/T returns
Separate Accounts	Access to niche strategies and specialists	Diversification
Superior Control (Staff retains discretion)	Manage allocation	Source of liquidity
Lower fee structures		Lower fee structure
Core focus		

Source: 3Q2022 Townsend Performance Report

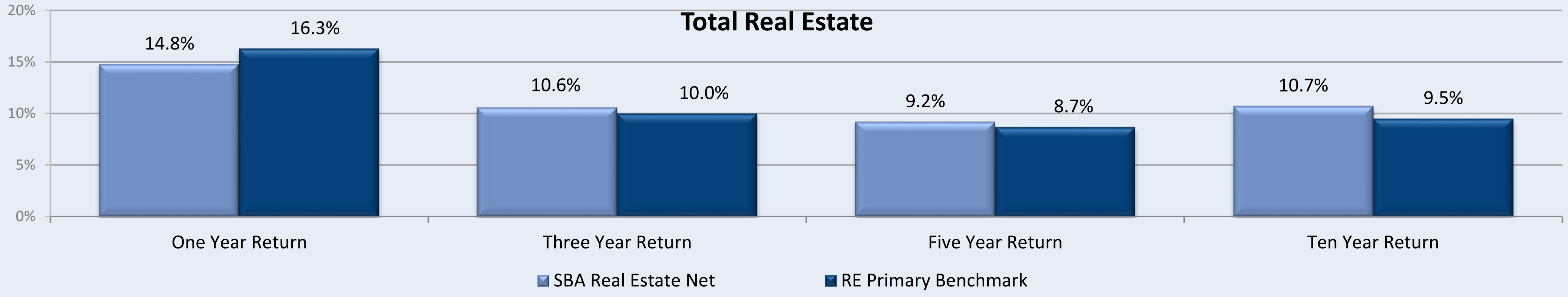
Portfolio Investments

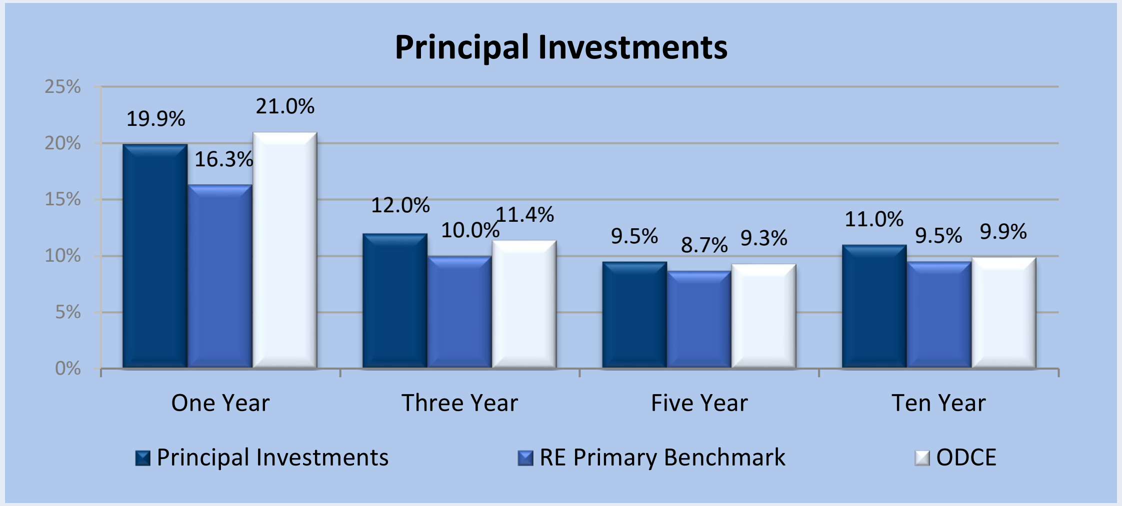
Total Real Estate GAV: $28,141M
Total Real Estate NAV: $21,118M

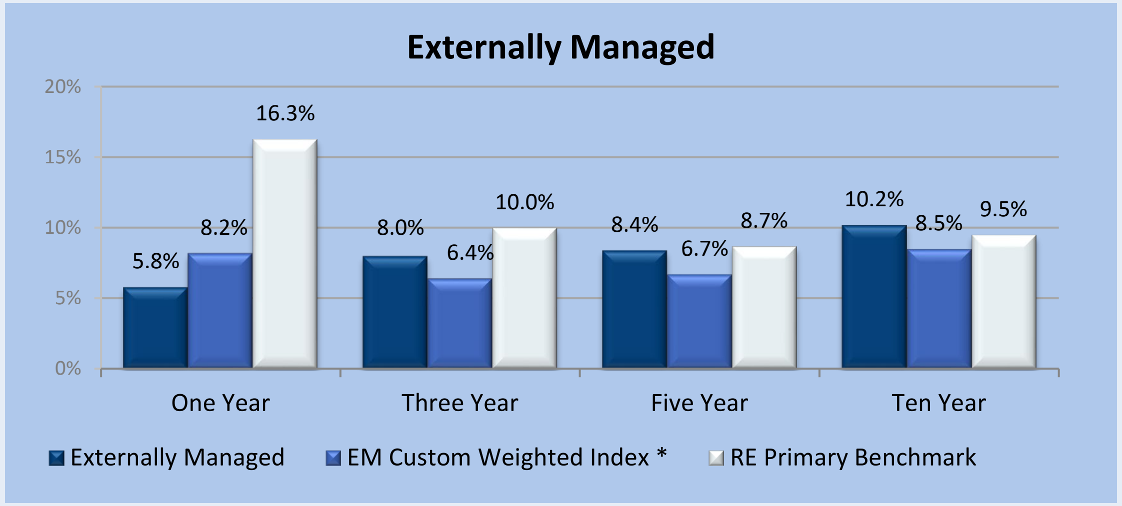
	Principal Investments	Externally Managed
• GAV	$18,140M	$10,001M
• NAV	$14,151M	$6,967M
• Leverage	22.4%	30.3%
• # of Markets	76	Global
• # of Investments	77	64
• # of Properties	302	N/A
• # of Managers	7	24

Portfolio Returns

as of 09/30/2022







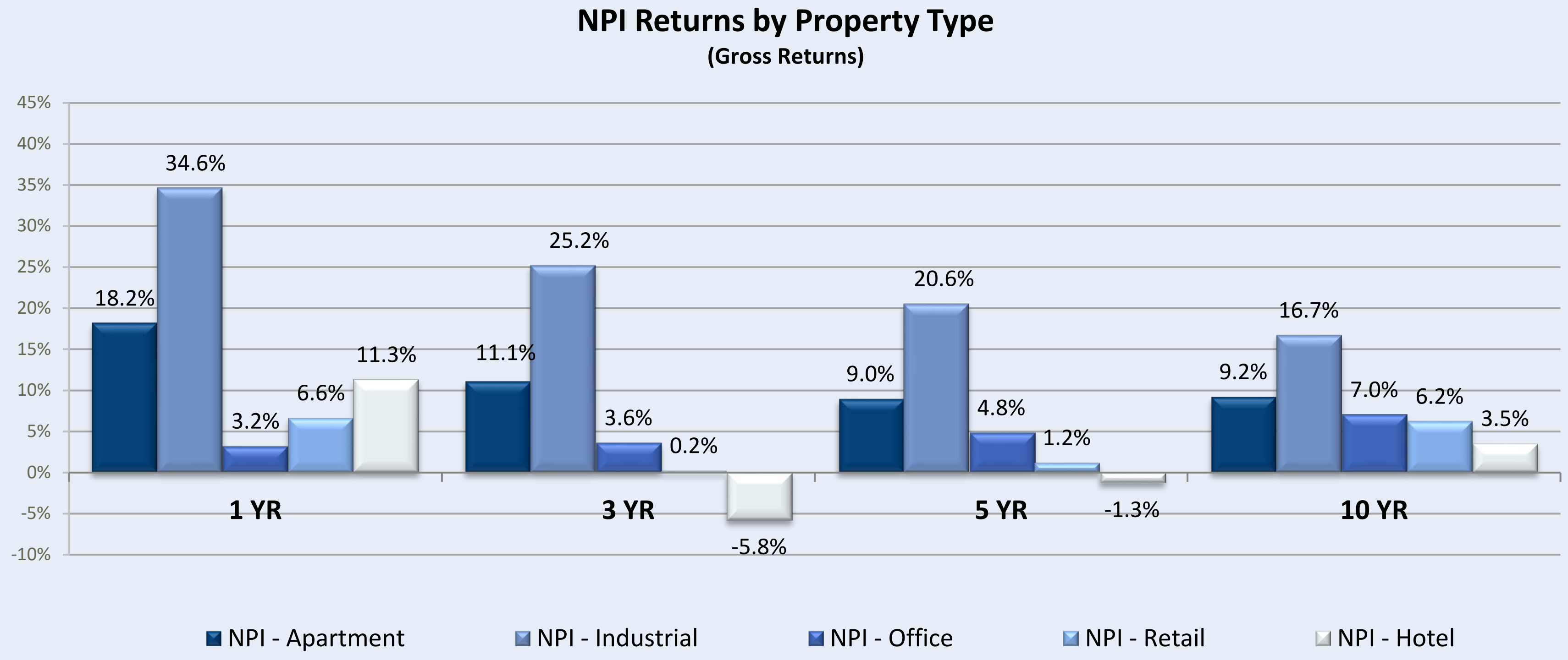
* Externally Managed Custom Weighted Index is a portfolio weighted combination of the portfolio's quarterly core, non-core and public exposure versus the NFI-ODCE (net), NFI-ODCE + 150 bps (net), and the Custom REIT Benchmark, respectively.

Source: The Townsend Group

Portfolio Returns

as of 9/30/2022

- Principal Investments S/T return, relative to benchmark, negatively impacted by underweight position to industrial.
- Externally Managed S/T returns negatively impacted by valuation timing and methodology of non-core fund investments.
- Returns are highly bifurcated by property types.



Source: NCREIF

Real Estate Portfolio

(One Year)

Absolute Contributors

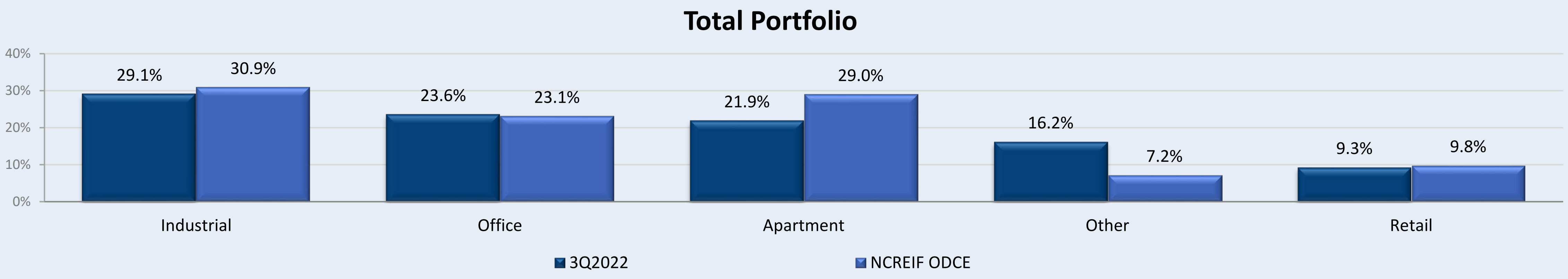
- Industrial
- Medical Office Buildings
- Self Storage
- Los Angeles Office
- Diversified Core Funds
- Multifamily

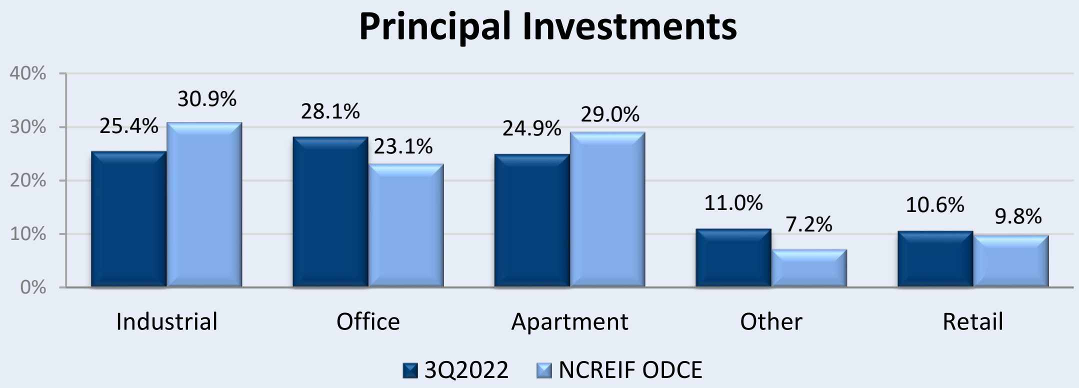
Absolute Detractors

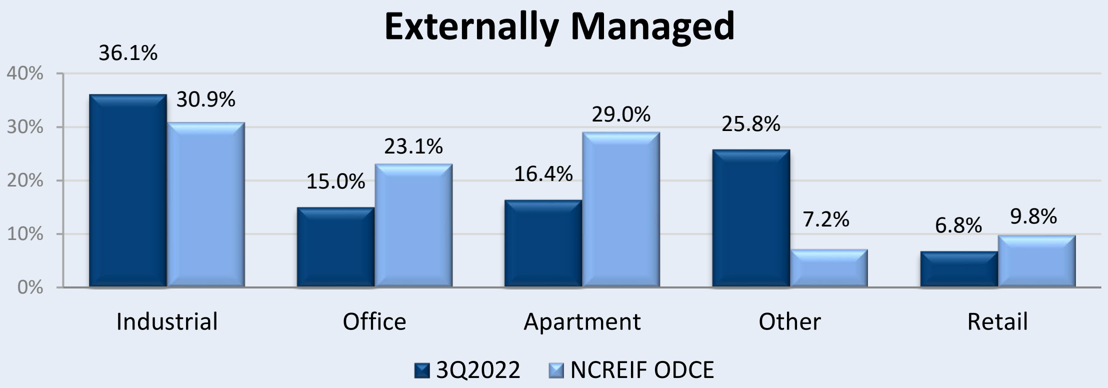
- San Francisco Retail
- Office
- REITs
- International

Portfolio Property Types

as of 09/30/2022





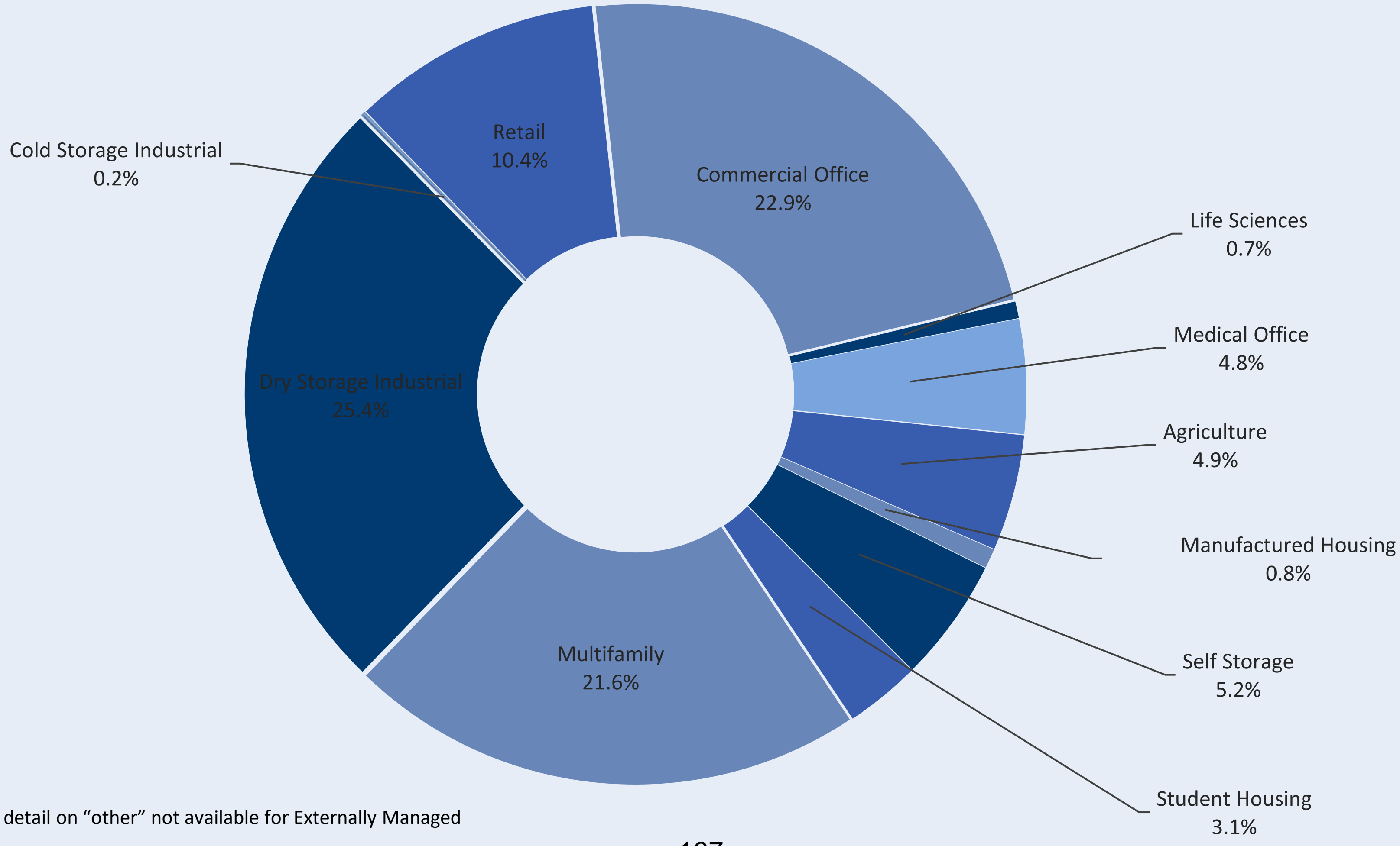


* Other includes: Agriculture, Manufactured Housing, Self Storage,

Source: 3Q2022 Townsend Performance Report

Principal Investments Property Types

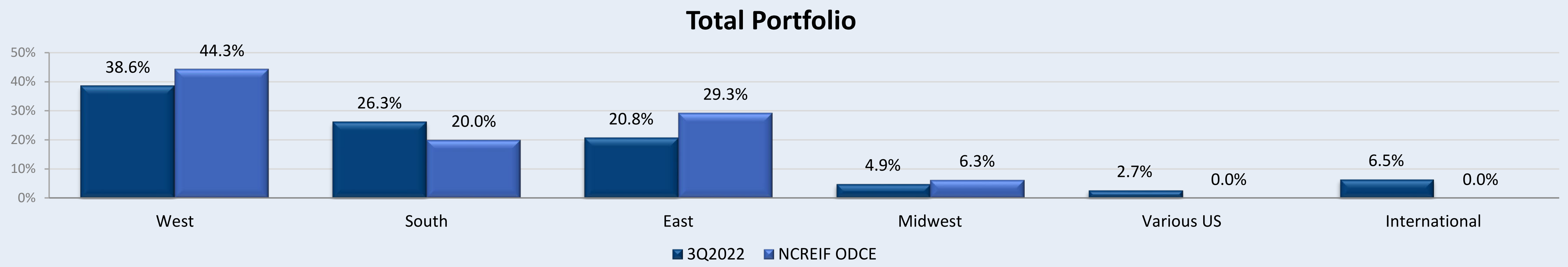
as of 09/30/2022

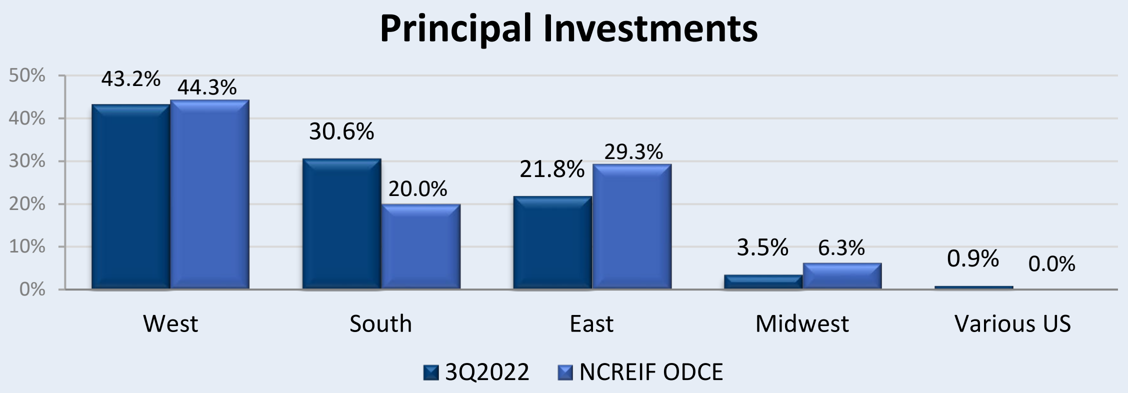


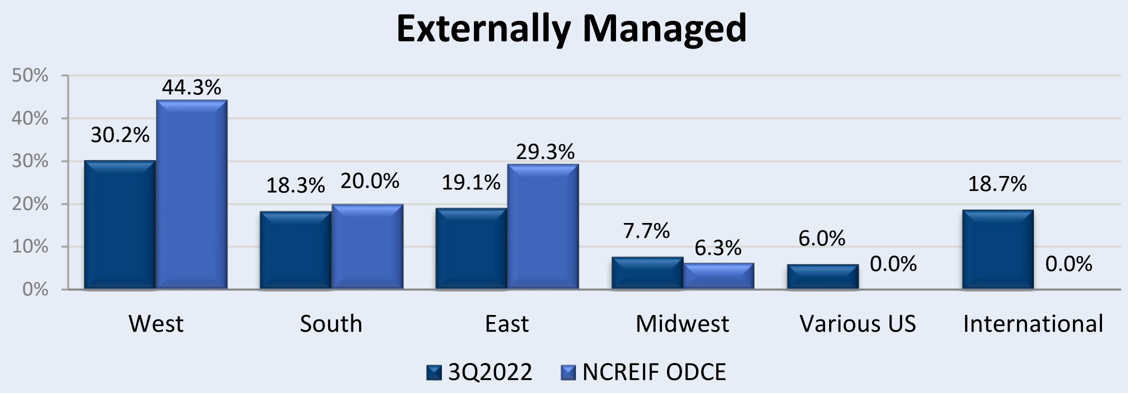
Full detail on “other” not available for Externally Managed

Portfolio Geography

as of 09/30/2022







Source: 3Q2022 Townsend Performance Report

2022 Investment Activity

Principal Investments

Acquisitions (Equity)	
$567M	Industrial
$121M	Cold Storage
$80M	Apartment
$69M	Medical Office Buildings
$80M	Self Storage
$918M	**TOTAL ACQUISITIONS**

Dispositions (Equity)	
$105M	Retail
$19M	Student Housing
$124M	**TOTAL DISPOSITIONS**

2022 Investment Activity

Commingled Funds

Commingled Funds Commitments	
$100M	U.S. Closed-end Diversified Value-Add Fund
$100M	U.S. Closed-end Industrial Value-Add Fund
$40M	Co-investment - Danish Residential Co-Investment)
$240M	**Total Commitments**

Redemptions	
	N/A

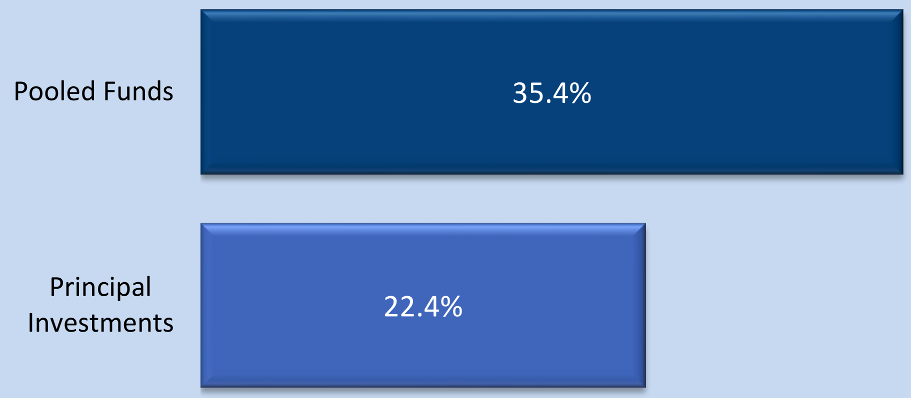
REITs	
	N/A

Private Market Leverage

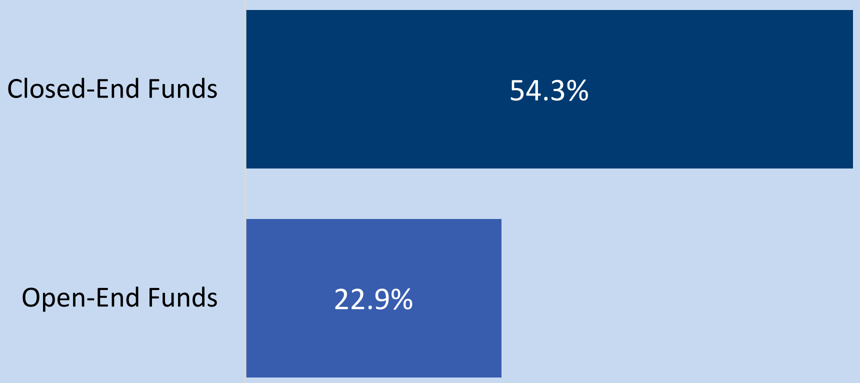
as of 09/30/2022

Private Portfolio Market Value $19,698 M

Private Market Portfolio Leverage

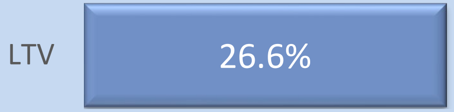


Pooled Funds Leverage



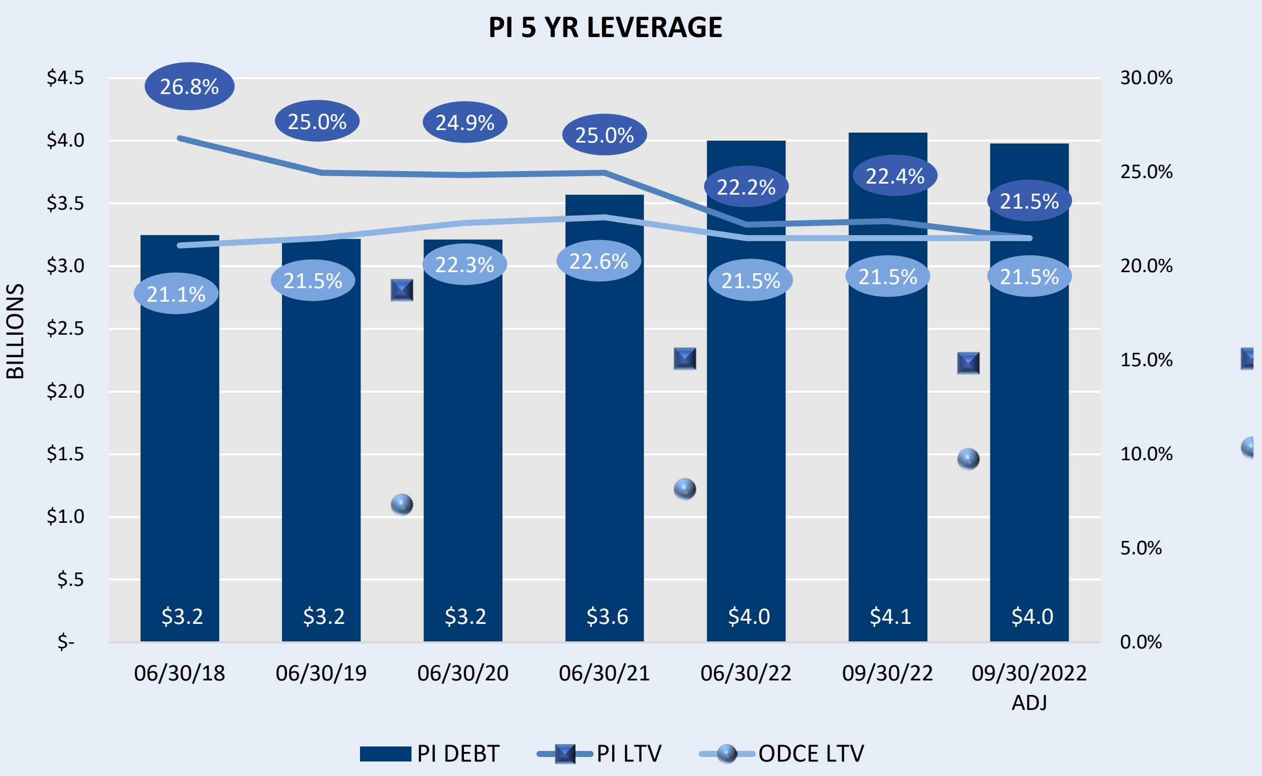
Investment Portfolio Guidelines:
Private Market Portfolio Leverage Limited to 40% LTV.
Principal Investments Leverage Limited to 30% LTV.

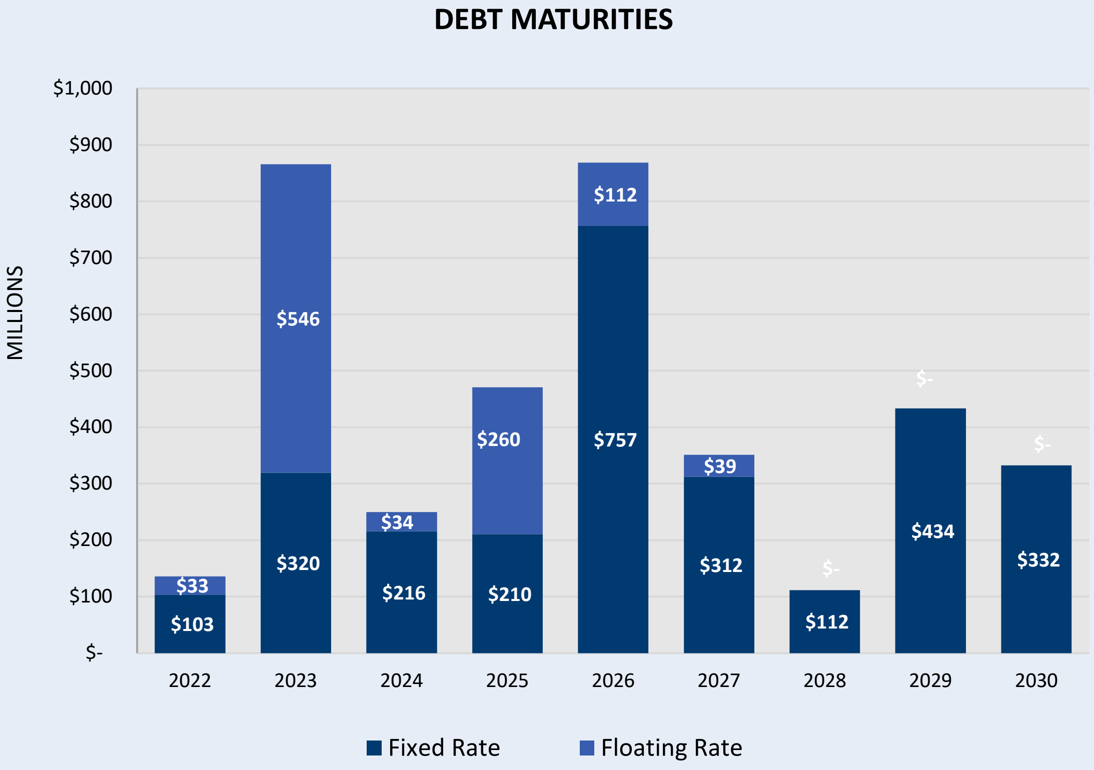
Private Market Leverage

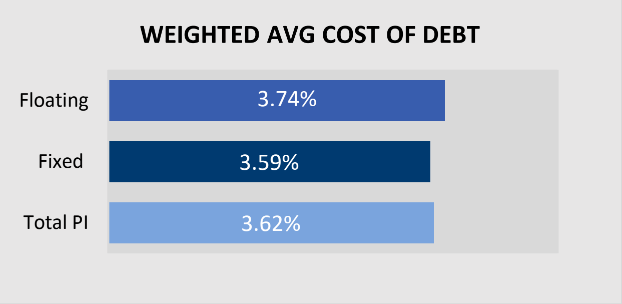


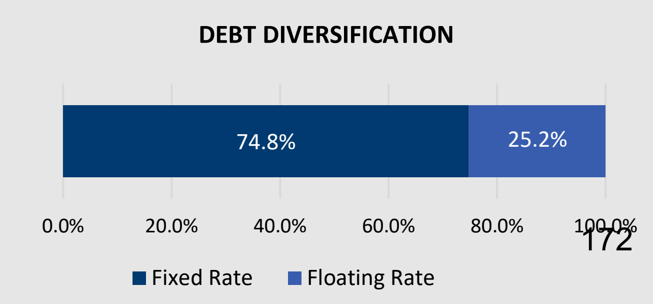
Principal Investments Leverage

as of 09/30/2022









Investment Portfolio Guidelines
- Portfolio Leverage limited to 30% Loan To Value (LTV)
- Individual Asset Level limited to 50% LTV
- JV Individual Asset limited to 70% LTV
- Nonrecourse to the SBA

PI NAV at 09/30/22: $14 billion

Real Estate Capital Markets

Interest Rates: Sharp rise in rates and cost of debt.

Inflation: Elevated inflation resulting in higher development and replacement cost.

Cap Rates: Required income yields, or cap rates, have expanded by ± 100 bps depending on property type.

- Property types that experienced the most cap rate compression, industrial and multifamily, are now seeing the most expansion.
- Long lease durations (>10 years) seeing greater expansion due to lower rent escalations and inflation.

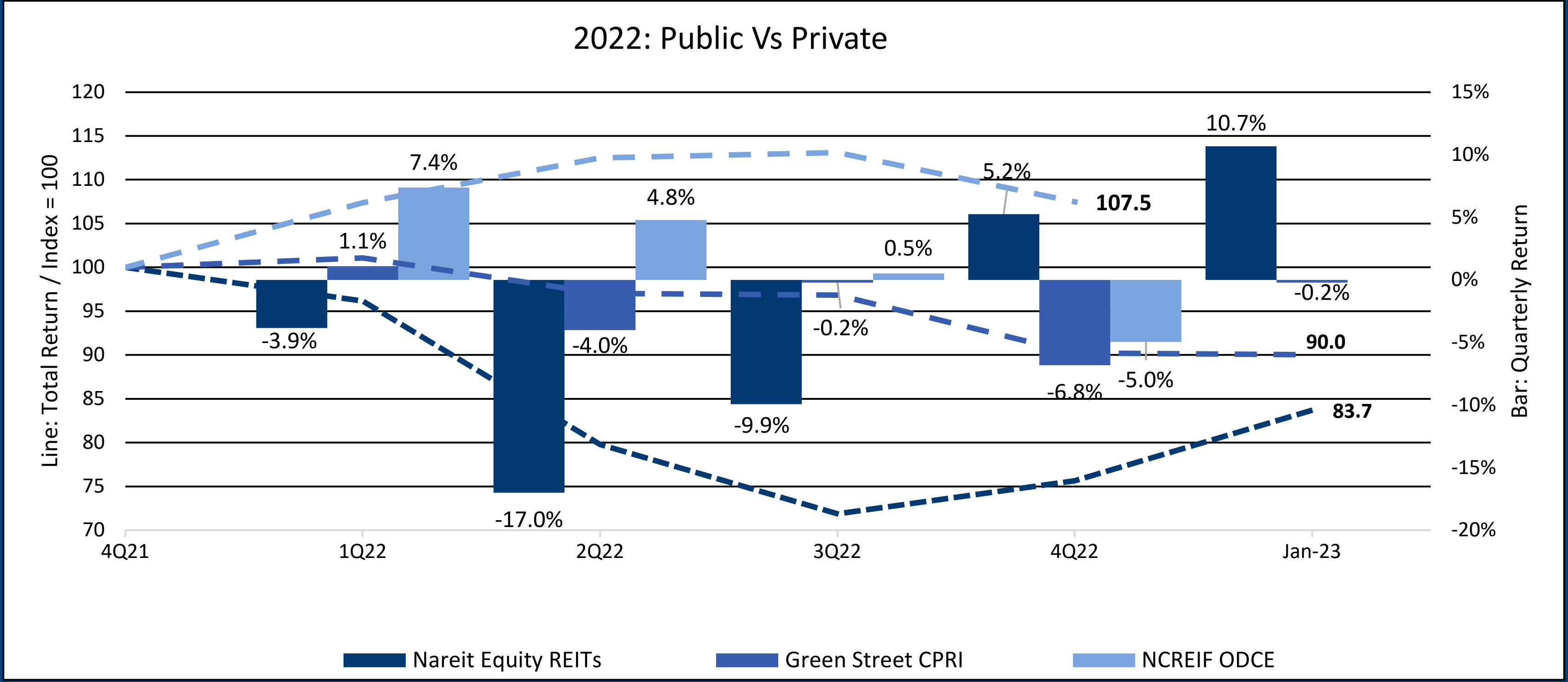
Valuations/Transactions

- Cap rate expansion and increased cost of debt
  - Higher required unlevered returns
  - Lower levered returns
  - Lower valuations
- Q4 2022 saw first meaningful index depreciation at -5.5% for the quarter. More depreciation expected in 2023, estimated 10% to 15%.
- Cost of debt higher than cap rates. Cap rates must adjust to attract new capital.
- Investors dealing with “denominator” effect. Real Estate overweight relative to target allocations.
- Large bid/ask spreads equals few transactions.
- Lack of transactions responsible for private Real Estate appraisal lag.
- Open-end funds have redemption queues equal to approximately -10% to15% of NAV, as investors attempt to rebalance.
- Strong rent growth in certain property types is offsetting some cap rate expansion.

Portfolio Returns

as of 09/30/2022

- Private RE Valuations lagging RE public valuations
- Private RE Valuations lagging private RE transaction data



1. Greenstreet CPRI is a transaction based index
2. NCREIF ODCE is an appraisal based index

Looking Forward

- Anticipate continued high interest rates and possible recession.
- All Property types will experience increased pressure from both fundamentals and capital markets.
- Utilize SBA liquidity to exploit market inefficiencies.
- Selectively pursue development opportunities in structurally resilient sectors such as industrial and residential.
- Seek out mispriced core assets, or assets in need of recapitalization. Avoid sectors with uncertain futures, such as office.

TOWNSEND® GROUP
an Aon company

SBA FLORIDA
STATE BOARD OF ADMINISTRATION

The State Board of Administration of Florida ("SBAF")

Real Estate Portfolio Report

March 2023

TOWNSEND® GROUP
an Aon company

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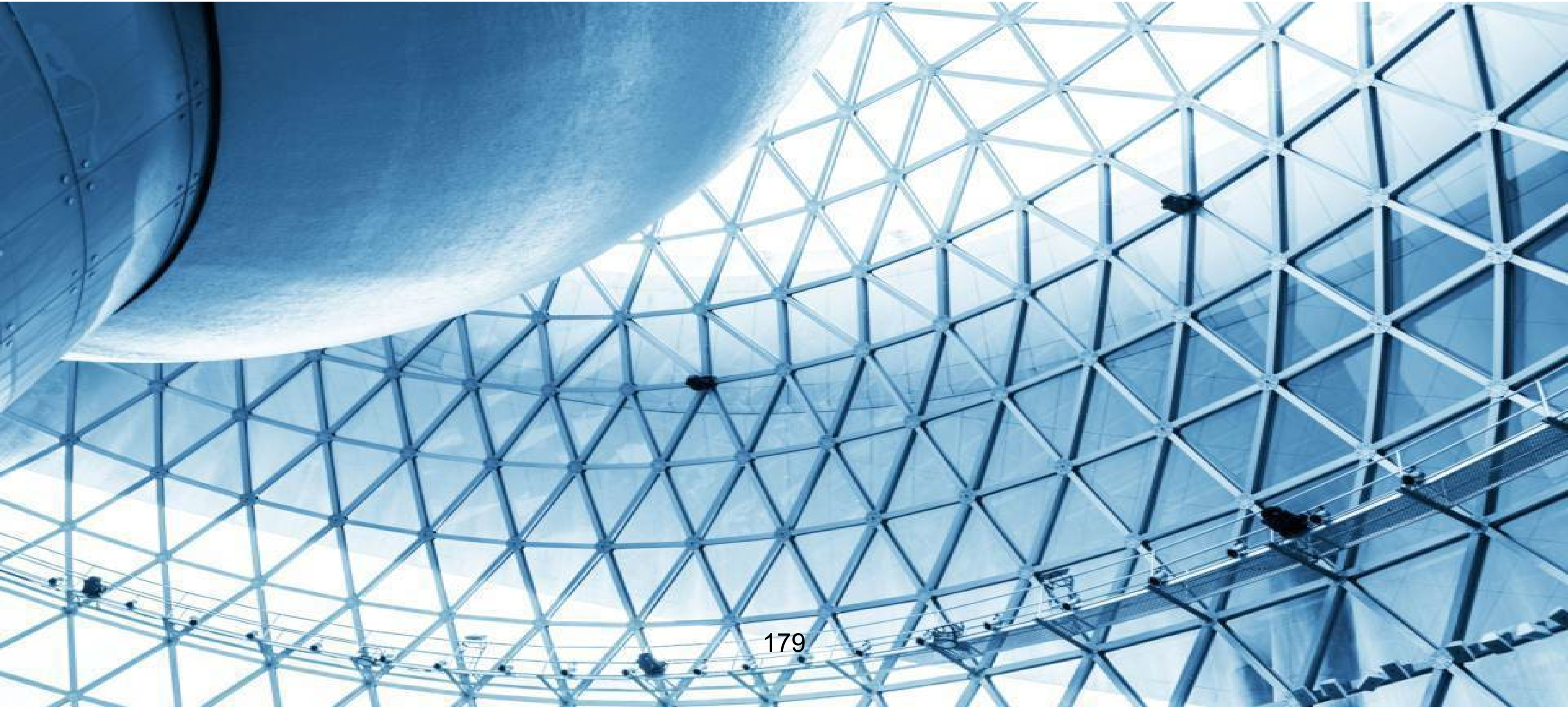
Real Estate Performance



SBAF Real Estate Program Update

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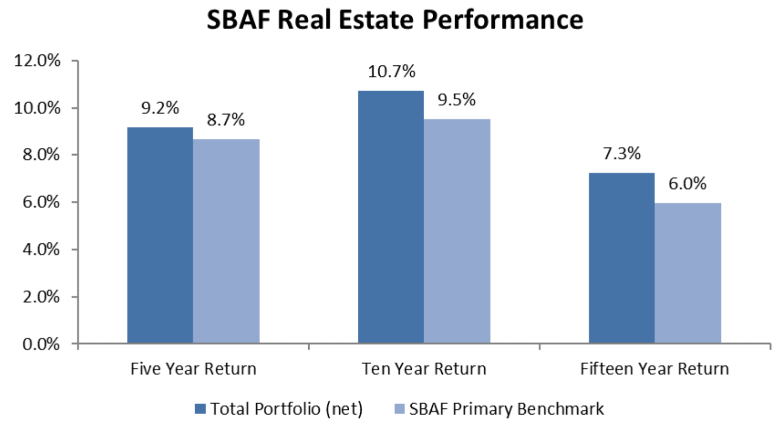
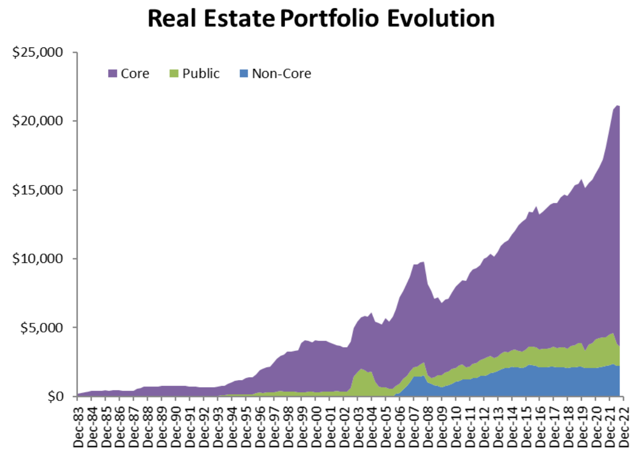
	2005	2017	2022	FUTURE
Allocation	\$5.6 billion 4.7% of TPA	\$14.1 billion 8.7% of TPA	\$21.1 billion 12.4% of TPA	Manage towards 10% Target \$1.8 billion currently unfunded
Portfolio	6 open end funds (20%) 6 separate accounts (68%) 6 close end funds/REITs (12%)	11 open end funds (18%) 8 separate accounts (62%) 30+ closed end funds/REITs (20%)	13 open end funds (19%) 8 separate accounts (67%) 50+ closed end funds/REITs (14%)	Allocate new core capital through separate accounts and non-core to funds or unique investment opportunities
Risk Profile	Core/Farmland 88% Non-Core 0% REITs 12%	Core/Farmland 74% Non-Core 16% REITs 10%	Core/Farmland 83% Non-Core 10% REITs 7%	Core/Farmland Target 75% Non-Core Target 15% REITs 10%
Property Diversification	Apartments 22%; Office 39%; Industrial 12%; Retail 18%; Hotel 2%; Other 7%	Apartments 20%; Office 28%; Industrial 14%; Retail 18%; Hotel 2%; Other 19%	Apartments 22%; Office 23%; Industrial 29%; Retail 9%; Hotel 1%; Other 15%	Target reduction in office and increased allocation to apartments, industrial, and alternatives
Region	U.S. (99.8%) Ex-U.S. (0.2%)	U.S. (91%) Ex-U.S. (9%)	U.S. (93%) Ex-U.S. (7%)	Maintain global diversification

Source: The Townsend Group. All performance is comprised of manager provided data collected by The Townsend Group as of 9/30/22.
Townsend's views are as of the date of this publication and may be changed or modified at any time and without notice. Past performance is not indicative of future results. Investing involves risk, including loss of principal. See back pages for further disclosure and definitions.

15+ Year Impact on Portfolio

TOWNSEND GROUP
an Aon company





Real Estate Fund Risk Profile		
	3Q 2022	**Townsend Comment**
Market Value (% of Total Plan)	$21.1 billion (12.4%)	Prudently working towards and maintaining 10% target allocation; above target real estate allocation in 3Q22 due to strong performance in private real estate and decline in total plan assets
Control or Liquidity	85.9% (IMA or Open End) and 6.7% Public REITs	Significant control resides with SBAF and liquidity through public REIT exposure
Leverage	26.4% (private portfolio)	Decreased over time due to significant core exposure as well as a decrease in leverage across principal investments
Unfunded Commitments	$1.8 billion (1.1%)	Dollar value remains consistent as we seek to maintain vintage year diversification
Property Type Exposure	13.2% in alternatives (private portfolio)	Increased over time (5% allocation 15+ years ago) as alternative property types become more institutional and income generators, tracking and allocations becoming more common (including but not limited to hotels, agriculture, senior and manufactured housing, self storage, etc…)
International Exposure	6.5% (private and public portfolio)	Increased over time (1% allocation 15+ years ago) with exposure focused on developed markets in Europe and Asia

Source: The Townsend Group. All performance is comprised of manager provided data collected by The Townsend Group as of 9/30/22.
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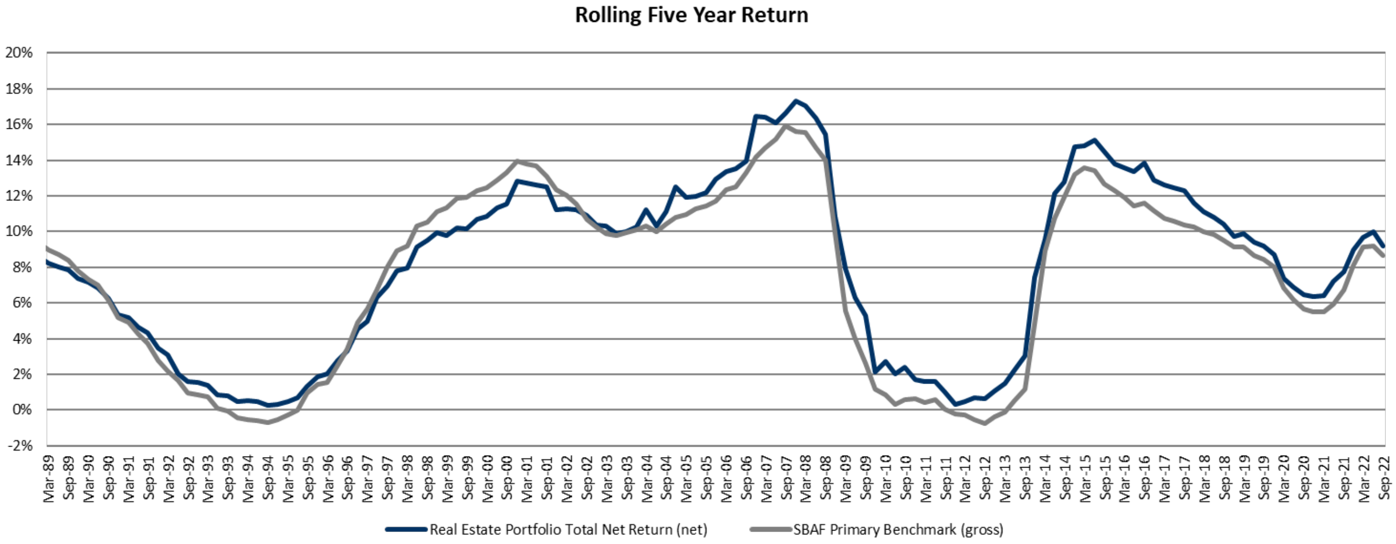
Total Real Estate Portfolio Performance

ROLLING FIVE-YEAR RETURN

- The Real Estate Portfolio's five-year total return of 9.2% outperformed the benchmark by 50 basis points.
- The Portfolio has consistently outperformed over the five-year measurement period since 2002.
- Additionally, the Real Estate Portfolio exceeded the benchmark by 120 and 130 basis points over the 10 and 15-year periods, respectively.



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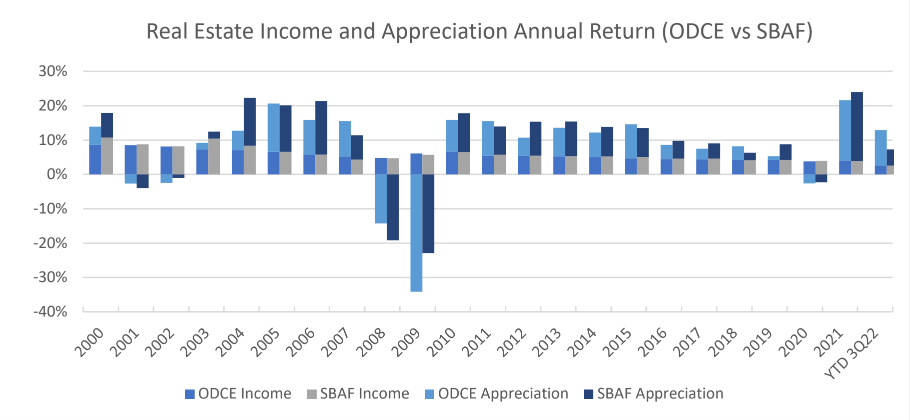
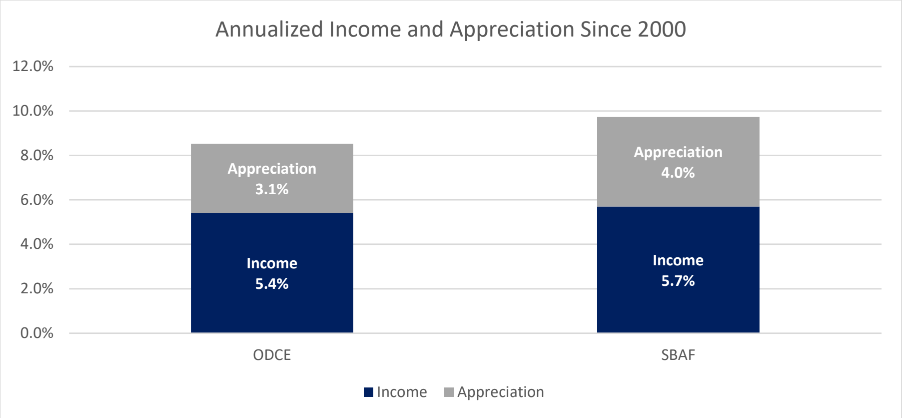
Townsend Group, an Aon company

Real Estate Income and Appreciation Annual Return

RISK SECTOR AND CONTROL – LONG-TERM 20 YEARS

- High-quality real estate income generation has been resilient, even during the toughest of economic times. Volatility has been prevalent since the COVID-19 pandemic and has remained high due to economic uncertainty and hawkish Fed action; however, investors have benefited from focusing on high-quality income generating assets throughout this cycle.





Source: The Townsend Group, NFI-ODCE. All performance is comprised of manager provided data collected by The Townsend Group as of 9/30/22.
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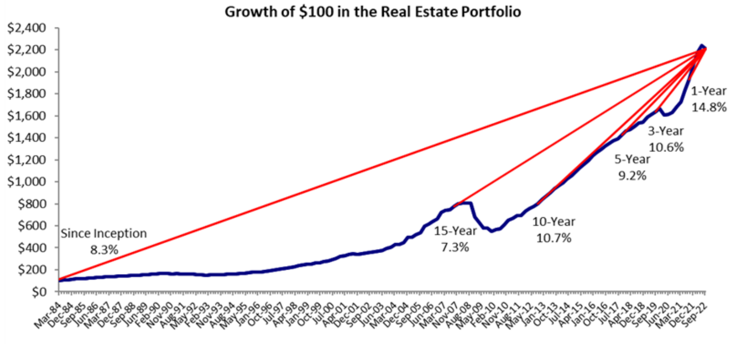
Relative Performance

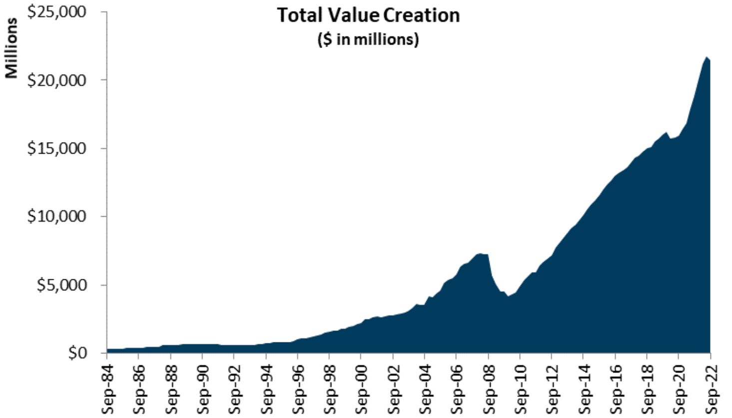
PEER GROWTH OVER TIME

- Returns are impacted by the starting point of the measurement period.
- The portfolio has remained resilient through volatile market cycles; after a brief performance decline in 2020 due to the pandemic, the portfolio rebounded quickly and generated the strongest 12-month return on record since the Global Financial Crisis[1] and continues to outperform despite economic uncertainty.
- Over the long-term (multiple market cycles), the portfolio continues to generate strong returns.

Total Value Creation Since Inception	
Total Contributions (a)	26,422,134,877
Total Distributions (b)	25,254,948,841
Ending Value (c)	21,117,470,507
Total Value Creation (c)+(b)-(a)	**19,950,284,471**



Figures are based on time weighted net returns



[1]Global Financial Criss represents the time period beginning mid-2007 and ending in early 2009.

Source. The Townsend Group, NFI_ODCE. All performance is comprised of manager provided data collected by The Townsend Group as of 9/30/22.
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Relative Performance

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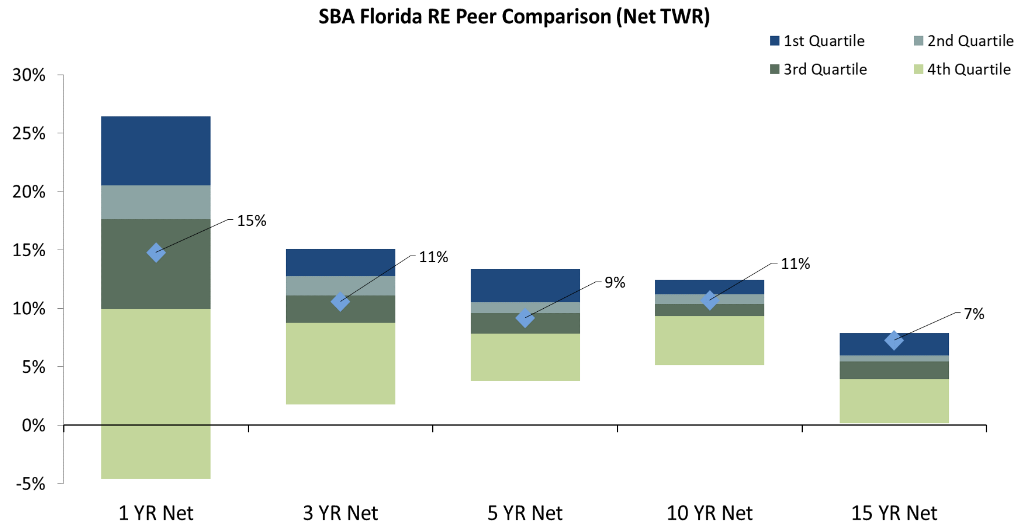
PEER COMPARISON

- SBAF's performance versus its peers (60+ institutional real estate investors*) ranks above median for the longer-term 10- and 15-year time periods.
- Given SBAF's more conservative risk profile (83% core exposure), the portfolio outperforms peers over market cycles and reduces volatility in returns. However, over a shorter term robust economic environment, the portfolio is at or below median.
- Outperforming peers over any specific time period will also come with more volatility. Historical and future objective is for SBAF to maintain a stable and outperforming portfolio over market cycles.
- It is important to note, peer portfolios will vary by investment strategy, investment type, risk appetite and portfolio inception dates.



*Number of peer portfolios reduce over longer time periods. Peer portfolios will vary by investment strategy, investment type, risk appetite and portfolio inception dates.

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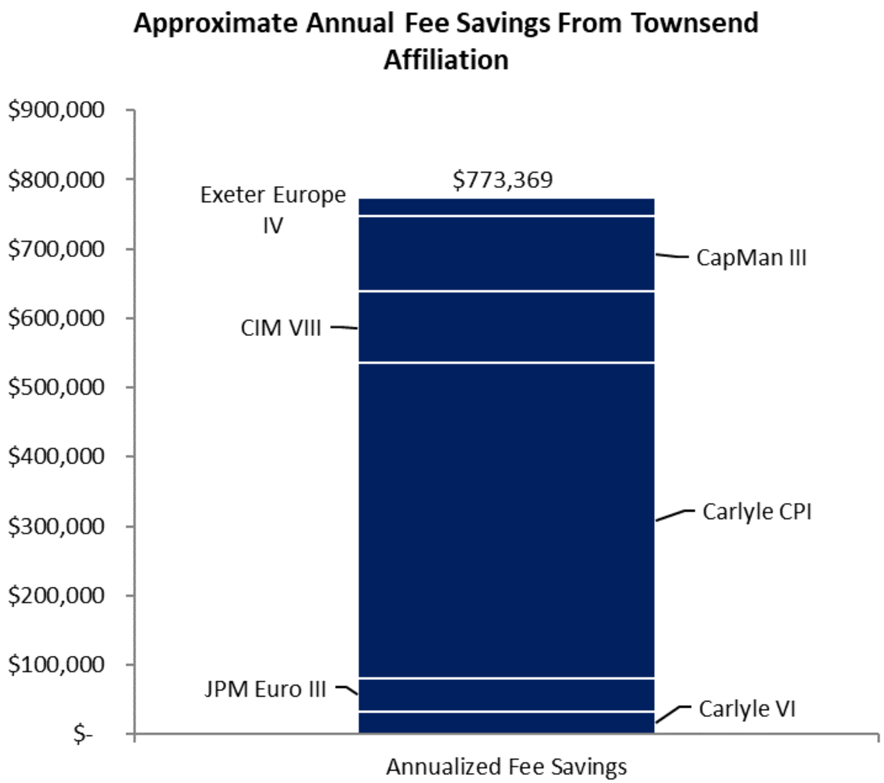
Fee Savings

- Townsend and SBAF have collaborated historically to reduce manager fees without compromising quality of execution.
- Given SBAF's size and influence in many cases fee breaks are achieved on their own.
  - Typical fee savings range from 25 to 50 bps per fund.
- However, in some cases capital is aggregated with other Townsend clients to generate fee savings. In these cases, management fee savings of over $773,000 per year have been achieved by SBAF due to Townsend affiliation.
- There is a potential for additional fee savings within this group of investments due to negotiated incentive fee savings.



Source: The Townsend Group. All performance is comprised of manager provided data collected by The Townsend Group as of 9/30/22.
Fee savings are not guaranteed. Townsend's views are as of the date of this publication and may be changed or modified at any time and without notice. Past performance is not indicative of future results. Investing involves risk, including loss of principal. See back pages for further disclosure and definitions.

Real Estate Portfolio Compliance

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POLICY COMPLIANCE

- The real estate portfolio's investment allocation was in compliance and well-diversified by property type, geographic region and risk sector as of September 30, 2022.
- The portfolio's apartment allocation is anticipated to increase following two potential multifamily fund commitments.

Portfolio Compliance	Target	Range	Exposure	Compliance
Private Investments	90%	85-95%	93%	Yes
Core Investments[1]	85%	70-100%	89%	Yes
Non-Core Investments	15%	0-30%	11%	Yes
Value-Added Investments			4%	
Opportunistic Investments			7%	
Public Investments	10%	5-15%	7%	Yes

[1] Includes Farmland

Private Real Estate Portfolio Diversification / Compliance

Property[1]	Range (ODCE +/- 15%)	Actual Weight
Apartment	14.0% - 44.0%	22.5%
Industrial	15.9% - 45.9%	29.9%
Retail	0.0% - 24.8%	9.0%
Office	8.1% - 38.1%	24.8%
Other[2]	0.0% - 22.2%	13.8%

Geography[1]	Range (ODCE +/- 15%)	Actual Weight
East	14.3% - 44.3%	21.8%
Midwest	0.0% - 21.3%	5.1%
South	5.0% - 35.0%	27.4%
West	29.4% - 59.4%	46.9%
Various US	N/A	0.7%
International	N/A	4.5%

Exposure	Maximum Exposure	Actual Weight
Single Asset[4]	7%	4.5%
Directed-Owned Manager[3]	35%	29.8%
Pooled Funds[3]	10%	3.5%
REIT Manager[3]	10%	2.1%
Leverage[1]	40%	25.0.%

[1] Based on Private Real Estate Portfolio NAV

[2] Includes both Other and Hotel

[3] Based on Total Real Estate Portfolio NAV

[4] Based on Principal Investments Real Estate Portfolio NAV

Principal Investments classifications are as follows:

Apartment - Multifamily and Student Housing

Industrial - Industrial and Cold Storage

Retail - Strictly Retail

Office - Commercial Office, Medical Office, and Life Sciences

Other - Agriculture, Senior Housing, Self Storage, and Manufactured Housing

Source: The Townsend Group, NFI-ODCE. All performance is comprised of manager provided data collected by The Townsend Group as of 9/30/22.
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Real Estate Portfolio Compliance

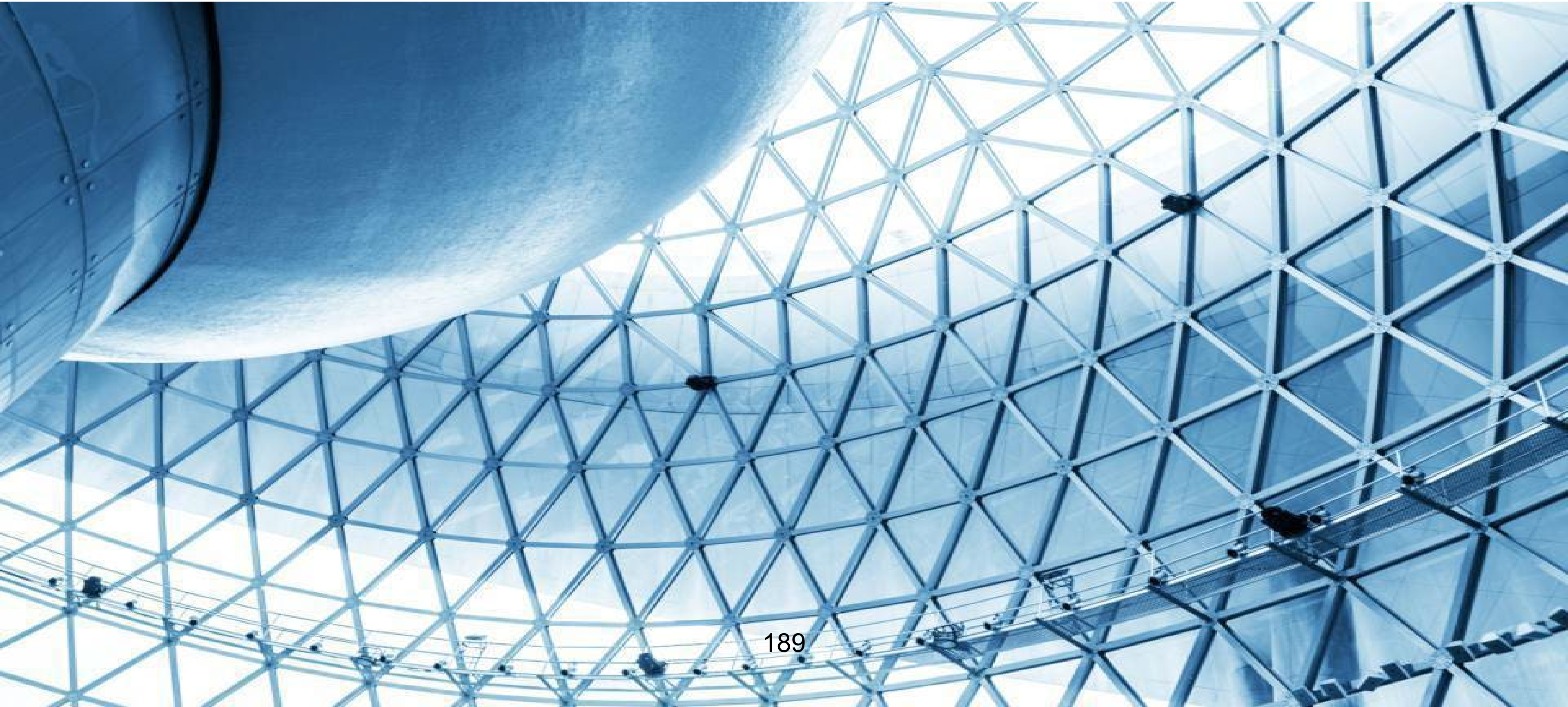
POLICY COMPLIANCE

- The portfolio has a strategy of targeting real estate on a global basis. The real estate portfolio's objective is to diversify SBAF's plan versus equities and fixed income, act as a hedge against inflation, and provide meaningful risk-adjusted returns comprised of income and appreciation.

Category	Plan Requirement	Compliance
RE Allocation target	2-12%	✓
Return Targets/Benchmark		
Real Estate	5-yr net vs. 76.5% ODCE; 13.5% ODCE+150; 10% EPRA/NAREIT	✓
Investment Style Allocations		
Private (Core, Value, High Return)	90% Private (70-100% Core / 0-30% Non-Core)	✓
Public (or other)	5-15%	✓
Risk Policies		
Manager Diversification	10% pooled fund; 35% IMA	✓
Maximum LP share of fund	25%	✓
Fund Diversification	7%	✓
Property Diversification	+/- 15% from ODCE	✓
Geographic Diversification	+/- 15% from ODCE	✓
International Exposure	None	✓
Leverage	PI 30%; EM 40%	✓

Source: The Townsend Group, NFI-ODCE. All performance is comprised of manager provided data collected by The Townsend Group as of 9/30/22.

Additional Performance Data

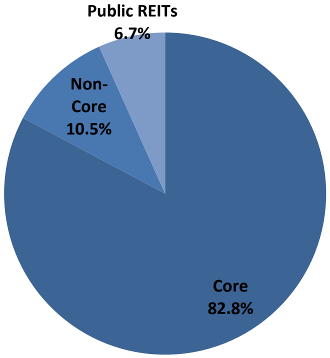


Total Real Estate Composition

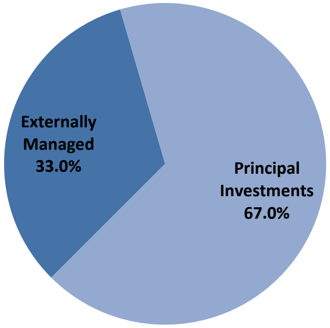
RISK SECTOR AND CONTROL

- The SBAF real estate portfolio is invested in Core, Non-Core, and Public REIT investments. The Portfolio is further allocated between Principal Investments and Externally Managed investments.
  - Principal Investments - SBAF staff retains key authorities related to approving acquisitions, dispositions, financing activities and annual business plans.
  - Externally Managed - Investments include those where SBAF has given discretion over these decisions to the investment manager (to include pooled funds and REIT separate accounts).

Total Portfolio Composition



Total Portfolio Composition



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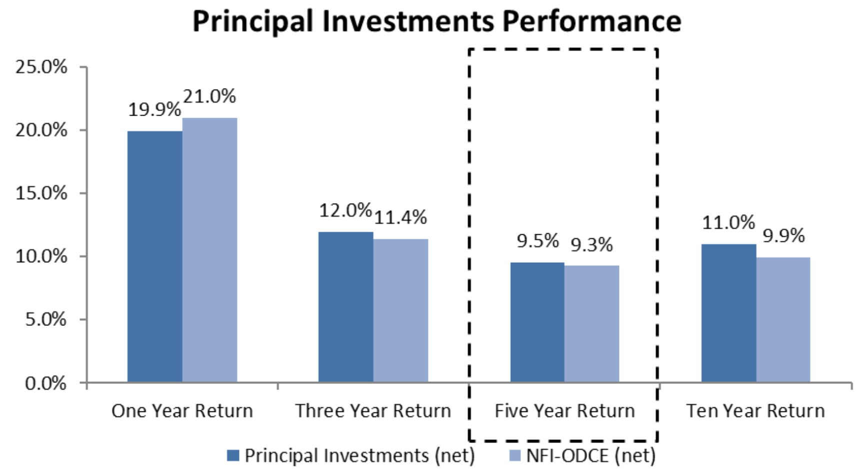
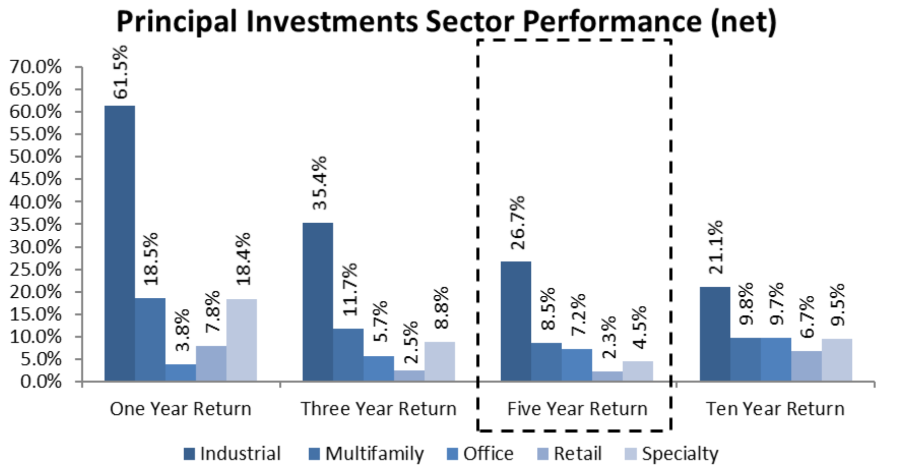
Drivers of Performance

PRINCIPAL INVESTMENTS

- Principal Investments exposure is primarily invested in Core (97%) with the balance in Non-Core investments (3%).
- Performance over shorter time periods can be volatile; however, the Principal Investments portfolio has consistently outperformed the NFI-ODCE net benchmark over longer time periods measured below, including the three-, five- and ten-year periods.
- Industrial investment selection was a significant driver of total performance.





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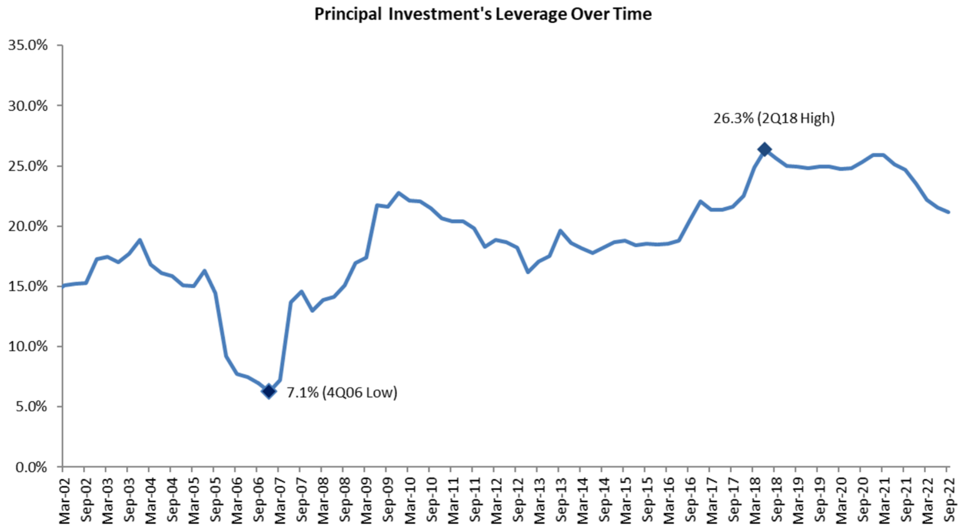
Principal Investments

LEVERAGE PROFILE

- The chart below shows the historical quarterly leverage of the Principal Investments portfolio over the last 20+ years.
- The portfolio's leverage over the past year has declined to 21.2%, versus the NFI-ODCE benchmark leverage of 21.5%.
- The recent leverage decline is due to a combination of the following: i) sale of levered properties, ii) paying off loans, and iii) increasing values resulting in lower LTV (denominator effect).



Source: The Townsend Group, NFI-ODCE.

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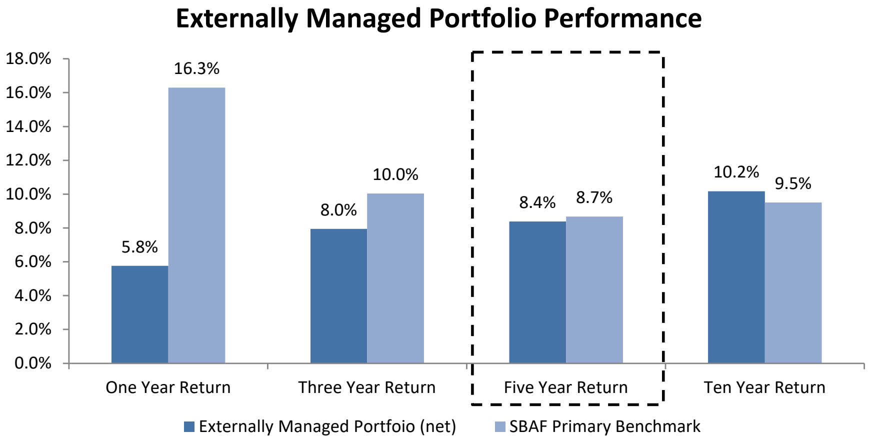
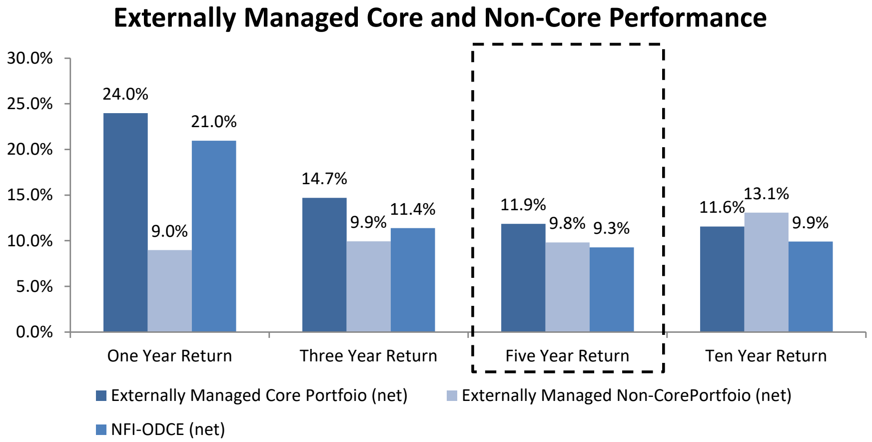
Drivers of Performance

EXTERNALLY MANAGED

- The Externally Managed Core (51%), Non-Core (28%), and Public REIT Portfolio (21%) underperformed the benchmark on a net of fee basis over shorter-term time periods shown below but outperformed over the ten-year period.
- The Core portfolio outperformed the NFI-ODCE index individually across all time periods shown below, while the Non-Core portfolio outperforms over the longer five- and ten-year periods. Valuation timing and methodology impacts short non-core returns, relative to the benchmark. Volatility in the public market exposure (REITs) negatively impacted performance in each time period (see following slide).





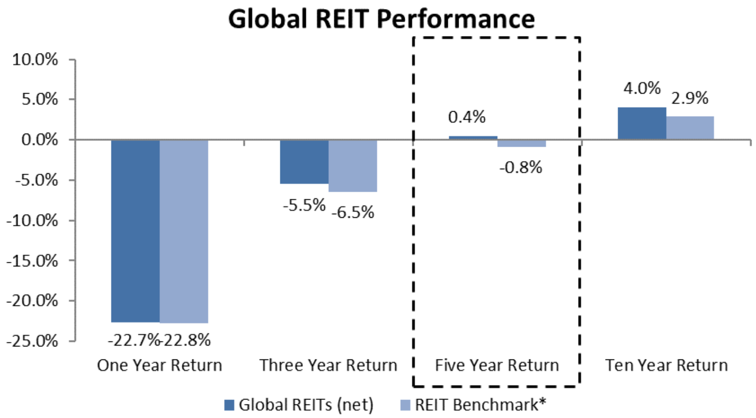
Source: The Townsend Group, NFI-ODCE.

All performance is comprised of manager provided data collected by The Townsend Group as of 9/30/22.

Drivers of Performance

EXTERNALLY MANAGED – GLOBAL PUBLIC REITS

- Following a robust recovery in 2021, multiple interest rate hikes created volatility in the public market throughout 2022. Returns were negative across the first three quarters of the year, including double-digit write-downs in the second and third quarters.
- Despite volatility over the short-term, the REIT portfolio has produced positive outperformance across the five- and ten-year periods.
- The broader global REIT market recovered slightly during 4Q22, generating a 7.5% gross return. Year-to-date the global REIT market has increased 4.4% through March 3, 2023.



Source: The Townsend Group, EPRA/NAREIT. All performance is comprised of manager provided data collected by The Townsend Group as of 9/30/22.
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Real Estate Portfolio Highlights and Significant Events

PORTFOLIO HIGHLIGHTS

- Real estate performance has consistently outperformed the benchmark for 20 consecutive years. Today, the portfolio exceeds the benchmark on a net basis over the five-year period by 50 basis points (120 and 130 basis points of outperformance over the ten and fifteen-year periods, respectively).
- As of September 30, 2022, on an invested basis, the Real Estate Portfolio represented 12.4% of total plan assets ($21.1 billion). This is a 330 bps increase in allocation compared to last year due to a decrease in total plan assets.
- SBAF received over $1.0 billion of cash flow distributions (gains, refinancing, income, etc…) in addition to $599 million of capital returned from asset sales (return "of" capital invested) as of the one-year ending September 30, 2022.

SIGNIFICANT EVENTS

- SBAF made three externally managed commitments throughout 2022, totaling $240 million across non-core opportunities. Non-core strategies include a US industrial fund, diversified value-add fund, and a Nordics multifamily co-investment.
- Principal Investments made 21 acquisitions and four loan payoffs in the 2022 calendar year totaling $1.14 billion. The acquisitions were diversified across several property types including industrial, apartment, cold-storage, self-storage, and medical office buildings. During the year, two dispositions – one retail asset and one student housing asset – totaled $123 million. Dispositions were partially offset by $32 million of debt refinancing across four properties, resulting in an aggregate NAV increase of $1.05 billion during 2022.

Source: The Townsend Group. All performance is comprised of manager provided data collected by The Townsend Group as of 9/30/22.
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Market Overview

Fed's Attempt To Tame Inflation Adding To Economic Uncertainty

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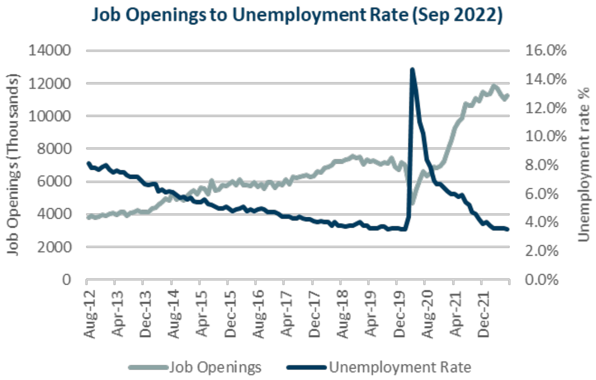
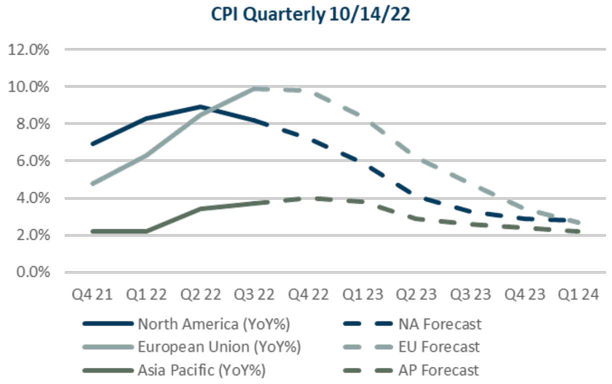
- Nonfarm Job Openings remain elevated at 10.7 million, while the unemployment rate was 3.5% as of September 2022. The still hot job market likely to make the Fed do more to control inflation
- Short-term inflation expectations have fallen but remain elevated compared to pre-pandemic levels
- EU CPI exceeded US CPI in mid-2022 as the US Fed took a more aggressive approach to raising interest rates
- Even though a lag is anticipated between raising interest rates and its impact on inflation, Fed is inclined to risk a brief recession to tame inflation
- The global picture masks widely diverging regional trajectories:
  - The US remains resilient relative to the European region
  - Europe's multiple political and economic challenges is anticipated to lower the region's growth
  - China is benefiting from a "reopening" bounce and fiscal stimulus measures to support infrastructure projects and energy investments
    - By late 2023-early 2024, it is anticipated that Central Banks should pivot to slower rate hikes as signs of a peak in inflation emerge





Source: Citi Research, Federal Reserve Bank of St. Louis. (September 2022), JP Morgan (Global Economic Growth Forecast).

Denominator Effect May Limit Capital Flows Potentially Hurting Valuations

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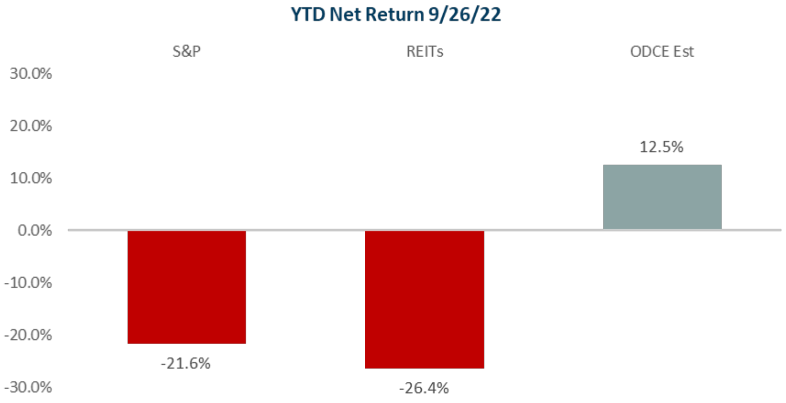
- Private real estate has significantly outperformed equities, leading to denominator effect driven selling pressure coming from investors. Redemption queues have increased significantly in private real estate open-end commingled funds as investors seek to get back in line with RE allocation. Per Townsend, redemption queues totaled $15 billion in 2Q22 and rising
- It is likely that investors will slow new commitments, leading to a reduction in equity available towards the private real estate sector over the coming months
- The large gap in performance between the public and private markets has created a large implied discount between public and private real estate valuations. Data suggests that private real estate is lagging public valuations, which historically is driven by appraisal lag in the private real estate sector
- The large gap in performance between the public and private markets has created a large implied discount between public and private real estate valuations. Data suggests that private real estate is lagging public valuations, which historically is driven by appraisal lag in the private real estate sector
- US private real estate experienced modest cap rate expansion in the second quarter of 2022. It is widely anticipated that cap rates will continue to expand to reflect the impact of rising interest rates and higher cost of debt



Cap Rate Analysis
TTG, NCREIF, Implied from GS

Index[1]	Apartment	Industrial	Office	Retail
ODCE Median	3.56%	2.97%	4.13%	4.96%
Diversified Core+ Median	3.63%	3.51%	4.40%	5.06%
Sector Specific Median	3.71%	3.15%		
NCREIF	3.53%	2.90%	4.32%	4.82%
GS REIT Implied Cap	5.54%	4.49%	8.28%	8.76%
REIT Implied Discount				
Vs Core	-36%	-34%	-50%	-43%
Vs Core+	-35%	-22%	-47%	-42%
Vs NCREIF	-36%	-35%	-48%	-45%

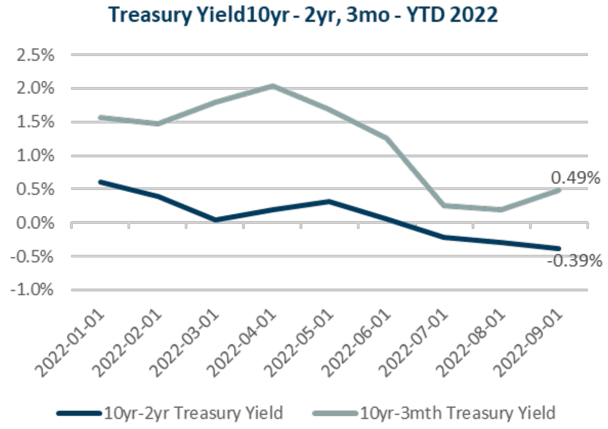
[1]Private real estate cap rates as of 6/30/22. REIT implied cap rates based on ending price as of 9/23/22.

Source: The Townsend Group, Yahoo Finance, NCREIF, Green Street (September 2022). Townsend's views are as of the date of this publication and may be changed or modified at any time and without notice. Past performance is not indicative of future results.

Drastic Portfolio Changes Not Needed As Most Forecasts Suggest Returning to Normal Growth by 2024

- After the post-pandemic recovery of 2021, the economies are forecast to slow down due to rising rates, but over medium term are likely to revert to historical “normal” levels by 2024/25
- Various supply constraints that limited production are likely to resolve over this period which will have a moderating effect on inflation
- After multiple aggressive rate hikes, the central banks likely will have enough options to control the potential recession, provided inflation comes under control
- There is increasing consensus that Covid-19 has transitioned from its “pandemic” phase to its “endemic” phase, limiting its impact on economies
- European economies are trying to adjust to energy constraints and a strong political will has developed to diversify out of Russia for energy dependance; these actions take multiple years, but we believe are likely to help in reverting to pre-pandemic growth levels over time
- China’s economic growth has been downwardly adjusted once again as the Covid-19 situation worsens and the ongoing turmoil in property sectors remains unabated
- Overall, the current tumultuous economic environment could provide investors with select opportunities to capitalize on and rebalance portfolios; in general, secular trends guiding the strategic asset allocation need not be meaningfully altered

Real GDP Forecasts (YoY%) 10/14/22				
Regional	2021	2022	2023	2024
North America	5.8	1.8	0.7	1.7
European Union	5.8	3.2	0.4	1.8
Asia Pacific	5.0	3.3	4.4	4.4
Selected Markets	2021	2022	2023	2024
United States	5.9	1.7	0.5	1.4
United Kingdom	8.5	3.5	-0.2	1.3
Germany	2.6	1.4	-0.4	1.7
China	8.1	3.3	5.0	5.0
Japan	1.8	1.6	1.4	1.2
Australia	5.0	3.9	2.0	2.0



Source: Bloomberg (September 2022)

Global Real Estate Investment Themes

1 Evolution of the Global Supply Chain

Expansion/modernization across the supply chain, including bulk distribution, last mile, and specialized distribution real estate

E-COMMERCE PENETRATION

US: While anticipated growth is likely to continue, the near-term faces recession driven headwinds in rental growth; medium-to-long term prospects still strong

Low cap rates face some expansion pressure in the near-term, but the medium-term return profile still attractive

Coastal markets continue to offer more embedded value growth

Innovation in the asset class creating outdoor storage, shared storage space, and cold storage offer attractive opportunities

Asia: E-commerce related real estate infrastructure still under-developed; Attractive investment opportunities in key geographies of Australia, Japan, and Korea with secondary focus on Singapore and Hong Kong

Europe: Economic slowdown related rent growth weakness likely in the short-run, but the medium- term is attractive

All regions: Lack of availability of construction financing and slowing rent growth to limit supply in the short-term, making rent growth prospects beyond a potential recessionary period attractive

2 Housing Shortage and Suburban Migration

Shortage of affordable housing stock across most global developed markets

Migration to less urban markets due to remote work and anticipated tax savings

APARTMENT

US: High mortgage rates over the next few years can lead to a stronger growth for rental properties

However, in the near-term, economic slowdown and weakness in labor market can reduce demand and increase rent affordability woes

Asia: Select opportunities in Japan (Tokyo & Osaka), and key cities of Australia, but the opportunity set remains low

Europe: Rent controls across many parts of the continental Europe led to a low returning opportunity dominated by local, lower cost of capital investors

SINGLE FAMILY RENTAL

Predominantly a US based opportunity

Work-from-home and aging millennials (largest age cohort) offer strong tailwinds

High mortgage rate driven potential housing market correction could offer good entry opportunity

All regions: Housing shortage remains a global challenge and higher cost of debt could potentially worsen the situation

3 Dislocation in Select Property Types

SOME ASSETS REQUIRE RECAPITALIZATION

Debts markets are not fully functional and risk premiums have significantly expanded

Marginal cost of debt significantly higher than most proforma

Debt service coverage ratios to be hurt in refinancing due to higher cost of debt, limiting LTVs

The above situation further worsened by potential reset in property values

Lastly, denominator effect might limit equity available for investment

POTENTIAL MITIGANTS

Banks more willing to accommodate loan extensions

In general, property markets are not over-leveraged

Still high-level of dry-powder both in debt and equity funds will limit the downside

BIFURCATION OF DISTRESS

Sectors and regions with strong medium-term rent growth outlook will offer attractive entry points

However, those with uncertain outlook (e.g., office, retail, etc.) might be value traps (some exceptions apply to this general view)

Source: The Townsend Group. Townsend's views are as of the date of this publication and may be changed or modified at any time and without notice. Past performance is not indicative of future results.

Global Real Estate Investment Themes (Cont.)

4

Emergence of Niche Property Types

Niche strategies may offer stable income, differentiated demand dynamics, and upside potential through operating efficiencies

Office and retail sectors (once the largest two sectors) both face uncertain outlook, driving the need to institutionalize otherreal estate sectors

INSTITUTIONALIZATION BEYOND THE 4

US: Witnessing many sectors evolve in the private real estate industry including data centers, student housing, medical office, cold storage, production studios, shared storage spaces, etc.

Typically, cap rates exhibit premium to traditional sectors (with good fundamentals)

However, most sectors require strong operating companies and often they are in short supply

Asia: Opportunity set is evolving, but still limited Select

opportunities in Korea, Australia, Japan,

Singapore, and Hong Kong

Europe: Opportunity set is slow in evolving as operating platforms with strong credentials remain in short supply

All regions: Each niche sector has its own unique fundamentals, constraints and operating capability requirements making investment decisions challenging

However, investors need to start building capabilities as these sectors are rapidly growing

5

Evolving Work-Life Balance and Work-From-Home

Headwinds driven by potential economic slowdown and associated employment market weakness

Bifurcation in performance based on asset quality, location and ESG likely to be the dominant theme

WORK-FROM-HOME

US: Mix of employer guidelines and requirements have evolved; some require five-day work in the office, some are fully remote, but most offer flexibility or have two- or three-day work in the office requirement

Above trend is pointing to rationalization of office space leading to multi-year gentle demand reduction leading to rent growth pressures

Bid-ask spreads high limiting price discovery

Asia: Smaller apartments and homes, and cultural factors will keep greater proportion of workforce in office, but some impact anticipated across most regions, but greater impact expected in Australia

Softness in asset values could selectively offer attractive value add opportunities

Europe: Given the Ukraine crisis, the economic outlook remains more uncertain limiting opportunities, but investors should opportunistically seek opportunities in well located green buildings with modern amenities

6

Aging Population and Complemental Strategies

Demographics driving demand for healthcare, life sciences, medical office, and senior housing

SENIOR HOUSING

Over the next 10 years, growth in global population aged 65-74 and age 75+ are anticipated to increase significantly, leading to more opportunities in markets like the US, Europe, Japan, & Australia

LIFE SCIENCES ASSETS

Over the medium to long term, Life Sciences R&D continues to see accelerating growth in funding from an array of sources, including VCs, public funding, and corporates

But VCs getting increasingly cautious in the short- term and focused on preserving cash for existing portfolio companies

US: The VCs have grown increasing cautious in the current environment pointing to limited near-term growth in research driven companies

Near-term weakness in rental growth and asset values anticipated, but the demographic driven medium-term outlook remains attractive

Asia & Europe: Select opportunities emerging in Europe and Asia, but these markets are less institutionalized

Source: The Townsend Group. Townsend's views are as of the date of this publication and may be changed or modified at any time and without notice. Past performance is not indicative of future results.

Definitions and Disclosures

Disclosures

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There can be no assurance that any account will achieve results comparable to those presented. Past performance is not indicative of future results.

Townsend is a wholly owned, indirect subsidiary of Aon plc.

Disclosures

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There can be no assurance that any account will achieve results comparable to those presented. Past performance is not indicative of future results. Investing involves risk, including possible loss of principal.

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As of June 30, 2022, Townsend had assets under management of approximately $24.2 billion. When calculating assets under management, Townsend aggregates net asset values and unfunded commitments on a quarterly basis. Townsend relies on third parties to provide asset valuations, which typically takes in excess of 90 days after the quarter end. Therefore, assets under management have been calculated using June 30, 2022 figures where available but may also include March 31, 2022 figures. Assets under management are calculated quarterly and includes discretionary assets under management and non-discretionary client assets where the client’s contractual arrangement provides the client with the ability to opt out of or into particular transactions, or provides other ancillary control rights over investment decision-making (a/k/a “quasi-discretionary”). Regulatory AUM is calculated annually and can be made available upon request.

ADVISED ASSETS

As of June 30, 2022, Townsend provided advisory services to clients who had real estate/real asset allocations exceeding $128.9 billion. Advised assets includes real estate and real asset allocation as reported by our clients for whom Townsend provides multiple advisory services—including strategic and underwriting advice for the entire portfolio. Advised assets are based on totals reported by each client to Townsend or derived from publicly available information. Advised assets are calculated quarterly. Select clients report less frequently than quarterly in which case we roll forward prior quarter totals. The recent change in Advised Assets is due to a change in the reporting of certain special projects.

The NFI-ODCE Index is a capitalization-weighted, gross of fees, time-weighted return index with an inception date of 1/1/1978. Published reports may also contain equal-weighted and net of fees information. Open-end funds are generally defined as infinite-life vehicles consisting of multiple investors who have the ability to enter or exit the fund on a periodic basis, subject to contribution and/or redemption requests, thereby providing a degree of potential investment liquidity. The term Diversified Core Equity style typically reflects lower risk investment strategies utilizing low leverage and generally represented by equity ownership positions in stable U.S. operating properties (as defined herein). The NFI-ODCE is a quasi-managed index based on the periodic review by the Index Policy Committee ("IPC") of the index's criteria thresholds.

Asset Allocation Study

Florida State Board of Administration (SBA)

March 28, 2023

Executive Summary

Introduction

At the December IAC meeting, the SBA initiated an Asset Allocation Review following the 2022 Asset-Liability Study

- The objective of this review is to identify potential alternative portfolios that are expected to improve risk-adjusted returns and the Fund's path towards a fully funded status
- At the last meeting, Aon presented multiple efficient frontiers with varying constraints to highlight potential enhancements to the current asset allocation

Since the last meeting, Aon and the SBA Investment Team collaborated on updated capital market assumptions, equity risk premium and implementation constraints to generate updated efficient frontiers, followed by updated liquidity analysis and asset-liability projections

The following material includes:

- Updated efficient frontier analysis including scenarios with an 18% alternatives cap and a 26% alternatives cap
- Liquidity stress test
- Updated asset-liability projections

Executive Summary

Key Takeaways

Efficient Frontier Portfolio Analysis

- Return assumptions notably increased since mid-2022; however, the opportunity to enhance risk-adjusted returns remains
- Improvement in risk-adjusted returns driven primarily via greater diversification away from global equity and into:
  - Return-seeking fixed income (public and private), core fixed income and real estate
    - Aggregate core fixed income preferred over intermediate aggregate fixed income
- Improved results assume greater long-term targets to private equity, real estate and hedge funds, whereas currently some of these exposures are gained via Strategic Investments and are more fluid or tactical rather than long-term Policy targets
- Due to implementation constraints and improved return assumptions, increasing the cap on alternatives only modestly improves expected risk-adjusted results

Liquidity

- Stress test indicates the Fund would have sufficient liquidity to pay benefits in a 99th percentile (worst-case) outcome, though the asset allocation would become impaired
- Analysis assumes current contribution policy is in place and contributions are made as expected

Asset – Liability Projections

- Updated projections show funded ratio is expected to gradually increase over the projection period in the central expectation
- Alternate portfolios demonstrate improved downside scenarios due to the lower expected volatility of the alternate portfolios

Current State Overview
As of December 31, 2022

80.2%

Estimated funded ratio as of December 31, 2022

- Based on market value of assets $177.7B
- Using a 6.70% actuarial discount rate
- Actuarial value of liabilities of $221.4B
- Unfunded actuarial liabilities (UAL) of $43.9B
- Change in UAL since last actuarial valuation as of July 1, 2022, +$6.7B

7.31%[1]

10-year expected return

- SBA's return expectation utilizing custom assumptions as of December 31, 2022

+51 bps

Expected annual funded ratio improvement as of December 31, 2022

- Contributions funded at 6.70% actuarial discount rate + expected asset returns at 7.31% are greater than the expected liability growth

[1] Expected returns are using AIUSA Q1 2022 10-Year Capital Market Assumptions (CMAs) as of December 31, 2022 adjusted for the delta in Global Equity Risk Premium (ERP) among four investment advisors: Aon Investment, Callan, Mercer, and Wilshire (-27bps adjustment), which are projections about the future returns of asset classes. For asset classes that can be implemented passively, which includes most public assets, alpha and active management fees are not included in the return expectations. For asset classes that can only be implemented actively, such as hedge funds and private assets, we assume alpha and higher active manager fees. Expected returns are geometric (long-term compounded). Expected returns presented are models and do not represent the returns of an actual client account. Your actual returns will be reduced by your advisory fees and other expenses you may incur as a client. AIUSA's advisory fees are described in Part 2A of AIUSA's Form ADV. Not a guarantee of future results. See appendix for capital market assumptions disclosure pages.

SBA Methodology

Equity risk premium (ERP) adjustment to Aon Investments' CMAs is -27bps

The following highlight the decisions regarding the equity risk premium adjustment used in this analysis:

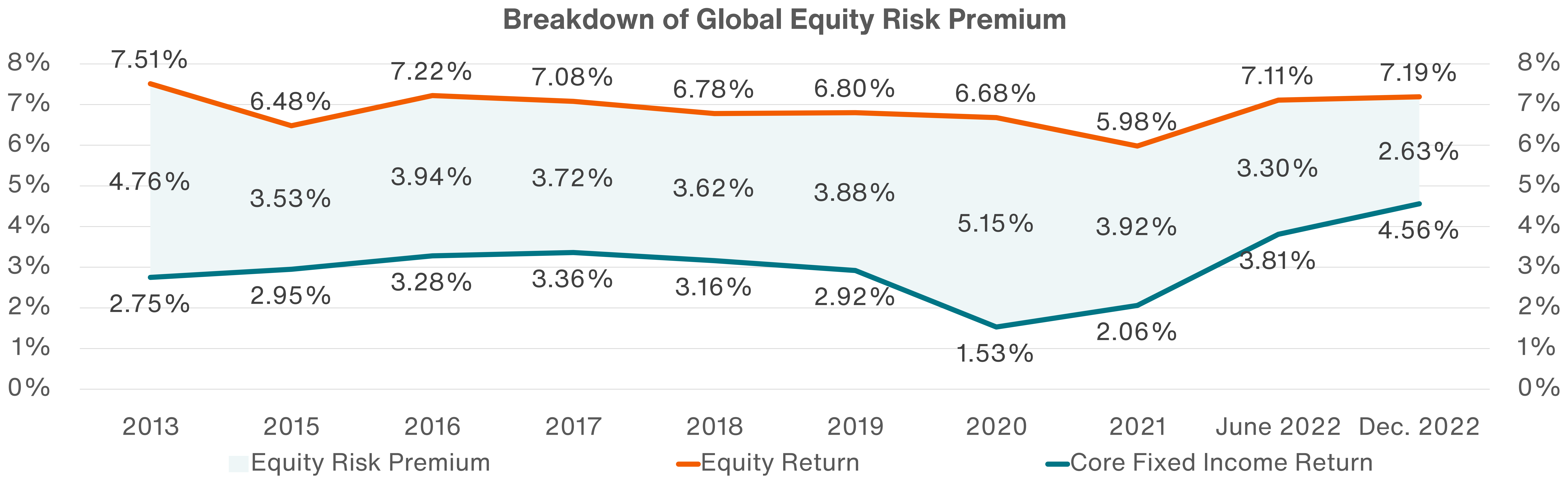
- Updated the calculation as of December 31, 2022
- Include Callan in the averaging
- Shift the time period from 15-years to 10-years, consistent with the time horizon desired by the IAC

		6/30/2022 CMAs	9/30/2022 CMAs		12/31/2022 CMAs	
		15Y	15Y	10Y	15Y	10Y
Aon	- Global Equity	7.75%	7.80%	7.70%	7.40%	7.50%
	- Core US Bonds	3.80%	4.40%	4.70%	4.40%	4.60%
	- Equity Risk Premium	3.95%	3.40%	3.00%	3.00%	2.90%
Mercer	- Global AC All Cap (unh) / Global Stocks	6.97%	7.00%	7.00%	6.73%	6.80%
	- US Aggregate FI / US Broad Fixed Income	3.57%	4.17%	4.50%	4.23%	4.50%
	- Equity Risk Premium	3.40%	2.83%	2.50%	2.50%	2.30%
Wilshire	- Global Equity	6.60%	7.30%	7.30%	7.05%	7.05%
	- Core US Bonds	4.05%	4.90%	4.90%	4.90%	4.90%
	- Equity Risk Premium	2.55%	2.40%	2.40%	2.15%	2.15%
Callan	- Global Equity	N/A	N/A	N/A	7.40%	7.40%
	- Core US Bonds	N/A	N/A	N/A	4.25%	4.25%
	- Equity Risk Premium	N/A	N/A	N/A	3.15%	3.15%
Average	- Global Equity	7.11%	7.37%	7.33%	7.15%	7.19%
	- Core US Bonds	3.81%	4.49%	4.70%	4.45%	4.56%
	- Equity Risk Premium	3.30%	2.88%	2.63%	2.70%	2.63%
	Adjustment to Aon ERP	-0.65%	-0.52%	-0.37%	-0.30%	**-0.27%**

Breakdown of Equity Risk Premium Assumption

The decrease in the 2022 equity risk premiums[1] was driven by the increase in projected fixed income returns outpacing the increase in projected equity returns

- Below is a 10-year historical look at the breakdown of the equity risk premium



[1] Equity Risk Premium is defined as the excess return earned over bonds that compensates investors for taking on higher risk. Equity returns are based on U.S. markets through 2015 and global markets for 2016 and thereafter. All returns through June 2022 are 15-year geometric average (compounded) expected returns whereas December 2022 returns are 10-year geometric averages. Participants in the averaging include Aon, Mercer, Wilshire, and Callan. Callan was excluded from the 2019 to June 2022 period because its capital market assumption date did not coincide with the same timeframe as the other consultants and the asset-liability studies performed.

Portfolio Analysis | Custom SBA Capital Market Assumptions

Changes in assumptions from asset-liability study

	Asset Classes	6/30/2022 Assumptions Nominal Return[1]	6/30/2022 Assumptions Volatility	12/31/2022 Assumptions Nominal Return[2]	12/31/2022 Assumptions Volatility	Delta Nominal Return[1]	Delta Volatility
1	Global Equity	7.2%	18.5%	7.2%	18.0%	0.0%	-0.5%
2	Cash (Gov't)	2.9%	2.0%	3.9%	1.5%	1.0%	-0.5%
3	Core Fixed Income	3.7%	4.5%	4.6%	5.0%	0.9%	0.5%
4	Intermediate Gov't Bonds			4.0%	4.0%		
5	Intermediate Corporate Bonds			4.7%	4.5%		
6	Multi-Asset Credit			7.0%	9.0%		
7	Hedge Funds	6.7%	9.0%	7.4%	9.0%	0.7%	0.0%
8	REITs			7.0%	18.5%		
9	Core Real Estate	4.5%	15.5%	6.5%	10.3%	**2.0%**	**-5.2%**
10	Non-Core Real Estate	6.1%	25.5%	8.5%	17.0%	**2.4%**	**-8.5%**
11	Commodities	5.4%	17.0%	6.4%	17.0%	1.0%	0.0%
12	Private Equity	9.6%	25.5%	9.4%	25.0%	-0.2%	-0.5%
13	Infrastructure	7.1%	15.0%	7.1%	17.0%	**0.0%**	**2.0%**
14	Timberland	4.3%	12.5%	4.7%	12.0%	0.4%	-0.5%
15	Private Debt	6.5%	17.5%	8.2%	16.5%	**1.7%**	**-1.0%**
16	Insurance-Linked Securities (ILS)	4.9%	7.5%	6.4%	5.5%	**1.5%**	**-2.0%**
17	Inflation	2.4%	2.0%	2.4%	1.5%	0.0%	-0.5%

Key Takeaways:

- Asset classes whose risk/reward metrics became **more** favorable in the updated capital market assumptions include the following:
  - Core real estate
  - Non-core real estate
  - Private debt
  - Insurance-linked securities

- Asset classes whose risk/reward metrics became **less** favorable in the updated capital market assumptions include the following:
  - Infrastructure

[1] Expected returns are using Aon Investments Q3 2022 30-Year Capital Market Assumptions adjusted for the delta in Global Equity Risk Premium (ERP) among three investment advisors: Mercer, Wilshire, and Aon Investments (-65bps adjustment). Assumptions do not include fees/expenses. All expected returns are geometric (long-term compounded; rounded to the nearest decimal) and net of investment fees. Expected returns presented are models and do not represent the returns of an actual client account. Not a guarantee of future results.

[2] Expected returns are using Aon Investments' Q1 2023 10-Year Capital Market Assumptions adjusted for the delta in Global Equity Risk Premium (ERP) among four investment advisors: Mercer, Wilshire, Callan and Aon Investments (-27bps adjustment). Assumptions do not include fees/expenses. All expected returns are geometric (long-term compounded; rounded to the nearest decimal) and net of investment fees. Expected returns presented are models and do not represent the returns of an actual client account. Not a guarantee of future results.

Portfolio Analysis | Custom SBA Capital Market Assumptions

Inputs to mean-variance optimization as of 12/31/2022

	Risk/Reward		Constraints	
Asset Classes	Nominal Return[1]	Volatility	Individual	Alternative
1 Global Equity	7.2%	18.0%	40-100%	
2 Cash (Gov't)	3.9%	1.5%	1-100%	
3 Core Fixed Income	4.6%	5.0%	21-30%	
4 Intermediate Gov't Bonds	4.0%	4.0%		
5 Intermediate Corporate Bonds	4.7%	4.5%		
6 Multi-Asset Credit	7.0%	9.0%	3-6%	
7 Hedge Funds	7.4%	9.0%	0-6%	≤18%/26%
8 REITs	7.0%	18.5%	0-1%	
9 Core Real Estate	**6.5%**	**10.3%**	10-12%	
10 Non-Core Real Estate	**8.5%**	**17.0%**	2-3%	
11 Commodities	6.4%	17.0%	0-2%	≤18%/26%
12 Private Equity	9.4%	25.0%	10%	≤18%/26%
13 Infrastructure	**7.1%**	**17.0%**	0-2%	≤18%/26%
14 Timberland	4.7%	12.0%	0-2%	≤18%/26%
15 Private Debt	8.2%	16.5%	0-6%	≤18%/26%
16 Insurance-Linked Securities (ILS)	6.4%	5.5%	0-2%	≤18%/26%
17 Inflation	2.4%	1.5%		

Optimization Inputs

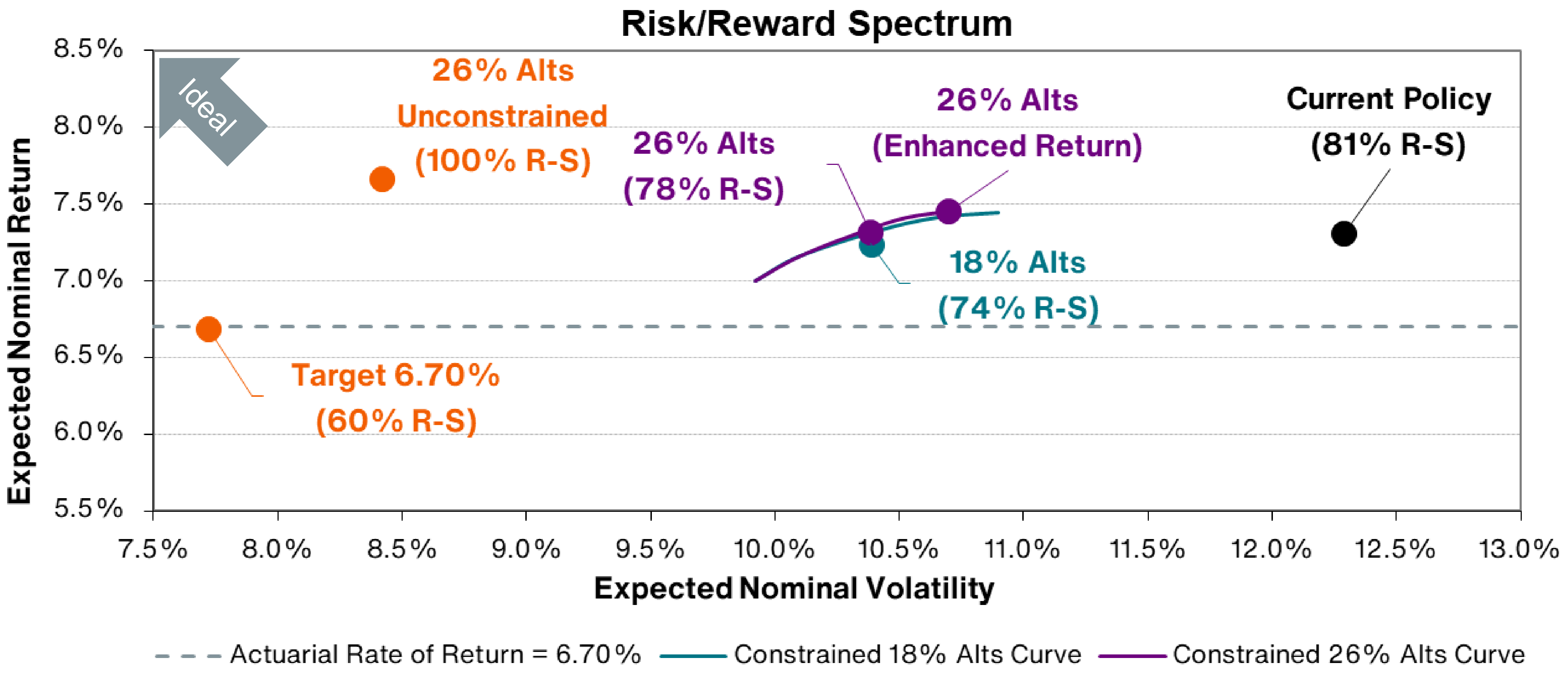
- Table to the left highlights the constraints put on the optimization analysis
- Intended to reflect implementation considerations (ex. size of market) and legislative constraints (current and potential alternate alternatives cap)
- Additionally, the following assumptions were customized by the SBA for purposes of the optimization:
  - Core real estate
  - Non-core real estate
  - Infrastructure

[1] Expected returns are using Aon Investments' Q1 2023 10-Year Capital Market Assumptions adjusted for the delta in Global Equity Risk Premium (ERP) among four investment advisors: Mercer, Wilshire, Callan and Aon Investments (-27bps adjustment). Assumptions do not include fees/expenses. All expected returns are geometric (long-term compounded; rounded to the nearest decimal) and net of investment fees. Expected returns presented are models and do not represent the returns of an actual client account. Not a guarantee of future results.

Bold figures represent custom SBA capital market assumptions that are not derived from Aon Investments and the ERP adjustment

Portfolio Analysis | Risk/Reward Spectrum

Alternative portfolios for consideration



Key Takeaways:

- Current policy has a 10-year expected return of 7.31% with 12.29% expected volatility[1]
- Opportunity exists to reduce risk while maintaining similar levels of expected return
  - Policy adjustments include allocations to multi-asset credit and core (aggregate duration) fixed income with increases to real state, private debt, and private equity

[1] Expected returns are using AIUSA Q1 2022 10-Year Capital Market Assumptions (CMAs) as of December 31, 2022 adjusted for the delta in Global Equity Risk Premium (ERP) among four investment advisors: Aon Investment, Callan, Mercer, and Wilshire (-27bps adjustment), which are projections about the future returns of asset classes. For asset classes that can be implemented passively, which includes most public assets, alpha and active management fees are not included in the return expectations. For asset classes that can only be implemented actively, such as hedge funds and private assets, we assume alpha and higher active manager fees. Expected returns are geometric (long-term compounded). Expected returns presented are models and do not represent the returns of an actual client account. Your actual returns will be reduced by your advisory fees and other expenses you may incur as a client. AIUSA's advisory fees are described in Part 2A of AIUSA's Form ADV. Not a guarantee of future results. See appendix for capital market assumptions disclosure pages.
Percentages may not sum to total due to rounding

Asset Class	Current Policy (81% R-S)	26% Alts Uncon-strained	Target 6.70% (60% R-S)	18% Alts (74% R-S)	26% Alts (78% R-S)	26% Alts (Enhanced Return)
Equity						
- Public Equity	54%	0%	30%	40%	40%	40%
- Private Equity	9%	12%	5%	10%	10%	10%
- Subtotal	63%	12%	35%	50%	50%	50%
Liquid Alternatives						
- Hedge Funds	4%	0%	5%	4%	5%	4%
- ILS	1%	3%	2%	1%	2%	0%
- Subtotal	4%	3%	7%	5%	7%	4%
Return-Seeking FI						
- Multi-Asset Credit	0%	39%	3%	3%	3%	3%
- Private Debt	1%	9%	4%	2%	4%	6%
- Subtotal	1%	48%	7%	5%	7%	9%
Real Assets						
- Real Estate (Core)	8%	35%	7%	10%	10%	10%
- Real Estate (Non-Core)	2%	0%	2%	2%	2%	3%
- REITs	1%	0%	0%	1%	0%	0%
- Commodities	0%	0%	0%	0%	0%	0%
- Infrastructure	1%	2%	0%	1%	0%	2%
- Timber	0%	0%	2%	0%	2%	0%
- Subtotal	12%	37%	11%	14%	14%	15%
Risk-Reducing						
- Cash	1%	0%	5%	1%	1%	1%
- Interm. Duration Credit	9%	0%	0%	0%	0%	0%
- Interm. Duration Gov't	9%	0%	0%	0%	0%	0%
- Core / Core Plus FI	0%	0%	35%	25%	21%	21%
- Subtotal	19%	0%	40%	26%	22%	22%
10 Year Expected Return	**7.31%**	**7.67%**	**6.68%**	**7.24%**	**7.32%**	**7.44%**
10 Year Expected Risk	12.29%	8.42%	7.72%	10.39%	10.38%	10.72%
10 Year Sharpe Ratio	0.28	0.45	0.36	0.32	0.33	0.33

Liquidity Analysis | Overview

Asset allocation, liquidity category, and economic scenarios

Liquidity Category	Asset Class	Current Policy (81% R-S)	26% Alts (78% R-S)
Liquid (Risk-Reducing Assets)	Intermediate Aggregate Fixed Income	18.00%	
	Core Fixed Income		21.00%
	Cash	1.00%	1.00%
	Subtotal	**19.00%**	**22.00%**
Liquid (Return-Seeking Assets)	Public Equity	53.00%	40.00%
	Multi-Asset Credit		3.00%
	REITs	1.00%	
	Subtotal	**54.00%**	**43.00%**
Quasi-Liquid Assets	Core Real Estate	7.65%	10.00%
	Strategic Investments	6.00%	
	Hedge Funds		5.00%
	Insurance Linked Securities		2.00%
	Subtotal	**13.65%**	**17.00%**
Illiquid 5-10 Years	Strategic Investments	6.00%	
	Private Debt		4.00%
	Non-Core Real Estate	1.35%	2.00%
	Subtotal	**7.35%**	**6.00%**
Illiquid 10+ Years	Private Equity	6.00%	10.00%
	Timber		2.00%
	Subtotal	**6.00%**	**12.00%**
Totals	Asset Allocation	100.00%	100.00%
	Quasi + Illiquid Assets	**27.00%**	**35.00%**

Base Case Scenario

- Markets perform consistent with Aon's Capital Market Assumptions (~50th percentile)

Recession Scenario

- Somewhat pessimistic outlook for the markets
- Return-seeking assets decline in the first two years with a modest rebound in later years

Dark Skies Scenario

- Very pessimistic outlook for markets
- Return-seeking assets decline significantly
- The value of public equities declines approximately 50% over three years, without an immediate rebound

Liquidity Analysis | Results

Current Policy

	Base Case			Recession			Dark Skies		
	Total Illiquids	Funded Ratio	Proj. Contrib. (in $ billions)	Total Illiquids	Funded Ratio	Proj. Contrib. (in $ billions)	Total Illiquids	Funded Ratio	Proj. Contrib. (in $ billions)
Time 0	27%	81%	$5.3	27%	81%	$5.3	27%	81%	$5.3
Time 1	27%	81%	$5.7	30%	66%	$5.8	30%	61%	$5.7
Time 2	27%	82%	$5.9	32%	58%	$6.8	36%	47%	$7.4
Time 3	27%	83%	$6.0	34%	56%	$8.1	41%	40%	$10.1
Time 4	28%	84%	$6.2	34%	56%	$9.0	44%	38%	$11.8
Time 5	28%	85%	$6.3	34%	56%	$9.6	44%	37%	$12.8
Time 6	28%	86%	$6.5	34%	56%	$10.3	45%	37%	$13.6
Time 7	28%	87%	$6.7	34%	57%	$11.0	45%	37%	$14.4
Time 8	27%	89%	$6.8	33%	57%	$11.6	45%	37%	$15.3
Time 9	27%	90%	$6.9	33%	58%	$12.2	45%	38%	$16.1
Time 10	27%	91%	$7.1	33%	59%	$12.7	44%	39%	$16.9

Key Takeaways

- **Base Case:** total illiquid and quasi-liquid assets are projected to stay near 27% of the Plan and can be maintained near the target with no cash flow problems
- **Dark Skies:** total illiquid and quasi-liquid assets are projected to reach as high as **44%** of the Plan due to shrinking market value of the total Plan in this scenario
  - Funded ratio would fall, necessitating more in contributions
- **Recession:** directionally similar to Dark Skies but less severe

* Projections assume constant 6.70% discount rate for pension liabilities and contribution rate funding policy for all investment policies studied.

Liquidity Analysis | Results

Alternative Policy

	Base Case			Recession			Dark Skies		
	Total Illiquids	Funded Ratio	Proj. Contrib. (in $ billions)	Total Illiquids	Funded Ratio	Proj. Contrib. (in $ billions)	Total Illiquids	Funded Ratio	Proj. Contrib. (in $ billions)
Time 0	35%	81%	$5.3	35%	81%	$5.3	35%	81%	$5.3
Time 1	35%	81%	$5.7	37%	67%	$5.7	37%	62%	$5.7
Time 2	35%	82%	$5.9	40%	59%	$6.6	43%	49%	$7.3
Time 3	35%	83%	$6.0	42%	57%	$7.9	48%	42%	$9.7
Time 4	35%	84%	$6.2	42%	56%	$8.8	52%	39%	$11.4
Time 5	35%	85%	$6.3	43%	56%	$9.4	54%	38%	$12.4
Time 6	35%	86%	$6.5	43%	56%	$10.1	55%	38%	$13.3
Time 7	35%	87%	$6.7	43%	57%	$10.8	56%	38%	$14.1
Time 8	35%	89%	$6.8	43%	58%	$11.4	56%	38%	$15.0
Time 9	35%	90%	$6.9	43%	58%	$12.0	57%	38%	$15.8
Time 10	35%	91%	$7.1	43%	59%	$12.6	57%	39%	$16.7

Key Takeaways

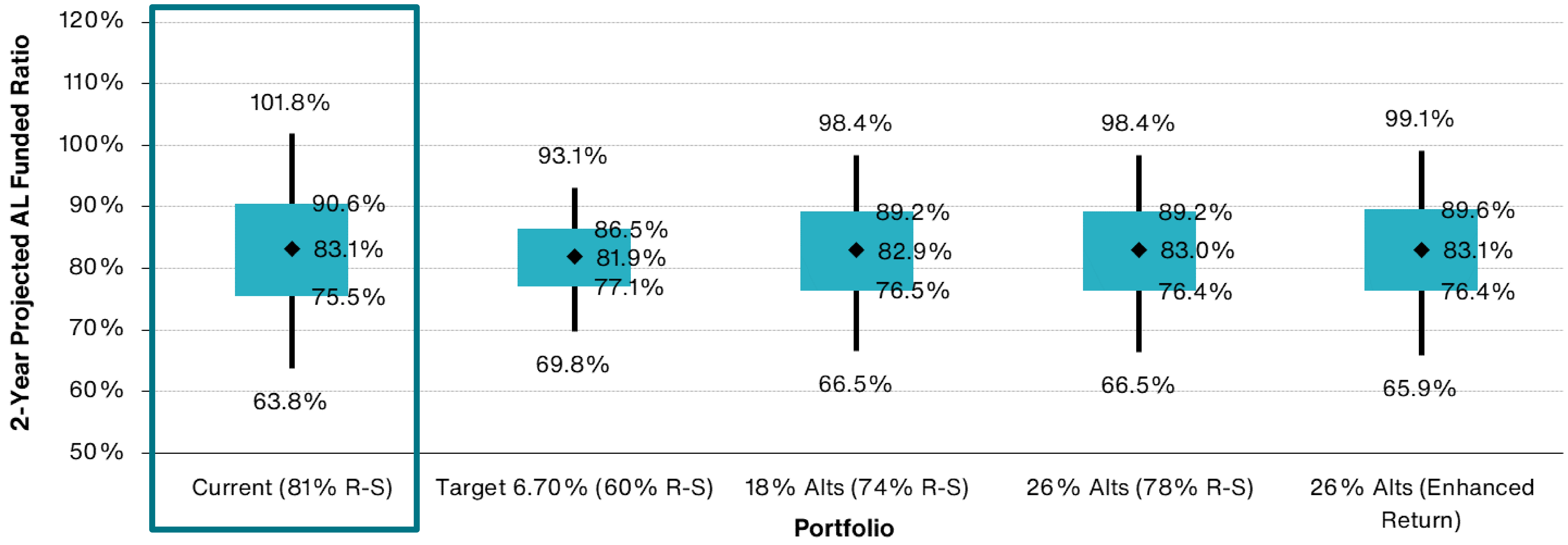
- **Base Case:** total illiquid and quasi-liquid assets are projected to stay near 35% of the Plan and can be maintained near the target with no cash flow problems
- **Dark Skies:** total illiquid and quasi-liquid assets are projected to reach as high as **57%** of the Plan due to shrinking market value of the total Plan in this scenario
  - Funded ratio would fall, necessitating more in contributions
- **Recession:** directionally similar to Dark Skies but less severe

* Projections assume constant 6.70% discount rate for pension liabilities and contribution rate funding policy for all investment policies studied.

AON

Asset-Liability Projection Analysis

Short-Term (2-Year) | Market Value of Assets / Actuarial Liability Funded Ratio

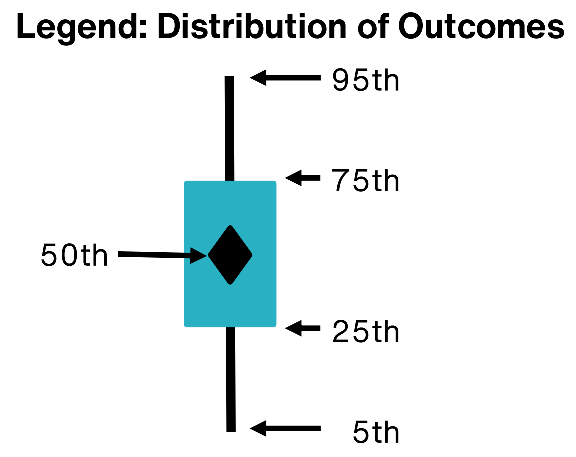


	Current Policy (81% R-S)	Target 6.70% (60% R-S)	18% Alts (74% R-S)	26% Alts (78% R-S)	26% Alts (Enhanced Return)
10yr Expected Return	7.31%	6.68%	7.24%	7.32%	7.44%
10yr Expected Risk	12.29%	7.72%	10.39%	10.38%	10.72%
10yr Sharpe Ratio	0.28	0.36	0.32	0.33	0.33

* Projections assume constant 6.70% discount rate for pension liabilities and contribution rate funding policy for all investment policies studied.

Key Takeaways:

- Higher risk/volatility portfolios are projected to have both more upside and downside potential over a short time horizon (2 years in this exhibit)
- Similarly, lower risk/volatility portfolios will have a narrower range of potential outcomes



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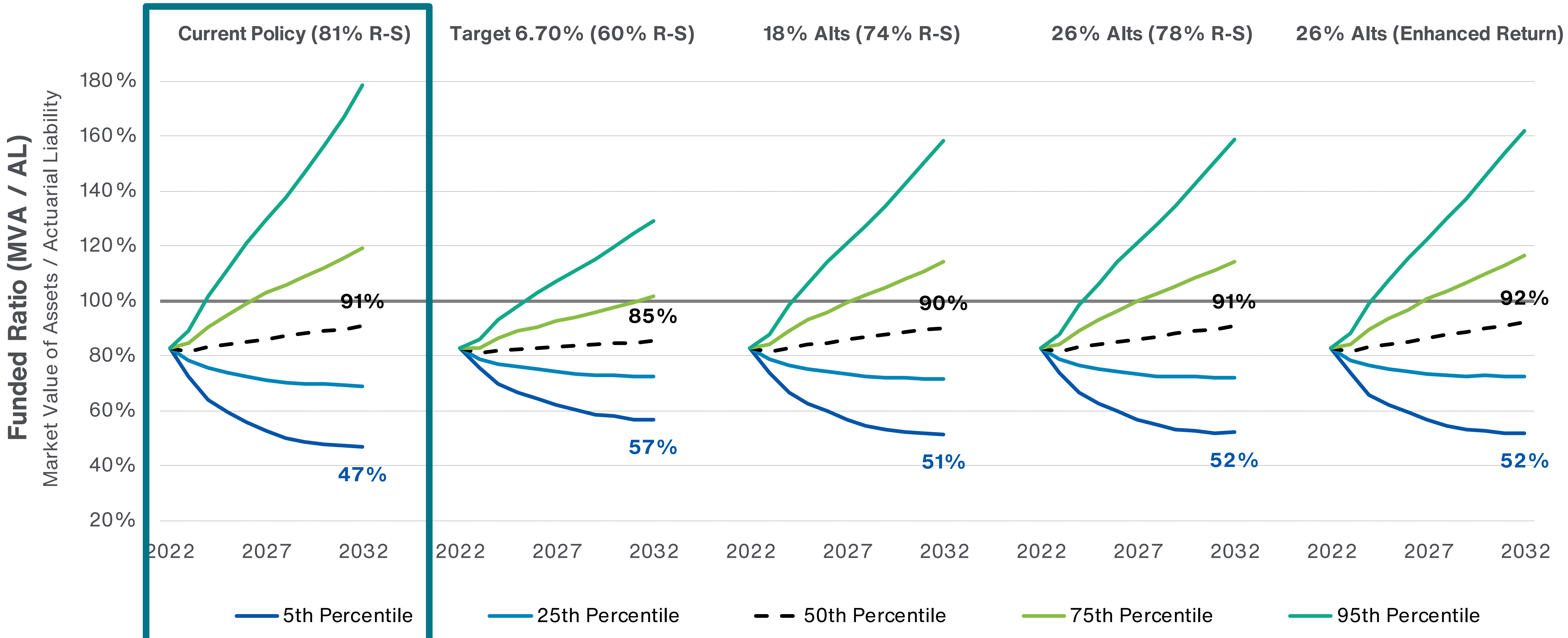
Asset-Liability Projection Analysis

Long-Term | Market Value of Assets / Actuarial Liability Funded Ratio



Strategy	Current Policy (81% R-S)			Target 6.70% (60% R-S)			18% Alts (74% R-S)			26% Alts (78% R-S)			26% Alts (Enhanced Return)		
Year	**2022**	**2027**	**2032**	**2022**	**2027**	**2032**	**2022**	**2027**	**2032**	**2022**	**2027**	**2032**	**2022**	**2027**	**2032**
5th Percentile	83%	52%	47%	83%	62%	57%	83%	57%	51%	83%	57%	52%	83%	56%	52%
25th Percentile	83%	71%	69%	83%	74%	72%	83%	73%	72%	83%	73%	72%	83%	73%	73%
50th Percentile	83%	86%	91%	83%	83%	85%	83%	86%	90%	83%	86%	91%	83%	86%	92%
75th Percentile	83%	103%	119%	83%	93%	102%	83%	100%	114%	83%	100%	114%	83%	101%	116%
95th Percentile	83%	129%	178%	83%	107%	129%	83%	121%	158%	83%	121%	159%	83%	123%	162%
Probability > 100%	<1%	29%	42%	<1%	15%	28%	<1%	25%	40%	<1%	25%	40%	<1%	26%	42%

* Projections assume constant 6.70% discount rate for pension liabilities and contribution rate funding policy for all investment policies studied.

Key Takeaways:

- Under the Current Policy (81% R-S), the funded ratio is expected to gradually increase over the projection period in the central expectation (50th percentile outcome)
- Lower risk/volatility portfolios will have a narrower range of potential outcomes
- The Enhanced Return portfolio is projected to improve both the central and downside (5th percentile outcome) expectations

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Summary of Results

All Scenarios	Portfolio Metrics			Financial Results					
	Expected Nominal Return[1]	Expected Nominal Volatility	Sharpe Ratio	10-year Economic Cost (in $ billions)		10-year Present Value of Contributions (In $ billions)		10-year Ending Funded Ratio (MVA / AL)	
				Expected[2]	Downside[3]	Expected[2]	Downside[3]	Expected[2]	Downside[4]
Current Policy (81% R-S)	7.31%	12.29%	0.28	$56.0	$129.6	$43.7	$60.5	91%	47%
Target 6.70% (60% R-S)	6.68%	7.72%	0.36	$64.5	$110.9	$44.9	$53.5	85%	57%
18% Alts (74% R-S)	7.24%	10.39%	0.32	$57.0	$120.8	$43.8	$57.2	90%	51%
26% Alts (78% R-S)	7.32%	10.38%	0.33	$56.4	$119.9	$43.7	$57.1	91%	52%
26% Alts (Enhanced Return)	7.44%	10.72%	0.33	$54.3	$120.4	$43.6	$57.6	92%	52%

Key Takeaways:

- Current policy has a 10-year expected return of 7.31% with 12.29% expected volatility[1]
- Projections assume constant 6.70% discount rate for pension liabilities and contribution rate funding policy for all investment policies studied
- Opportunity exists to maintain similar levels of expected return but with lower risk depending on the degree of diversification
  - Adjustments include allocations to multi-asset credit and core fixed income with increases to real state, private debt, and private equity
- Under the Current Policy, the funded ratio is expected to gradually increase over the projection period in the central expectation (50th percentile outcome)
- Lower risk/volatility portfolios will have a narrower range of potential funded ratio outcomes, particularly better downside scenario expectations
- The Enhanced Return portfolio is projected to improve both the central and downside (5th percentile outcome) expectations

[1] Expected returns are using AIUSA Q1 2022 10-Year Capital Market Assumptions (CMAs) as of December 31, 2022 adjusted for the delta in Global Equity Risk Premium (ERP) among four investment advisors: Aon Investment, Callan, Mercer, and Wilshire (-27bps adjustment), which are projections about the future returns of asset classes. For asset classes that can be implemented passively, which includes most public assets, alpha and active management fees are not included in the return expectations. For asset classes that can only be implemented actively, such as hedge funds and private assets, we assume alpha and higher active manager fees. Expected returns are geometric (long-term compounded). Expected returns presented are models and do not represent the returns of an actual client account. Your actual returns will be reduced by your advisory fees and other expenses you may incur as a client. AIUSA's advisory fees are described in Part 2A of AIUSA's Form ADV. Not a guarantee of future results. See appendix for capital market assumptions disclosure pages.
[2] Expected = 50th percentile outcome or central expectation across all 5,000 simulations
[3] Downside = 95th percentile outcome across all 5,000 simulations
[4] Downside = 5th percentile outcome across all 5,000 simulations

Asset Allocation Considerations

Re-packaging Strategic Investments

Target Policy	Current (81% R-S)	18% Alts (74% R-S)	26% Alts (78% R-S)
Global Equity	**53%**	**40%**	**40%**
Private Equity	**6%**	**10%**	**10%**
Real Estate	**10%**	**13%**	**12%**
Core	7.65%	10%	10%
Non-Core	1.35%	2%	2%
REITs	1.00%	1%	-
Strategic Investments	**12%**	**8%**	**13%**
Equity (public + private)	4%	-	-
Private Debt	1%	2%	4%
Real Assets (Infra + Timber)	1%	1%	2%
Other (Diversifying, Flex, SS, ILS, Hedge Funds)	6%	5%	7%
Public Return-Seeking Fixed Income	**-**	**3%**	**3%**
Fixed Income (Int. Duration)	**18%**	**-**	**-**
Fixed Income (Agg. Duration)	**-**	**25%**	**21%**
Cash	**1%**	**1%**	**1%**
Total	**100%**	**100%**	**100%**

The table to the left re-packages the alternative portfolios into SBA's current Policy categories

- Modeling illustrates benefits of transitioning certain existing exposures to long-term policy targets (ex. private equity)
- Asset allocation changes may modify role of Strategic Investments
- There may be merit to adding underlying policy targets within Strategic Investments

Appendix

- Current State Analysis
- Additional Asset-Liability Projection Analysis
- Methods & Assumptions
- Liquidity Analysis Detail

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Current State Analysis

Section: Appendix

Current State Asset-Liability Profile (As of December 31, 2022)

FRS projects a hurdle rate surplus, improving the near-term funded ratio

Asset-Liability Snapshot				
	As of 7/1/2022		Est. as of 12/31/2022	
Metric ($, Billions)	**Value**	**Fund %**	**Value**	**Fund %**
Market Value of Assets	$180.2	82.9%	$177.7	80.2%
Actuarial Value of Assets	$179.2	82.4%		
Liability Metrics				
Actuarial Liability (AL)[1]	$217.4		$221.4	

Asset-Liability Growth Metrics			
Metric ($, Billions)	**Value**	**% Liability**	**% Assets**
AL Discount Cost	$14.8	6.70%	8.35%
AL Normal Cost	$3.0	1.35%	1.68%
Total Liability Hurdle Rate	**$17.8**	**8.05%**	**10.03%**
Expected Return on Assets (10-Year)[2]	$13.0	5.86%	7.31%
Total Contributions	$5.7	2.59%	3.23%
Total Exp. Asset Growth	**$18.7**	**8.45%**	**10.54%**
Hurdle Rate (Shortfall)/Surplus	**$0.9**	**0.40%**	**0.51%**
Est. Benefit Payments	$12.7	5.75%	7.16%

Key Takeaways:

- Pension plan was estimated to be **80.2%** funded on a market value of assets basis as of December 31, 2022
- Asset hurdle rate of **10.03%**, via cash funding and investment returns, needed to maintain or improve funded status
- The Total Expected Asset Growth rate (expected return plus contributions) exceeds the Liability Hurdle Rate by **51 bps** which is expected to increase the Plan's near-term funded ratio

Target Asset Allocation as of 12/31/2022		
Metric ($, Billions)	**Value**	**Alloc %**
Return-Seeking		
- Public Equity	$96.0	54%
- Private Equity	$16.1	9%
- Liquid Alternatives	$7.7	4%
- Illiquid Return-Seeking Fixed Income	$2.1	1%
- Open-End Real Assets	$15.4	9%
- Closed-End Real Assets	$6.6	4%
- Total	$143.9	81%
Risk-Reducing		
- Cash & Short Duration Fixed Income	$1.8	1%
- Intermediate Duration Fixed Income	$32.0	18%
- Total	$33.8	19%
Total	$177.7	100%

[1] Based on a 6.70% discount rate consistent with the July 1, 2022 actuarial valuation report, sourced online and rolled forward to December 31, 2022, and the contribution rate funding policy

[2] Expected returns are using AIUSA Q1 2022 10-Year Capital Market Assumptions (CMAs) as of December 31, 2022 adjusted for the delta in Global Equity Risk Premium (ERP) among four investment advisors: Aon Investment, Callan, Mercer, and Wilshire (-27bps adjustment), which are projections about the future returns of asset classes. For asset classes that can be implemented passively, which includes most public assets, alpha and active management fees are not included in the return expectations. For asset classes that can only be implemented actively, such as hedge funds and private assets, we assume alpha and higher active manager fees. Expected returns are geometric (long-term compounded). Expected returns presented are models and do not represent the returns of an actual client account. Your actual returns will be reduced by your advisory fees and other expenses you may incur as a client. AIUSA's advisory fees are described in Part 2A of AIUSA's Form ADV. Not a guarantee of future results. See appendix for capital market assumptions disclosure pages.

Percentages may not sum to 100% due to rounding.

Additional Asset-Liability Projection Analysis

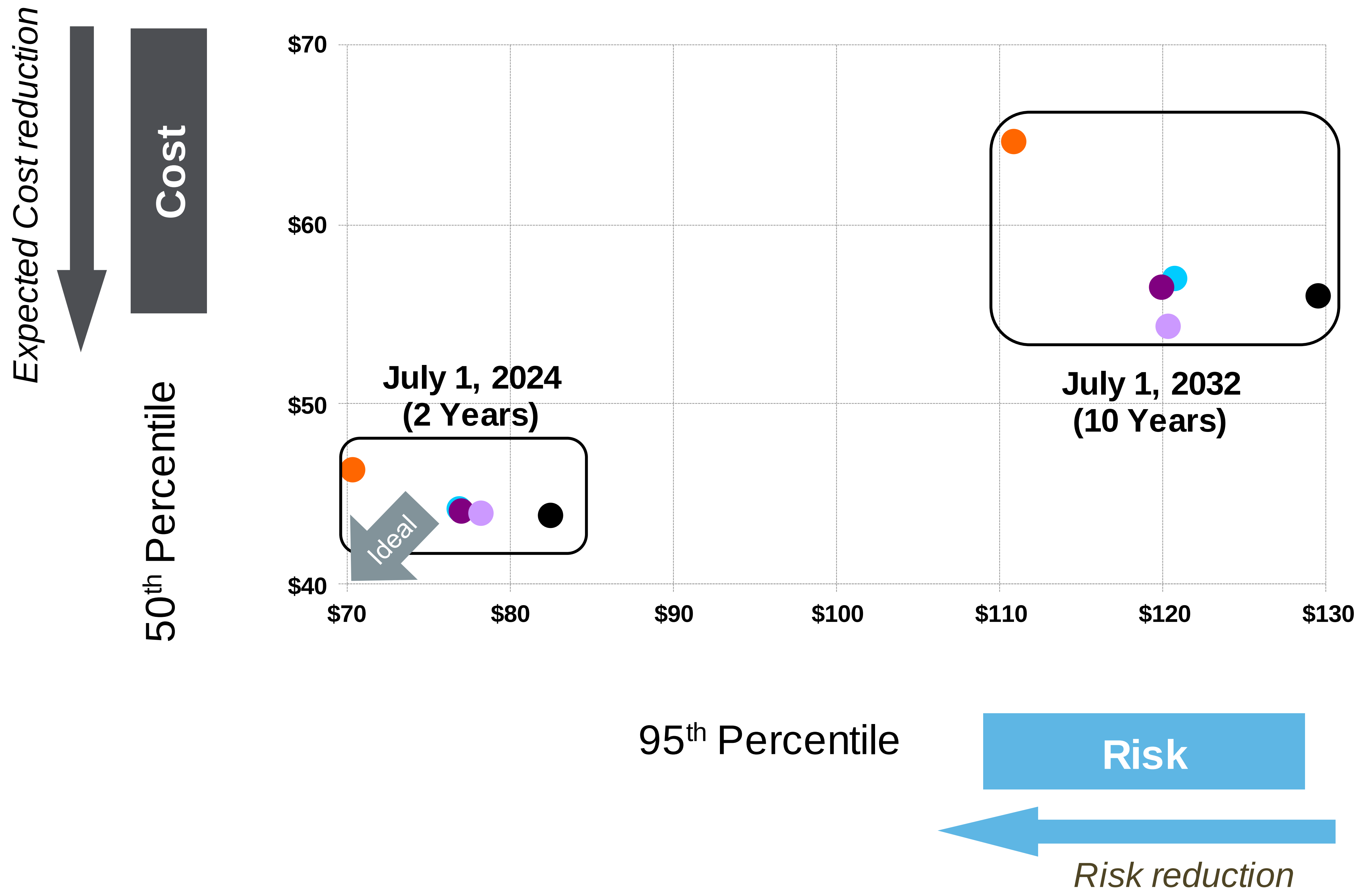
Section: Appendix

Asset-Liability Projection Analysis

Economic Cost Analysis over a 2 and 10-Year Horizon

Economic Cost

Present Value of Contributions plus AL Funding Shortfall/(Surplus)* at 6.70%, $billions



Strategy ($Billions)	Economic Cost July 1, 2024 Cost	Economic Cost July 1, 2024 Risk
Current Policy (81% R-S)	$43.8	$82.6
Target 6.70% (60% R-S)	$46.3	$70.5
18% Alts (74% R-S)	$44.2	$77.0
26% Alts (78% R-S)	$44.1	$77.2
26% Alts (Enhanced Return)	$43.9	$78.2
Strategy ($Billions)	**July 1, 2032 Cost**	**July 1, 2032 Risk**
Current Policy (81% R-S)	$56.0	$129.6
Target 6.70% (60% R-S)	$64.5	$110.9
18% Alts (74% R-S)	$57.0	$120.8
26% Alts (78% R-S)	$56.4	$119.9
26% Alts (Enhanced Return)	$54.3	$120.4

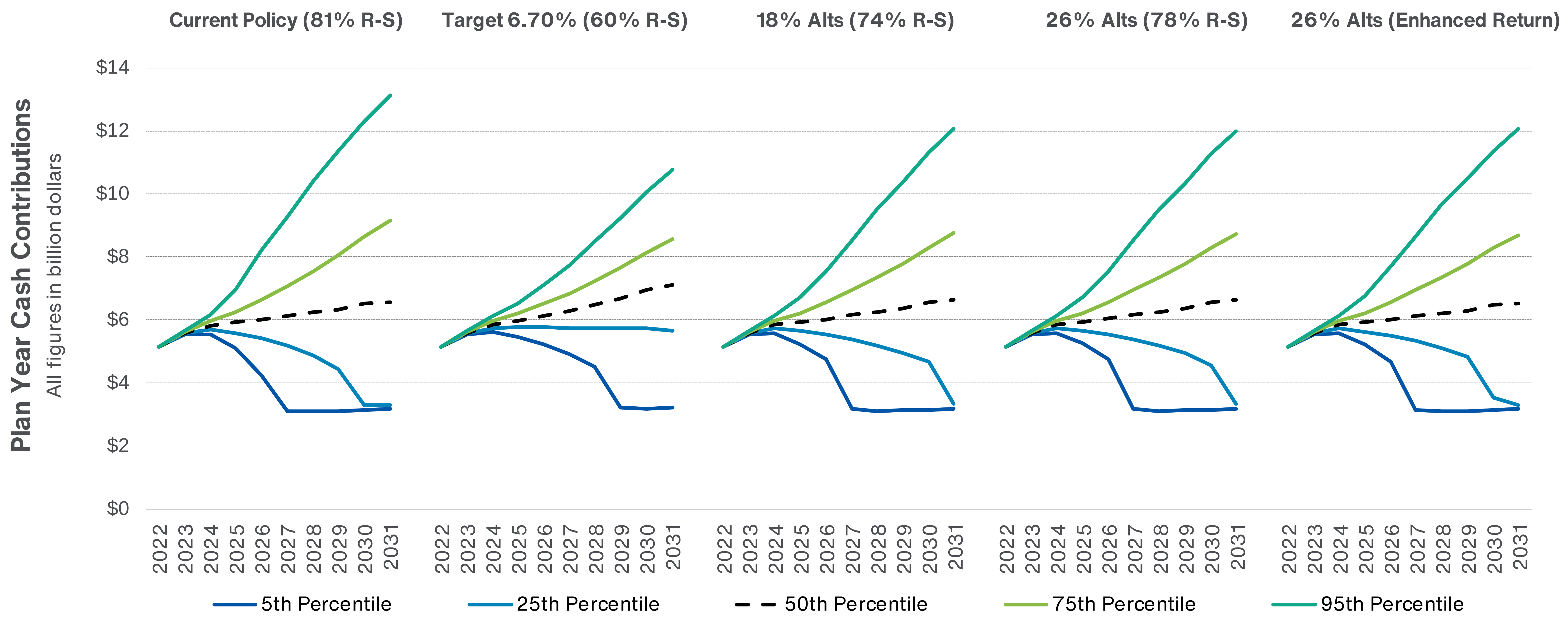
Key Takeaways:

- Alternative portfolios are assumed to reduce economic cost-at-risk (95th percentile outcome) while maintaining similar expected economic cost (50th percentile outcome)
- Targeting a 6.7% return is expected to also decrease economic cost-at-risk, but does so with increased expected cost

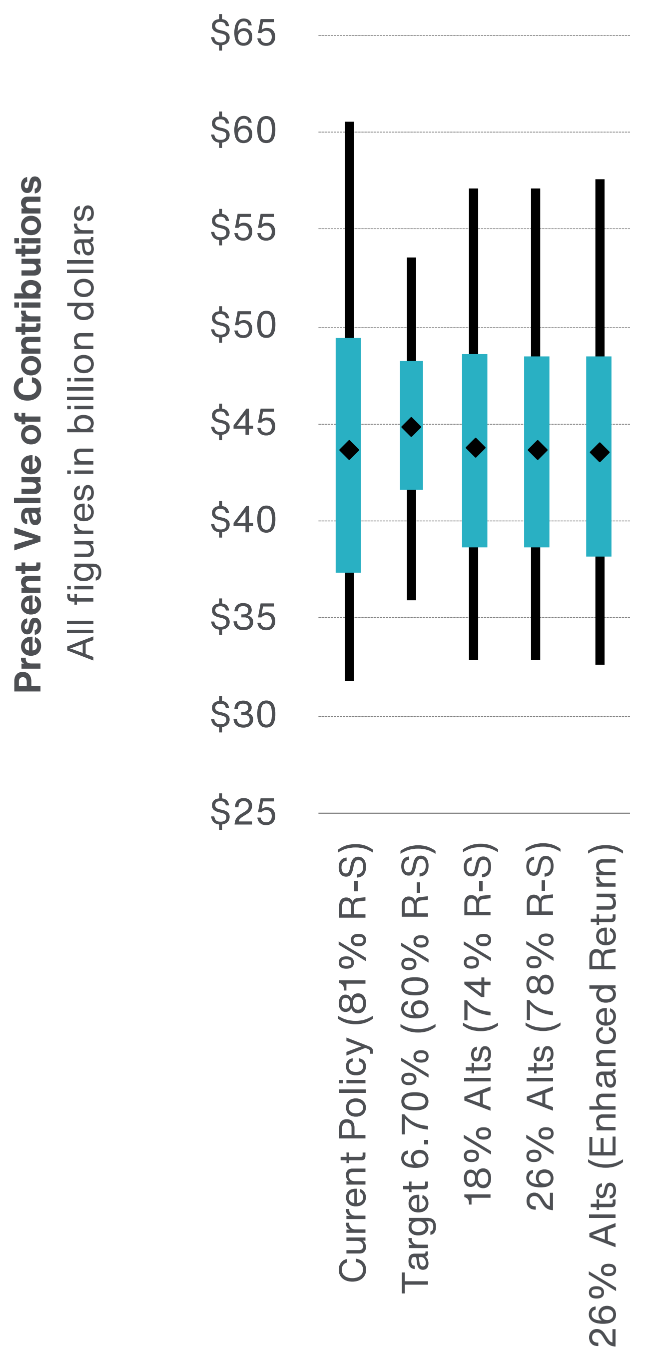
* Projections assume constant 6.70% discount rate for pension liabilities and contribution rate funding policy for all investment policies studied.
Note: Excludes 50% of surplus in excess of 120% of Actuarial liability, and includes twice the shortfall below 40% of Actuarial liability, on a market value basis

Asset-Liability Projection Analysis

Total Contribution Amounts (Employer + Employee)



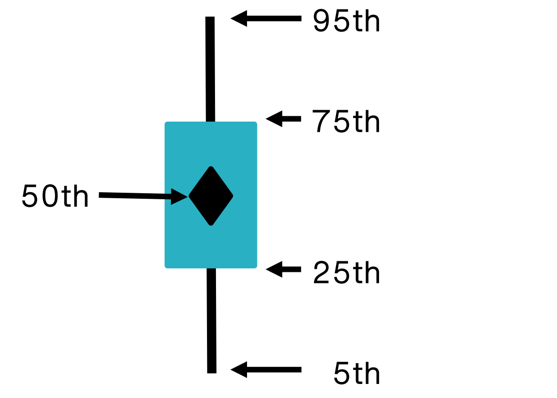
Strategy	Current Policy (81% R-S)			Target 6.70% (60% R-S)			18% Alts (74% R-S)			26% Alts (78% R-S)			26% Alts (Enhanced Return)		
Year	2025	2028	2031	2025	2028	2031	2025	2028	2031	2025	2028	2031	2025	2028	2031
5th Percentile	$5.08	$3.08	$3.16	$5.44	$4.52	$3.20	$5.23	$3.10	$3.16	$5.24	$3.10	$3.16	$5.21	$3.10	$3.16
25th Percentile	$5.58	$4.88	$3.27	$5.75	$5.73	$5.65	$5.64	$5.20	$3.33	$5.64	$5.17	$3.32	$5.63	$5.11	$3.29
50th Percentile	$5.91	$6.24	$6.57	$5.96	$6.47	$7.12	$5.92	$6.26	$6.65	$5.92	$6.25	$6.61	$5.91	$6.22	$6.53
75th Percentile	$6.26	$7.52	$9.14	$6.19	$7.23	$8.56	$6.21	$7.34	$8.74	$6.22	$7.32	$8.71	$6.22	$7.33	$8.68
95th Percentile	$6.94	$10.39	$13.11	$6.53	$8.47	$10.76	$6.71	$9.51	$12.07	$6.70	$9.49	$11.99	$6.73	$9.65	$12.07
Probability > $6B	43%	54%	54%	46%	66%	69%	43%	56%	55%	43%	56%	55%	43%	55%	54%



Key Takeaways:

- The median (50th percentile) total contribution amounts are similar across investment strategies modeled
- Lower risk/volatility portfolios have a narrower range of potential outcomes

Legend: Distribution of Outcomes



* Projections assume constant 6.70% discount rate for pension liabilities and contribution rate funding policy for all investment policies studied.

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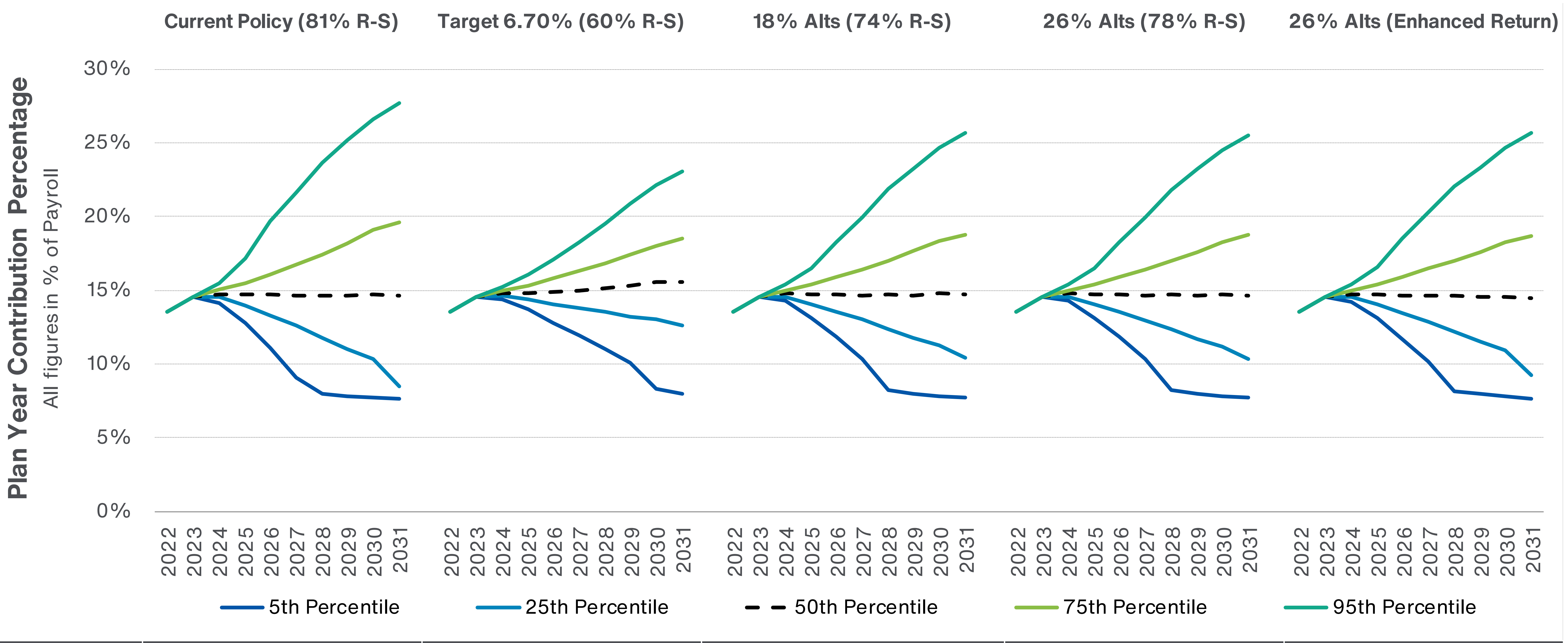
Asset-Liability Projection Analysis

Employer Contribution Rate (“Blended Rate”)



Strategy	Current Policy (81% R-S)			Target 6.70% (60% R-S)			18% Alts (74% R-S)			26% Alts (78% R-S)			26% Alts (Enhanced Return)		
Year	2025	2028	2031	2025	2028	2031	2025	2028	2031	2025	2028	2031	2025	2028	2031
5th Percentile	13%	8%	8%	14%	11%	8%	13%	8%	8%	13%	8%	8%	13%	8%	8%
25th Percentile	14%	12%	9%	14%	14%	13%	14%	12%	10%	14%	12%	10%	14%	12%	9%
50th Percentile	15%	15%	15%	15%	15%	16%	15%	15%	15%	15%	15%	15%	15%	15%	14%
75th Percentile	15%	17%	20%	15%	17%	18%	15%	17%	19%	15%	17%	19%	15%	17%	19%
95th Percentile	17%	24%	28%	16%	20%	23%	16%	22%	26%	16%	22%	26%	17%	22%	26%
Probability > 15%	40%	47%	48%	41%	52%	55%	39%	47%	48%	39%	47%	48%	39%	46%	47%

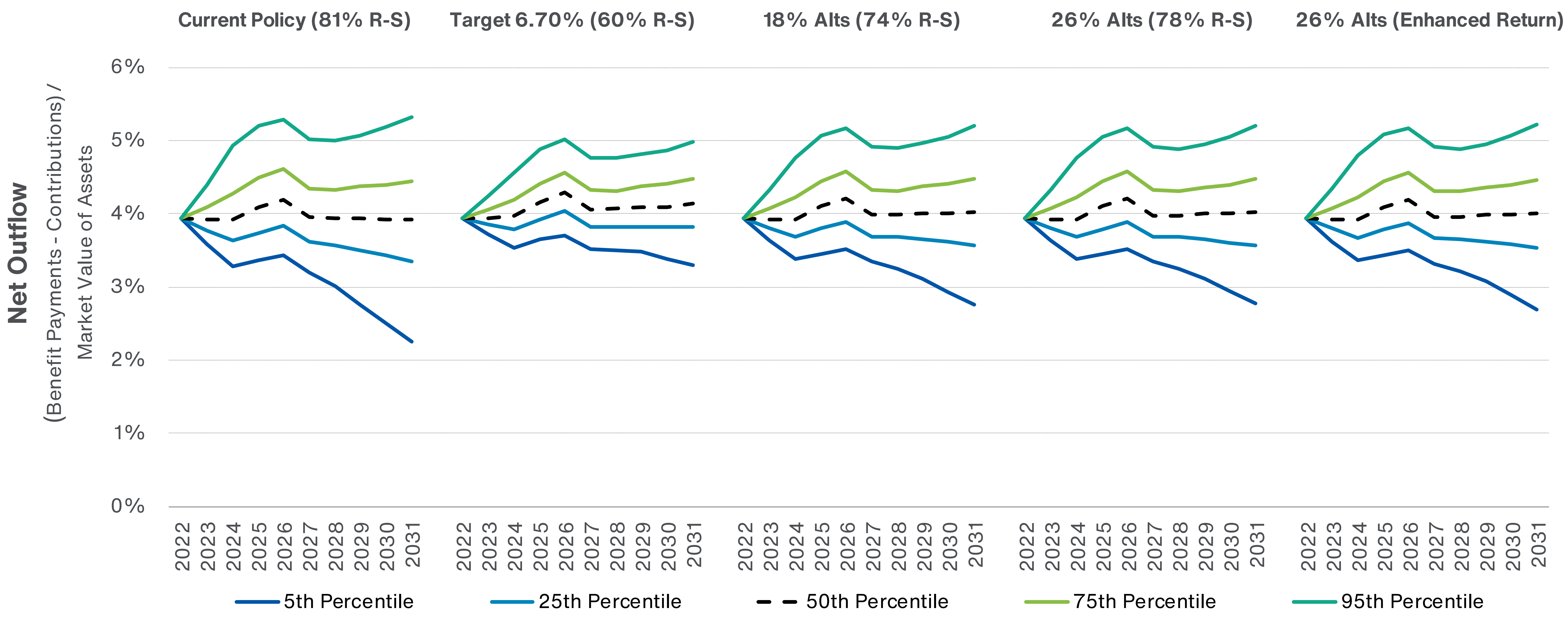
* Projections assume constant 6.70% discount rate for pension liabilities and contribution rate funding policy for all investment policies studied.

Key Takeaways:

- The median (50th percentile) blended rate is similar across investment strategies modeled
- Lower risk/volatility portfolios have a narrower range of potential outcomes

Asset-Liability Projection Analysis

Net Outflow Analysis: (Benefit Payments less Contributions) / Market Value of Assets



Strategy	Current Policy (81% R-S)			Target 6.70% (60% R-S)			18% Alts (74% R-S)			26% Alts (78% R-S)			26% Alts (Enhanced Return)		
Year	2025	2028	2031	2025	2028	2031	2025	2028	2031	2025	2028	2031	2025	2028	2031
5th Percentile	3.4%	3.0%	2.2%	3.6%	3.5%	3.3%	3.5%	3.3%	2.8%	3.5%	3.2%	2.8%	3.4%	3.2%	2.7%
25th Percentile	3.7%	3.6%	3.4%	3.9%	3.8%	3.8%	3.8%	3.7%	3.6%	3.8%	3.7%	3.6%	3.8%	3.7%	3.5%
50th Percentile	4.1%	3.9%	3.9%	4.2%	4.1%	4.1%	4.1%	4.0%	4.0%	4.1%	4.0%	4.0%	4.1%	4.0%	4.0%
75th Percentile	4.5%	4.3%	4.5%	4.4%	4.3%	4.5%	4.5%	4.3%	4.5%	4.4%	4.3%	4.5%	4.4%	4.3%	4.5%
95th Percentile	5.2%	5.0%	5.3%	4.9%	4.8%	5.0%	5.1%	4.9%	5.2%	5.1%	4.9%	5.2%	5.1%	4.9%	5.2%
Probability > 10%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%

* Projections assume constant 6.70% discount rate for pension liabilities and contribution rate funding policy for all investment policies studied.

Key Takeaways:

- Net outflows are expected to remain around 4% range over the projection period across investment strategies modeled
- Net outflows of 10%+ can put stress on fund liquidity over time; however, it is not likely over the projection period

Methods & Assumptions

Section: Appendix

Actuarial Assumptions and Methods

Data

- Actuarial information was taken from the July 1, 2022 actuarial valuation results

Actuarial assumptions:

- Valuation Rate of Interest = 6.70%
- Inflation = 2.40%
- Payroll Growth = 3.25%
- Actuarial Value of Assets: Reflects a five-year averaging methodology where 20% of the difference between the actual market value and the expected actuarial value of assets is immediately recognized but restricted to a 20% corridor around the Market Value of Assets
- All other assumptions as documented in the Actuarial Valuation Report as of July 1, 2022, unless noted otherwise

Actuarial Assumptions and Methods

Contribution Policy

- Normal Cost plus a level percent amortization of the unfunded liability using a 3.25% salary scale
- New amortization bases are established each year, creating a layered 20-year amortization base
- Blended Contribution Rate = projected combined amount that would be contributed for both the FRS Pension Plan and the FRS Investment Plan based on the total projected payroll for both plans
  - FRS Investment Plan employer rate is assumed to remain level at 7.58% (sourced from 2023-24 Blended Rate Study)
- Employee contribution rate is assumed to remain level at 3.00%

Projection Assumptions

- Future benefit payments and payroll projections (used for GASB 67 purposes) were supplied by the plan actuary and used in our analysis
  - ~32% of new entrants are assumed to elect the pension plan with 75% of Special Risk new entrants electing the pension plan and 25% of new entrants from other groups electing the pension plan
- Actual asset experience was factored in using an asset value of $177.7 billion as of December 31, 2022

Actuarial Assumptions and Methods

Blended Contribution Rate

Combined projected contributions for both the FRS Pension Plan and the FRS Investment Plan as percentage of total system payroll

Blended Employer Contribution Rate is less than Pension Plan Employer Contribution Rate since UAL amortization is divided by total payroll rather than pension-only payroll

Penson Plan Employer Normal Cost Rate[1] + UAL Contribution Rate = **Pension Plan Employer Contribution Rate**

Blended Employer Normal Cost Rate + **Blended UAL Contribution Rate** = **Blended Employer Contribution Rate**

Blended Employer Normal Cost Rate

$$\frac{\underbrace{\text{(Employer Normal Cost Rate}^{1}\text{ x Payroll)}}_{\text{Pension Plan}} + \underbrace{\text{(Employer Rates x Payroll)}}_{\text{Investment Plan}}}{\text{Total System Payroll}}$$

Blended UAL Contribution Rate

$$\frac{\underbrace{\text{(UAL Rate x UAL Payroll)}}_{\text{Pension Plan}}}{\text{Total System Payroll}}$$

[1] Net of expected employee contribution rate of 3.00%

Current Target Asset Allocation

Unpacking the Strategic Investment allocation to see current portfolio exposures

Target Policy per IPS	Allocation
Global Equity	53%
Private Equity	6%
Real Estate	10%
Strategic Investments	**12%**
Intermediate Aggregate Fixed Income	18%
Cash	1%
Total	100%

Strategic Investment Allocation	Allocation
Commodities	0.38%
Global Public Equities	1.05%
Hedge Funds - Buy List (Diversified Portfolio of Direct HFs)	1.67%
Hedge Funds - CTAs (Buy List)	0.99%
Hedge Funds - Distressed Debt (Buy List)	0.45%
Hedge Funds - Equity Long/Short (Buy List)	0.27%
Hedge Funds - Event Driven (Buy List)	0.14%
Hedge Funds - Global Macro (Buy List)	0.24%
Infrastructure	1.29%
Insurance-Linked Securities (ILS)	0.57%
Non-Core Real Estate	0.33%
Private Debt - Commercial Mortgages	0.33%
Private Debt - Direct Lending	0.86%
Private Equity	0.88%
Private Equity - Distressed Debt	1.41%
Private Equity - Mezzanine	0.78%
Timberland	0.34%
Total	12.00%

=

Unpacked Policy Grouped within Aon's Building Blocks	Allocation
Equity	
- Global Equity	54.05%
- Private Equity	9.07%
- *Subtotal*	*63.12%*
Return-Seeking Fixed Income	
- Private Debt	1.20%
- *Subtotal*	*1.20%*
Liquid Alternatives	
- Hedge Funds	3.77%
- ILS	0.57%
- *Subtotal*	*4.34%*
Real Assets	
- Real Estate (Core)	7.65%
- Real Estate (Non-Core)	1.68%
- Real Estate (REITs)	1.00%
- Commodities	0.38%
- Infrastructure	1.29%
- Timberland	0.34%
- *Subtotal*	*12.34%*
Safety Assets	
- Intermediate Aggregate	18.00%
- Cash	1.00%
- *Subtotal*	*19.00%*
Total	**100.00%**

Percentages may not sum to total due to rounding.

Custom SBA Capital Market Assumptions

Inputs to mean-variance optimization as of 12/31/2022

	Correlations																
Nominal Correlations	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**
1 Global Equity IMI	**1.00**	0.09	-0.01	-0.07	0.02	0.65	0.52	0.64	0.37	0.48	0.49	0.63	0.35	0.03	0.39	0.02	0.11
2 Cash (Gov't)	0.09	**1.00**	0.44	0.54	0.49	0.05	-0.01	0.10	0.17	0.16	0.20	0.10	0.15	0.10	-0.25	0.29	0.45
3 Core Fixed Income	-0.01	0.44	**1.00**	0.95	0.98	0.17	-0.01	0.01	0.05	0.04	0.04	0.01	0.05	0.00	-0.09	0.13	0.02
4 Intermediate Gov't Bonds (4-Year Duration)	-0.07	0.54	0.95	**1.00**	0.91	-0.03	-0.16	-0.02	0.04	0.02	0.05	-0.04	0.03	0.01	-0.31	0.16	0.07
5 Intermediate Corporate Bonds (4-Year Duration)	0.02	0.49	0.98	0.91	**1.00**	0.22	0.04	0.03	0.07	0.06	0.06	0.03	0.06	0.01	-0.03	0.15	0.06
6 Multi-Asset Credit	0.65	0.05	0.17	-0.03	0.22	**1.00**	0.56	0.39	0.22	0.29	0.38	0.40	0.22	0.03	0.66	0.02	0.11
7 Direct Hedge Funds	0.52	-0.01	-0.01	-0.16	0.04	0.56	**1.00**	0.34	0.17	0.23	0.26	0.33	0.19	0.01	0.46	0.00	0.04
8 US REITs	0.64	0.10	0.01	-0.02	0.03	0.39	0.34	**1.00**	0.44	0.47	0.29	0.44	0.24	0.02	0.23	0.02	0.08
9 Core Real Estate	0.37	0.17	0.05	0.04	0.07	0.22	0.17	0.44	**1.00**	0.96	0.11	0.32	0.19	0.02	0.12	0.05	0.11
10 Non-Core Real Estate	0.48	0.16	0.04	0.02	0.06	0.29	0.23	0.47	0.96	**1.00**	0.18	0.38	0.22	0.02	0.17	0.04	0.11
11 Commodities	0.49	0.20	0.04	0.05	0.06	0.38	0.26	0.29	0.11	0.18	**1.00**	0.14	0.10	0.09	0.16	0.06	0.41
12 Private Equity	0.63	0.10	0.01	-0.04	0.03	0.40	0.33	0.44	0.32	0.38	0.14	**1.00**	0.33	0.01	0.28	0.03	0.08
13 Infrastructure	0.35	0.15	0.05	0.03	0.06	0.22	0.19	0.24	0.19	0.22	0.10	0.33	**1.00**	0.02	0.13	0.05	0.09
14 Timber	0.03	0.10	0.00	0.01	0.01	0.03	0.01	0.02	0.02	0.02	0.09	0.01	0.02	**1.00**	0.00	0.03	0.22
15 Private Debt	0.39	-0.25	-0.09	-0.31	-0.03	0.66	0.46	0.23	0.12	0.17	0.16	0.28	0.13	0.00	**1.00**	-0.07	-0.03
16 Insurance Linked Securities	0.02	0.29	0.13	0.16	0.15	0.02	0.00	0.02	0.05	0.04	0.06	0.03	0.05	0.03	-0.07	**1.00**	0.13
17 Inflation	0.11	0.45	0.02	0.07	0.06	0.11	0.04	0.08	0.11	0.11	0.41	0.08	0.09	0.22	-0.03	0.13	**1.00**

Aon's Capital Market Assumptions
Background

- Long-term (10- and 30-year forecasts) forward-looking assumptions (asset class geometric return, volatility, and correlations)
- Building Block approach, primarily based on consensus expectations and market-based inputs
- Best estimates of annualized returns (50/50 better or worse)
- Market returns: no active management value added (except for certain assets classes, such as hedge funds)
- Net of investment fees
- Updated quarterly
- We show Aon's long-term (i.e., 30-year) capital market assumptions throughout this material

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Aon's Capital Market Assumption Framework

Building Block Approach

Expected return estimates for equity and fixed income are developed using a building block approach

Expected returns based on observable information in the equity and fixed income markets and consensus estimates for major economic and capital market inputs, such as earnings and inflation

Where necessary, judgment-based modifications are made to these inputs

Return assumptions for other asset classes are based on historical results, current market characteristics, and professional judgment from our specialist research teams

Example: Public Equities

INCOME (Earnings Yield x Sustainable Payout Ratio)	+	**GROWTH** (Real EPS Growth)	+	**INFLATION**	=	**TOTAL** (Equity Return)
Earnings yield moves directly with market; Sustainable payout ratio is a constant and based on Aon's assumptions		Based on Aon's in-house trend analysis, I/B/E/S estimates and Consensus Economics		Based on consensus forecasts; Primary source is Consensus Economics		FORWARD LOOKING ASSUMPTION

Aon Investments’ Capital Market Assumptions

Explanation of Capital Market Assumptions—12/31/2022

The following capital market assumptions were developed by Aon's Global Asset Allocation Team and represent the long-term capital market outlook (i.e., 10 years) based on data at the end of the fourth quarter of 2022. The assumptions were developed using a building block approach, reflecting observable inflation and interest rate information available in the fixed income markets as well as Consensus Economics forecasts. Our long-term assumptions for other asset classes are based on historical results, current market characteristics, and our professional judgment. Expected returns are using Aon 10 Year Capital Market Assumptions as of 12/31/2022. CMAs contain projections about future returns on asset classes. Our CMA projections are designed to reflect the typical cost of implementing an investment program. Expected returns are calculated using weighted allocations of the underlying CMAs. Expected Returns are geometric (long-term compounded; rounded to the nearest decimal) assuming portfolio weights are rebalanced annually. Expected returns presented are models and do not represent the returns of an actual client account. Your actual returns will be reduced by your advisory fees and other expenses you may incur as a client. Aon's advisory fees are described in Part 2A of Aon's Form ADV. Not a guarantee of future results.

Inflation – Expected Level (2.4%)

Based on Consensus Economics long-term estimates and our near-term economic outlook, we expect U.S. consumer price inflation to be approximately 2.4% during the next 10 years.

Real Returns for Asset Classes

Fixed Income		
Cash	1.5%	Over the long run, we expect the real yield on cash and money market instruments to produce a real return of 1.5% in a moderate to high-inflationary environment.
TIPS	1.7%	We expect intermediate duration Treasury Inflation-Protected Securities to produce a real return of about 1.7%.
Core Fixed Income (i.e., Market Duration)	2.1%	We expect intermediate duration Treasuries to produce a real return of about 1.6%. We estimate the fair value credit spread (credit risk premium - expected losses from defaults and downgrades) to be 0.5%, resulting in a long-term real return of 2.1%.

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Aon Investments’ Capital Market Assumptions

Explanation of Capital Market Assumptions—12/31/2022

Fixed Income		
Core Plus Bonds	2.5%	Modeled as 20% 5 duration gov’t bonds real return of 1.6% and 80% 5 duration corporate bonds real return of 2.8%.
Long Duration Bonds – Government and Credit	3.0%	We expect Treasuries with a duration of ~14 to produce a real return of 2.4%. We estimate the fair value credit spread (credit risk premium - expected losses from defaults and downgrades) to be 0.6%, resulting in an expected real return of 3.0%.
Long Duration Bonds – Credit	3.4%	We expect Treasuries with a duration of ~12 years comparable to produce a real return of 2.4%. We estimate the fair value credit spread (credit risk premium - expected losses from defaults and downgrades) to be 1.0%, resulting in an expected real return of 3.4%.
Long Duration Bonds – Government	2.4%	We expect Treasuries with a duration of ~16 years to produce a real return of 2.4% during the next 10 years.
High Yield Bonds	3.8%	We expect intermediate duration Treasuries to produce a real return of about 1.6%. We estimate the fair value credit spread (credit risk premium - expected losses from defaults and downgrades) to be 2.2%, resulting in an expected real return of 3.8%.
Bank Loans	4.1%	We expect LIBOR to produce a real return of about 1.8%. We estimate the fair value credit spread (credit risk premium - expected losses from defaults) to be 2.3%, resulting in an expected real return of 4.1%.
Non-U.S. Developed Bonds: 50% Hedged	1.6%	We forecast real returns for non-US developed market bonds to be 1.6% over a 10-year period after adjusting for a 50% currency hedge. We assume a blend of one-third investment grade corporate bonds and two-thirds government bonds. We also produce assumptions for 0% hedged and 100% hedged non-US developed bonds.
Emerging Market Bonds (Sovereign; USD)	4.6%	We forecast real returns for emerging market sovereign bonds denominated in US dollars to be 4.6% over a 10-year period.
Emerging Market Bonds (Corporate; USD)	3.5%	We forecast real returns for emerging market corporate bonds denominated in US dollars to be 3.5% over a 10-year period.
Emerging Market Bonds (Sovereign; Local)	3.7%	We forecast real returns for emerging market sovereign bonds denominated in local currency to be 3.7% over a 10-year period.

Aon Investments' Capital Market Assumptions

Explanation of Capital Market Assumptions—12/31/2022

Multi-Asset Credit (MAC)	4.8%	We assume real returns from beta exposure to high yield, bank loans and emerging market debt to add 4.0% plus 0.8% from alpha (net of fees) over a 10-year period.
Private Debt-Direct Lending	6.0%	The base building block is bank loans 4.1% + spread 1.9% (net of management fees and performance incentives). There is 100% leverage included in the assumption with the cost of financing at LIBOR +2.5%.
Equities		
Large Cap US. Equity	4.5%	This assumption is based on our 10-year outlook for large cap U.S. company dividends and real earnings growth. Adjustments are made for valuations as needed.
Small Cap U.S. Equity	4.7%	Adding a 0.2% return premium for small cap U.S. equity over large cap U.S. equity results in an expected real return of 4.7%. This return premium is theoretically justified by the higher risk inherent in small cap U.S. equity versus large cap U.S. equity and is also justified by historical data. In recent years, higher small cap valuations relative to large cap equity has reduced the small cap premium.
Global Equity (Developed & Emerging Markets	5.0%	We employ a building block process similar to the U.S. equity model using the developed and emerging markets that comprise the MSCI All-Country World Index. Our roll-up model produces an expected real return of 5.0% for global equity.
International (Non-U.S.) Equity, Developed Markets	4.9%	We employ a building block process similar to the U.S. equity model using the non-U.S. developed equity markets that comprise the MSCI EAFE Index.
Emerging Market Stocks	5.3%	We employ a building block process similar to the U.S. equity model using the non-U.S. emerging equity markets that comprise the MSCI Emerging Markets Index.
Equity Risk Insurance Premium Strategies-High Beta	3.6%	We expect real returns from 50% equity + 50% cash of 3.4% plus 0.2% insurance risk premium over the next 10 years.

Aon Investments' Capital Market Assumptions

Explanation of Capital Market Assumptions—12/31/2022

Alternative Asset Classes		
Hedge Fund-of-Funds Universe	2.3%	The generic category "hedge funds" encompasses a wide range of strategies accessed through "fund-of-funds" vehicles. We also assume the median manager is selected and also allow for the additional costs associated with Fund-of-Funds management. A top-tier portfolio of funds (hedge fund-of-funds buy-list) could add an additional 1.2% in return at similar volatility based on alpha, lower fees and better risk management.
Hedge Fund-of-Funds Buy List	3.5%	The generic category of top-tier "hedge funds" encompasses a wide range of strategies accessed through "fund-of-funds" vehicles. We assume additional costs associated with Funds-of-Funds management. To use this category the funds must be buy rated or we advise on manager selection.
Broad Hedge Funds Universe	3.8%	Represents a diversified portfolio of direct hedge fund investments. This investment will tend to be less diversified than a typical "fund-of-funds" strategy as there will be fewer underlying managers and will not include the extra layer of fees found in a Fund-of-Funds structure.
Broad Hedge Funds Buy List	5.2%	Represents a diversified portfolio of top-tier direct hedge fund investments. This investment will tend to be less diversified than a typical "fund-of-funds" strategy as there will be fewer underlying managers and will not include the extra layer of fees found in a Fund-of-Funds structure. To use this category the funds must be buy rated or we advise on manager selection.
Core Real Estate	2.8%	Our real return assumption for core real estate is based a gross income of about 3.2%, management fees of roughly 1%, 25% leverage and future capital appreciation near the rate of inflation during the next 10 years. We assume a portfolio of equity real estate holdings that is diversified by property and by geographic region.
Non-Core Real Estate	4.7%	Core real estate is levered approximately 100% as the base building block for this assumption. We subtract financing costs for the leverage and 2% management costs. We also assume nominal alpha of 2% over core real estate. We assume a 50/50 mix of value-add and opportunistic investments.
U.S. REITs	4.8%	Our real return assumption for U.S. REITs is based on income of about 4.0% and future capital appreciation near the rate of inflation during the next 10 years. REITs are a sub-set of U.S. small/mid cap equity universe.

Aon Investments' Capital Market Assumptions

Explanation of Capital Market Assumptions—12/31/2022

Commodities	4.2%	Our commodity assumption is for a diversified portfolio of commodity futures contracts. Commodity futures returns are composed of three parts: spot price appreciation, collateral return, and roll return (positive or negative change implied by the shape of the future curve). We believe that spot prices will converge with CPI over the long run (i.e., 2.4%). Collateral is assumed to be LIBOR cash (1.8%). Also, we believe the roll effect will be near zero, resulting in a real return of about 4.2% for commodities.
Private Equity	7.1%	Our private equity assumption reflects a diversified fund of funds with exposure to buyouts, venture capital, distressed debt, and mezzanine debt.
Infrastructure	4.6%	Our infrastructure assumption is formulated using a cash flow-based approach that projects cash flows (on a diversified portfolio of assets) over a 10-year period. Income and capital growth as well as gearing levels, debt costs and terms, relevant tax and management expenses are all taken into consideration. Our approach produces an expected real return of 4.6% for infrastructure.
Equity Risk Insurance Premium Strategies-Low Beta	3.9%	We assume real returns from cash 1.5% + 2.4% alpha.
Alternative Risk Premia (ARP)	5.7%	Real LIBOR 1.8% plus 3.9% alpha (net of fees)
eLDI	3.6%	Combination of various long credit strategies (1/6 real estate debt, 1/3 securitized debt, 1/6 CMOs, 1/3 private placements).
Closed-end Real Assets	5.4%	Combination of 50% Non-Core Real Estate and 50% Infrastructure.

Volatility/Correlation Assumptions

Assumed volatilities are formulated with reference to implied volatilities priced into option contracts of various terms, as well as with regard to historical volatility levels. For asset classes which are not marked to market (for example real estate), we "de-smooth" historical returns before calculating volatilities. Importantly, we consider expected volatility trends in the future – in recent years we assumed the re-emergence of an economic cycle and a loss of confidence in central bankers would lead to an increase in volatility. Correlation assumptions are generally similar to actual historical results; however, we do make adjustments to reflect our forward-looking views as well as current market fundamentals.

Liquidity Analysis Detail

Section: Appendix

Liquidity Analysis
Background

Florida Retirement System's (FRS) liquidity analysis is performed under the modeled Current Policy and Alternative Policy (with up to 26% Alternative assets)

Intended as a stress-testing model, incorporating the profile of the liabilities as well as expected future contributions

Uses different scenarios for economic environments and other relevant events

Shows how the portfolio's liquidity profile could evolve with a given investment strategy

We categorized investments by liquidity into five buckets

Liquid (Risk-Reducing Assets): less than 3 months needed for return of capital (e.g. publicly traded securities)

Liquid (Return-Seeking Assets): less than 3 months needed for return of capital (e.g. publicly traded securities)

Quasi-Liquid: Typical lock-up of 3–12 months. Conservatively, we assumed a 1-year lock-up in most economic environments, 2 years in a Recession scenario, and 3 years in a Dark Skies scenario (e.g. many hedge funds, open-end real assets)

Illiquid: Potential lock-up of 5–10 years, depending on economic environment (e.g. closed-end real assets)

Illiquid: Potential lock-up of 10+ years (e.g. typical private equity)

This is intended to be a conservative approximation of the actual liquidity properties of the assets

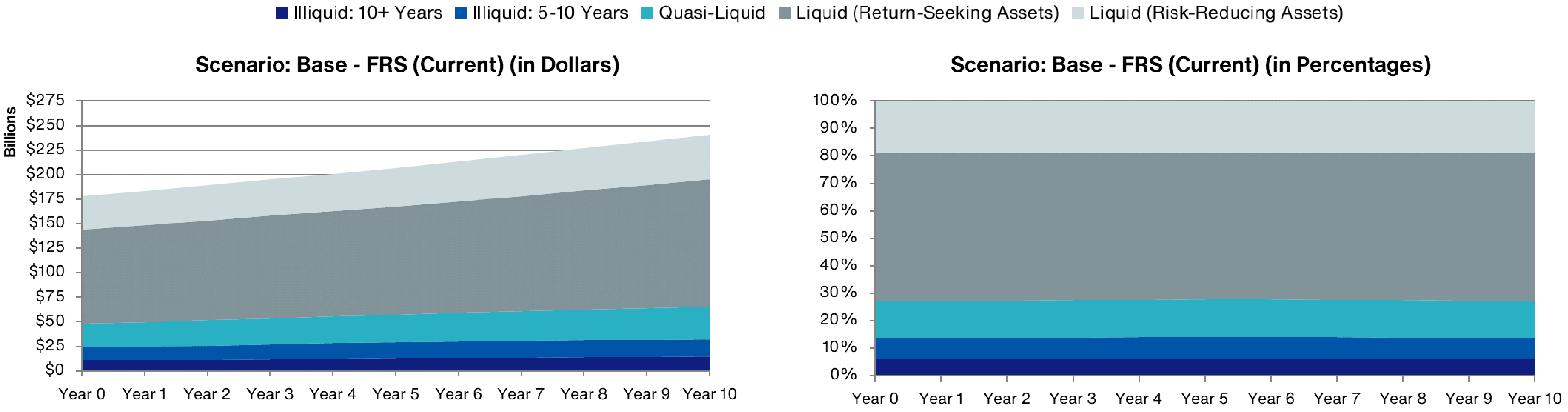
Liquidity Analysis
Assumptions

Assumptions

- Starting assets based on the reported December 31, 2022 ($177.7 billion)
- The plan's contribution policy is actuarially-based, leveraging asset-liability study projections based on the July 1, 2022 actuarial valuation report
- Assumes the portfolio starts at the target asset allocation levels for illiquid assets, maintaining close to the portfolio targets over the next 10 years

Liquidity Analysis | Current Policy
Base Case Economic Scenario

The exhibit below shows the projected liquidity lock-up of the Current Policy allocation in the Base Case economic scenario, assuming commitments are continued as expected



Key Takeaway:

- Total illiquid and quasi-liquid assets are projected to stay near 27% of the Plan and can be maintained near the target with no cash flow problems

Note: Year 0 represents a starting point of December 31, 2022

Liquidity Analysis | Current Policy

Base Case Economic Scenario

The exhibit below shows the projected liquidity lock-up of the Current Policy allocation in the Base Case economic scenario, assuming commitments are continued as expected

Asset Allocation	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Risk-Reducing Assets	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%
Liquid Return-Seeking	54	54	54	54	53	53	53	53	54	54	54
Total Liquid	**73%**	**73%**	**73%**	**73%**	**72%**	**72%**	**72%**	**72%**	**73%**	**73%**	**73%**
Quasi-Liquid	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
Illiquid: 5-10 Year Lock-up	7	7	8	8	8	8	8	8	8	8	7
Illiquid: 10+ Year Lock-up	6	6	6	6	6	6	6	6	6	6	6
Total Quasi + Illiquid	**27%**	**27%**	**27%**	**27%**	**28%**	**28%**	**28%**	**28%**	**27%**	**27%**	**27%**

Other Metrics	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Funded Ratio (MVA / AL)	81%	81%	82%	83%	84%	85%	86%	87%	89%	90%	91%
Total Contribution Amt (in $B)	$5.3	$5.7	$5.9	$6.0	$6.2	$6.3	$6.5	$6.7	$6.8	$6.9	$7.1

Note: Year 0 represents a starting point of December 31, 2022; Percentages may not sum to 100% due to rounding

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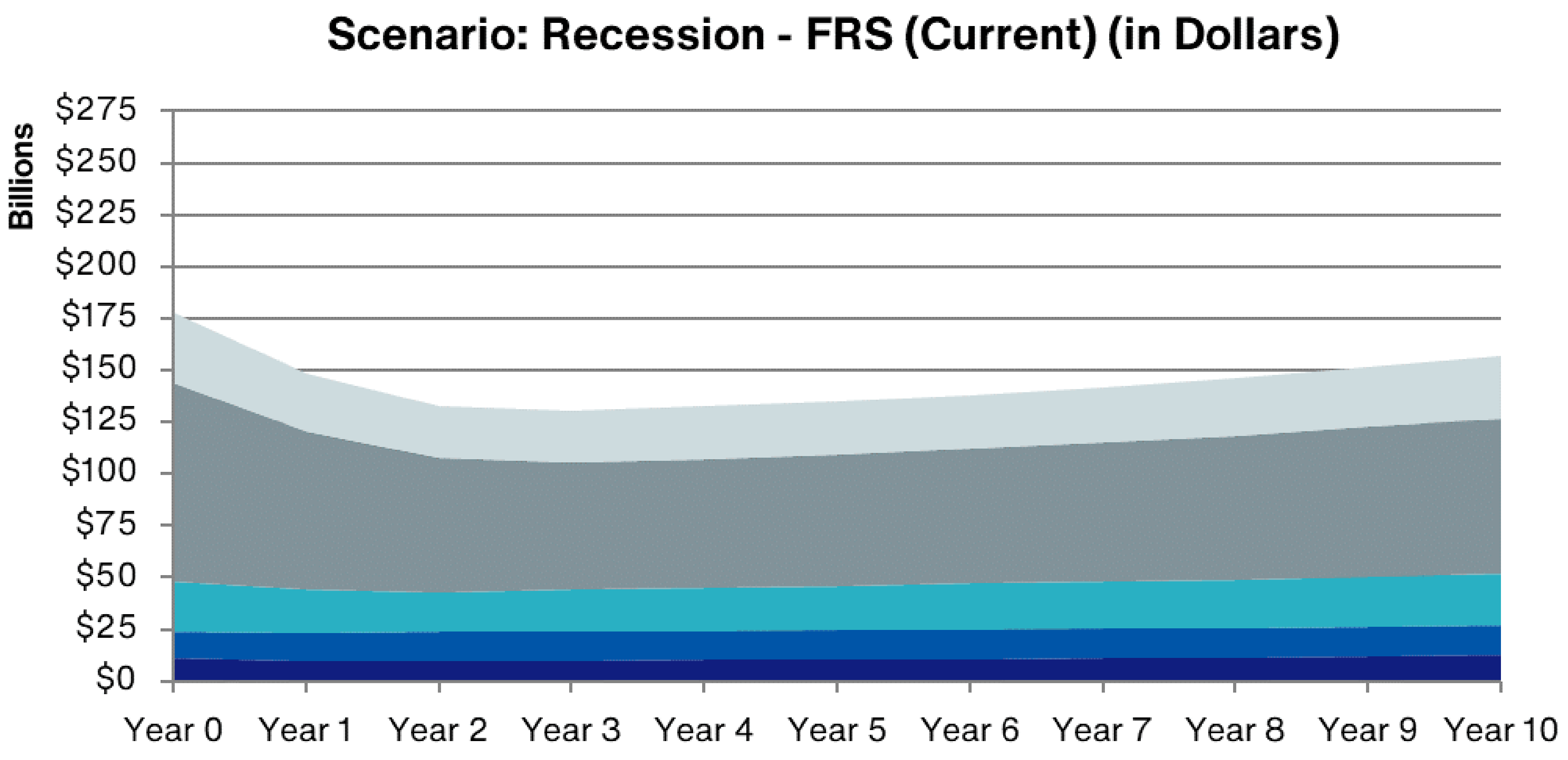
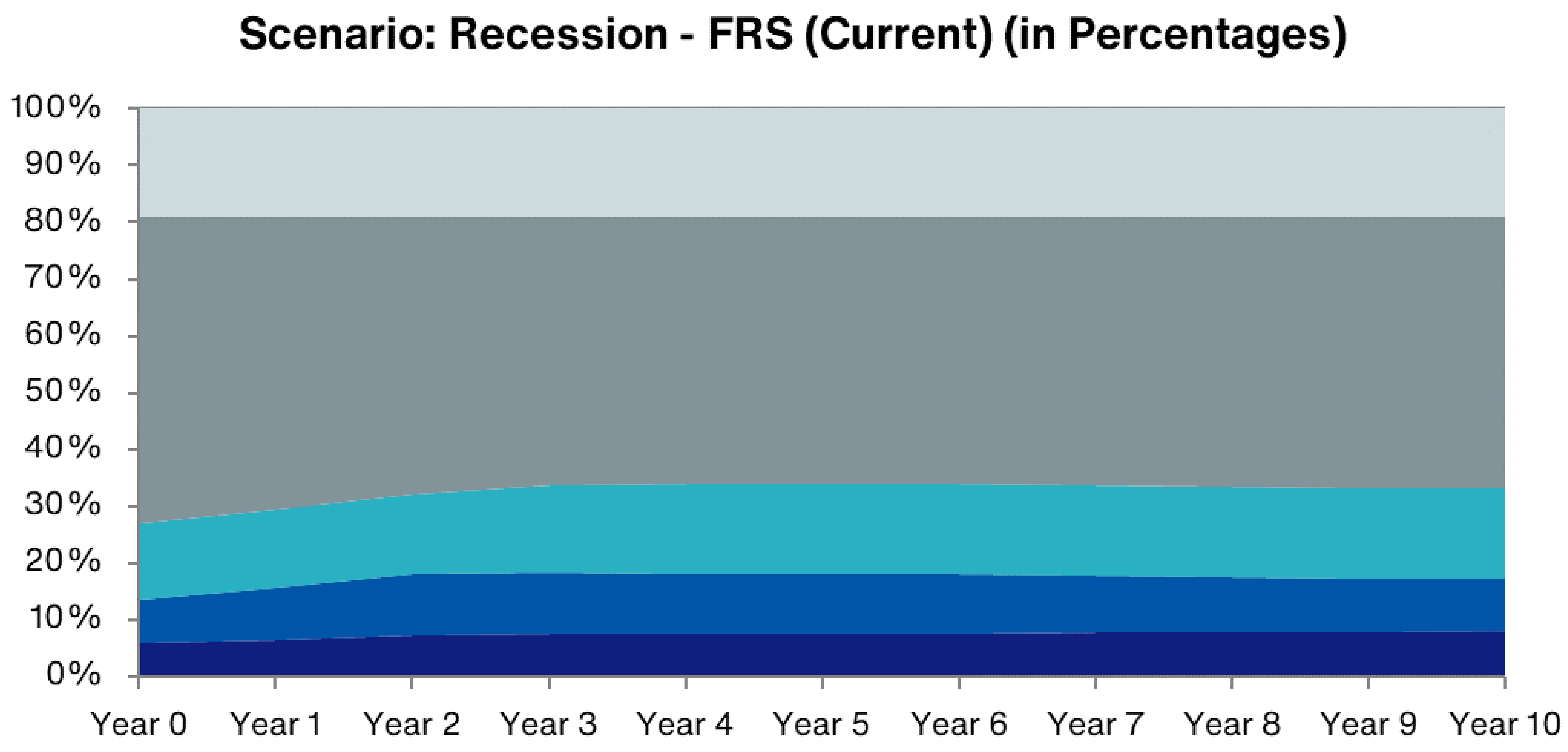
Liquidity Analysis | Current Policy

Recession Economic Scenario

The exhibit below shows the projected liquidity lock-up of the Current Policy allocation in the Recession economic scenario, assuming commitments are continued as expected

■ Illiquid: 10+ Years ■ Illiquid: 5-10 Years ■ Quasi-Liquid ■ Liquid (Return-Seeking Assets) ■ Liquid (Risk-Reducing Assets)





Key Takeaways:

- Commitments to illiquid alternatives are maintained at the steady state level, but recessionary markets cause the total portfolio to shrink
- Total illiquid and quasi-liquid assets are projected to reach as high as 34% of the Plan due to shrinking market value of the total Plan in this scenario
- There would not be a concern with the ability to pay benefits
- FRS may need to redeem some quasi-liquid assets to stay close to its target allocation

Note: Year 0 represents a starting point of December 31, 2022

AON

Liquidity Analysis | Current Policy

Recession Economic Scenario

The exhibit below shows the projected liquidity lock-up of the Current Policy allocation in the Recession economic scenario, assuming commitments are continued as expected

Asset Allocation	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Risk-Reducing Assets	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%
Liquid Return-Seeking	54	51	49	47	47	47	47	47	48	48	48
Total Liquid	**73%**	**70%**	**68%**	**66%**	**66%**	**66%**	**66%**	**66%**	**67%**	**67%**	**67%**
Quasi-Liquid	14%	14%	14%	15%	16%	16%	16%	16%	16%	16%	16%
Illiquid: 5-10 Year Lock-up	7	9	11	11	11	11	10	10	10	9	9
Illiquid: 10+ Year Lock-up	6	6	7	7	8	8	8	8	8	8	8
Total Quasi + Illiquid	**27%**	**30%**	**32%**	**34%**	**34%**	**34%**	**34%**	**34%**	**33%**	**33%**	**33%**

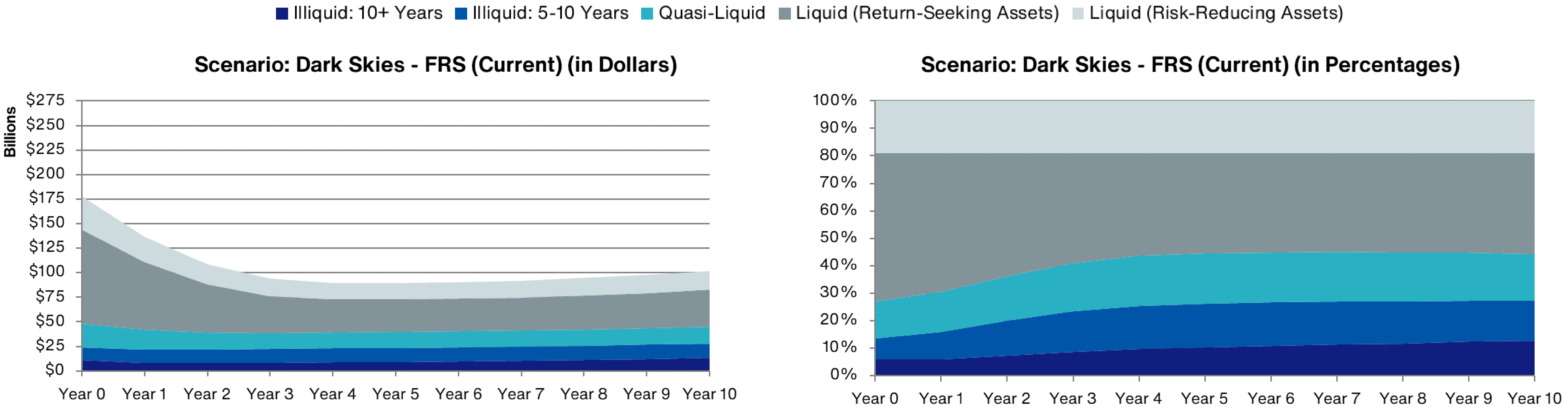
Other Metrics	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Funded Ratio (MVA / AL)	81%	66%	58%	56%	56%	56%	56%	57%	57%	58%	59%
Total Contribution Amt (in $B)	$5.3	$5.8	$6.8	$8.1	$9.0	$9.6	$10.3	$11.0	$11.6	$12.2	$12.7

Note: Year 0 represents a starting point of December 31, 2022; Percentages may not sum to 100% due to rounding

Liquidity Analysis | Current Policy

Dark Skies Economic Scenario

The exhibit below shows the projected liquidity lock-up of the Current Policy allocation in the Dark Skies economic scenario, assuming commitments are continued as expected



Key Takeaways:

- Commitments to illiquid alternatives are maintained at the steady state level, but subpar markets cause the total portfolio to shrink
- Total illiquid and quasi-liquid assets are projected to reach as high as 45% of the Plan due to shrinking market value of the total Plan in this scenario
- There would not be a concern with the ability to pay benefits
- FRS may need to redeem some quasi-liquid assets and/or pare back future commitments to stay closer to the target allocation

Note: Year 0 represents a starting point of December 31, 2022

Liquidity Analysis | Current Policy

Dark Skies Economic Scenario

The exhibit below shows the projected liquidity lock-up of the Current Policy allocation in the Dark Skies economic scenario, assuming commitments are continued as expected

Asset Allocation	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Risk-Reducing Assets	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%
Liquid Return-Seeking	54	51	45	40	37	37	36	36	36	36	37
Total Liquid	**73%**	**70%**	**64%**	**59%**	**56%**	**56%**	**55%**	**55%**	**55%**	**55%**	**56%**
Quasi-Liquid	14%	15%	16%	17%	18%	18%	18%	18%	18%	17%	17%
Illiquid: 5-10 Year Lock-up	7	10	13	15	16	16	16	16	15	15	14
Illiquid: 10+ Year Lock-up	6	6	7	9	10	10	11	11	12	12	13
Total Quasi + Illiquid	**27%**	**30%**	**36%**	**41%**	**44%**	**44%**	**45%**	**45%**	**45%**	**45%**	**44%**

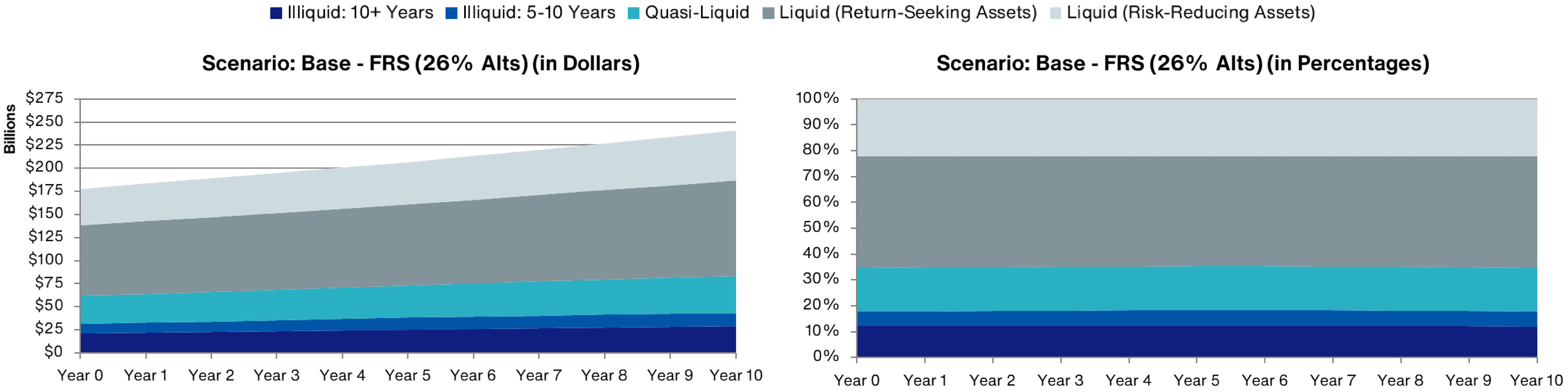
Other Metrics	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Funded Ratio (MVA / AL)	81%	61%	47%	40%	38%	37%	37%	37%	37%	38%	39%
Total Contribution Amt (in $B)	$5.3	$5.7	$7.4	$10.1	$11.8	$12.8	$13.6	$14.4	$15.3	$16.1	$16.9

Note: Year 0 represents a starting point of December 31, 2022; Percentages may not sum to 100% due to rounding

Liquidity Analysis | Alternative Policy

Base Case Economic Scenario

The exhibit below shows the projected liquidity lock-up of the Alternative Policy allocation in the Base Case economic scenario, assuming commitments are continued as expected



Key Takeaway:

- Total illiquid and quasi-liquid assets are projected to stay near 35% of the Plan and can be maintained near the target with no cash flow problems

Note: Year 0 represents a starting point of December 31, 2022

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Liquidity Analysis | Alternative Policy
Base Case Economic Scenario

The exhibit below shows the projected liquidity lock-up of the Alternative Policy allocation in the Base Case economic scenario, assuming commitments are continued as expected

Asset Allocation	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Risk-Reducing Assets	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%
Liquid Return-Seeking	43	43	43	43	42	42	42	43	43	43	43
Total Liquid	**65%**	**65%**	**65%**	**65%**	**65%**	**65%**	**65%**	**65%**	**65%**	**65%**	**65%**
Quasi-Liquid	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%
Illiquid: 5-10 Year Lock-up	6	6	6	6	6	6	6	6	6	6	6
Illiquid: 10+ Year Lock-up	12	12	12	12	12	12	12	12	12	12	12
Total Quasi + Illiquid	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**

Other Metrics	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Funded Ratio (MVA / AL)	81%	81%	82%	83%	84%	85%	86%	87%	89%	90%	91%
Total Contribution Amt (in $B)	$5.3	$5.7	$5.9	$6.0	$6.2	$6.3	$6.5	$6.7	$6.8	$6.9	$7.1

Note: Year 0 represents a starting point of December 31, 2022; Percentages may not sum to 100% due to rounding

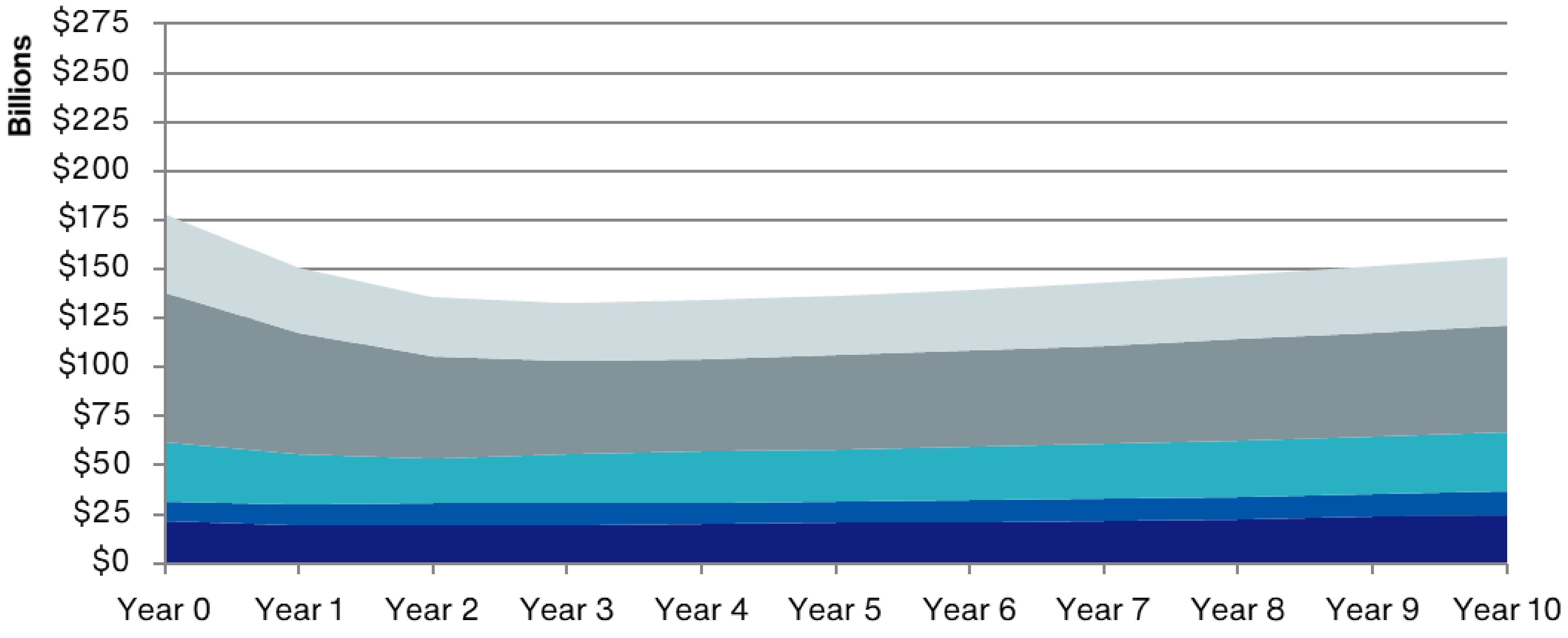
Liquidity Analysis | Alternative Policy

Recession Economic Scenario

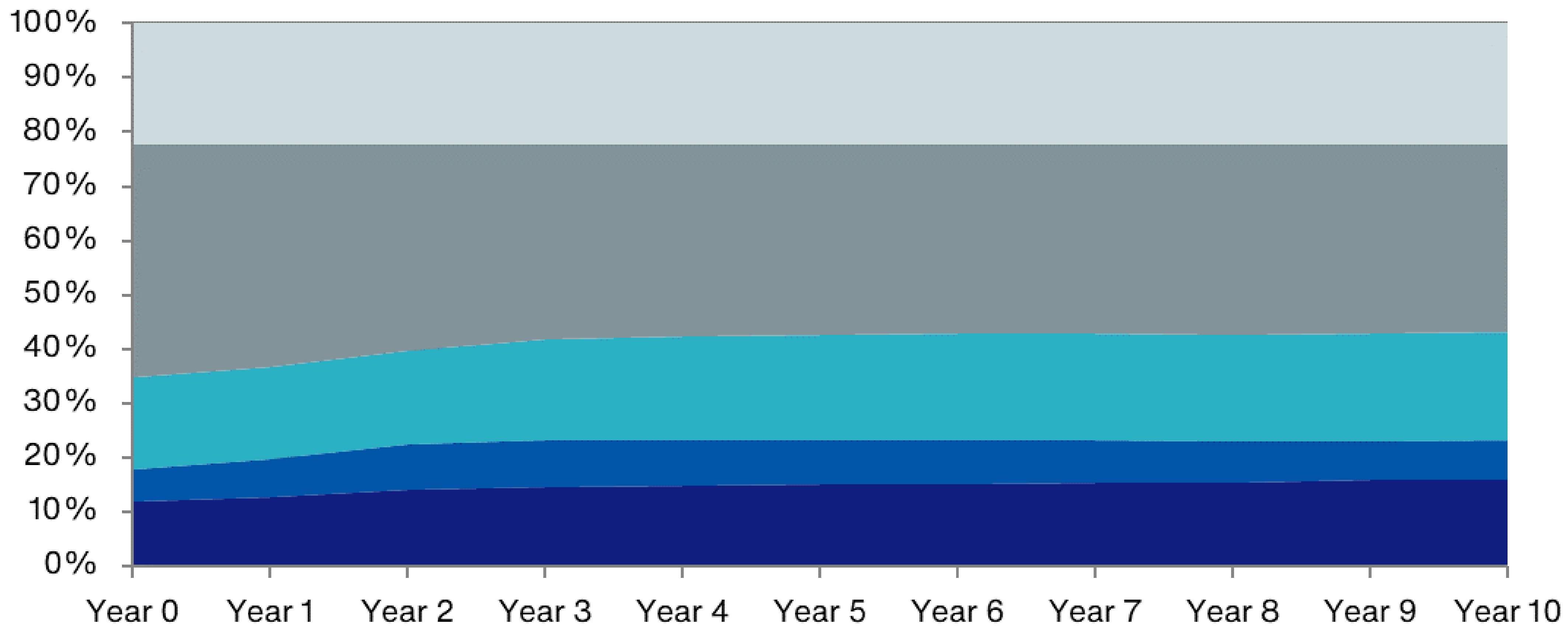
The exhibit below shows the projected liquidity lock-up of the Alternative Policy allocation in the Recession economic scenario, assuming commitments are continued as expected

Illiquid: 10+ Years | Illiquid: 5-10 Years | Quasi-Liquid | Liquid (Return-Seeking Assets) | Liquid (Risk-Reducing Assets)

Scenario: Recession - FRS (26% Alts) (in Dollars)



Scenario: Recession - FRS (26% Alts) (in Percentages)



Key Takeaways:

- Commitments to illiquid alternatives are maintained at the steady state level, but recessionary markets cause the total portfolio to shrink
- Total illiquid and quasi-liquid assets are projected to reach as high as 43% of the Plan due to shrinking market value of the total Plan in this scenario
- There would not be a concern with the ability to pay benefits
- FRS may need to redeem some quasi-liquid assets to stay close to its target allocation

Note: Year 0 represents a starting point of December 31, 2022

Liquidity Analysis | Alternative Policy
Recession Economic Scenario

The exhibit below shows the projected liquidity lock-up of the Alternative Policy allocation in the Recession economic scenario, assuming commitments are continued as expected

Asset Allocation	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Risk-Reducing Assets	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%
Liquid Return-Seeking	43	41	38	36	35	35	35	35	35	35	35
Total Liquid	**65%**	**63%**	**60%**	**58%**	**58%**	**57%**	**57%**	**57%**	**57%**	**57%**	**57%**
Quasi-Liquid	17%	17%	17%	19%	19%	19%	20%	20%	20%	20%	20%
Illiquid: 5-10 Year Lock-up	6	7	8	8	8	8	8	8	8	7	7
Illiquid: 10+ Year Lock-up	12	13	14	15	15	15	15	15	15	16	16
Total Quasi + Illiquid	**35%**	**37%**	**40%**	**42%**	**42%**	**43%**	**43%**	**43%**	**43%**	**43%**	**43%**

Other Metrics	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Funded Ratio (MVA / AL)	81%	67%	59%	57%	56%	56%	56%	57%	58%	58%	59%
Total Contribution Amt (in $B)	$5.3	$5.7	$6.6	$7.9	$8.8	$9.4	$10.1	$10.8	$11.4	$12.0	$12.6

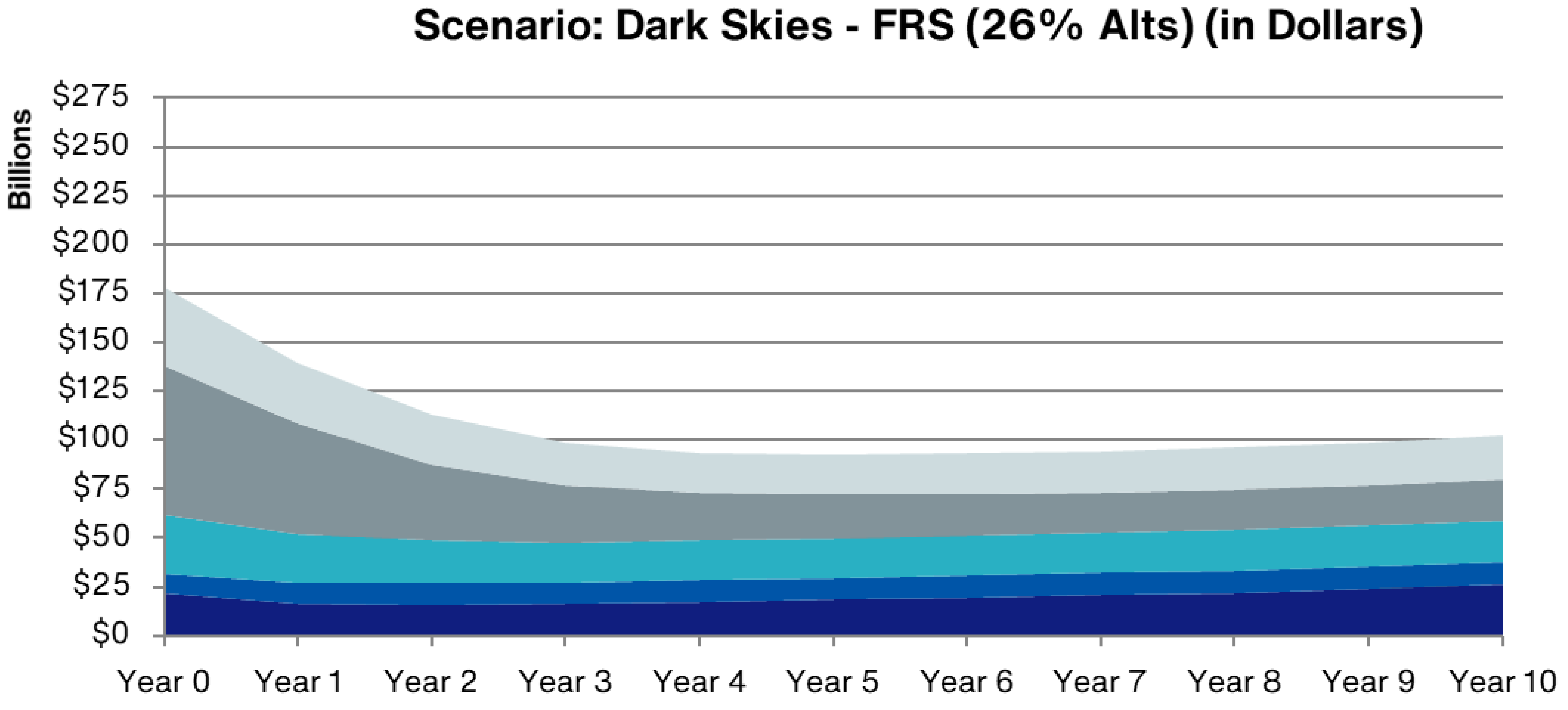
Note: Year 0 represents a starting point of December 31, 2022; Percentages may not sum to 100% due to rounding

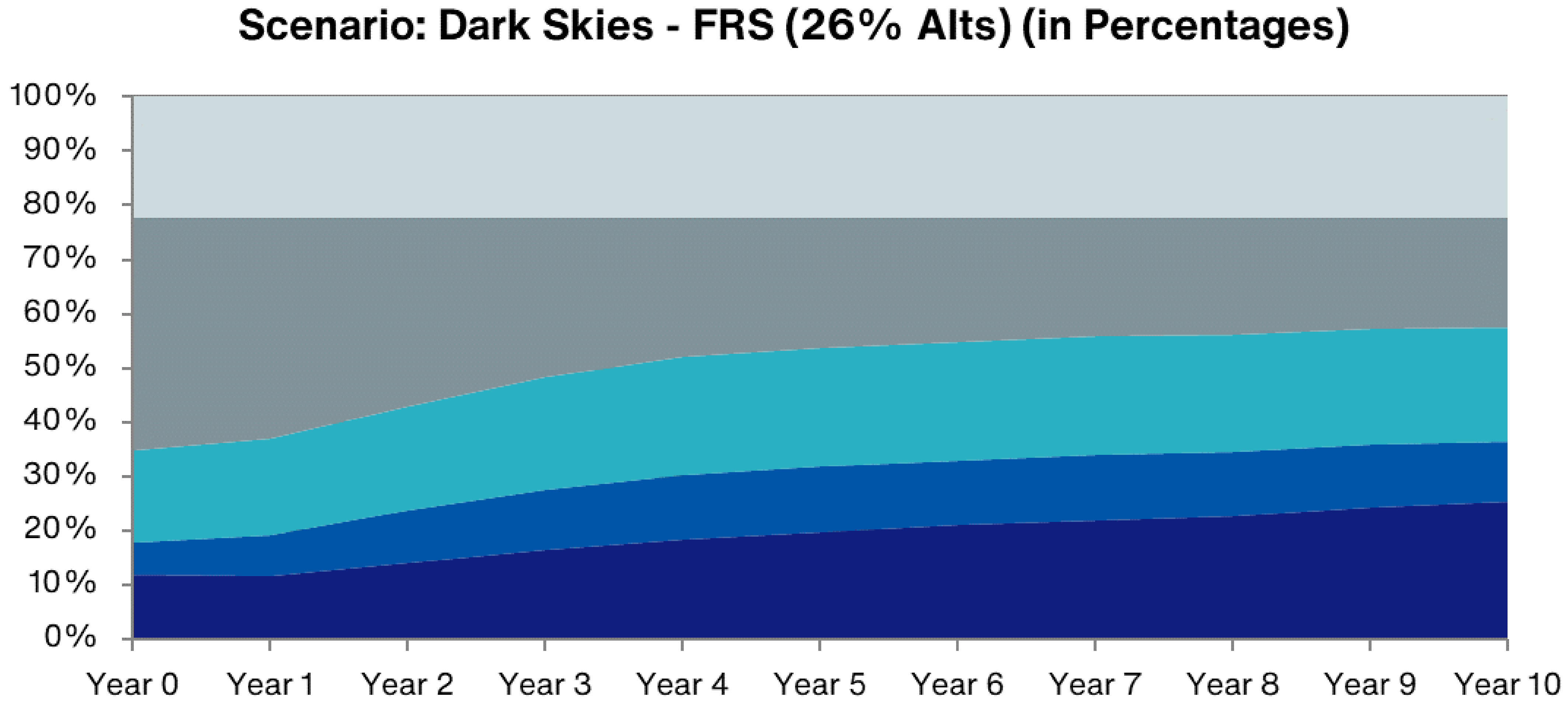
Liquidity Analysis | Alternative Policy

Dark Skies Economic Scenario

The exhibit below shows the projected liquidity lock-up of the Alternative Policy allocation in the Dark Skies economic scenario, assuming commitments are continued as expected

■ Illiquid: 10+ Years ■ Illiquid: 5-10 Years ■ Quasi-Liquid ■ Liquid (Return-Seeking Assets) ■ Liquid (Risk-Reducing Assets)





Key Takeaways:

- Commitments to illiquid alternatives are maintained at the steady state level, but subpar markets cause the total portfolio to shrink
- Total illiquid and quasi-liquid assets are projected to reach as high as 57% of the Plan due to shrinking market value of the total Plan in this scenario
- There would not be a concern with the ability to pay benefits
- FRS may need to redeem some quasi-liquid assets and/or pare back future commitments to stay closer to the target allocation

Note: Year 0 represents a starting point of December 31, 2022

Liquidity Analysis | Alternative Policy

Dark Skies Economic Scenario

The exhibit below shows the projected liquidity lock-up of the Alternative Policy allocation in the Dark Skies economic scenario, assuming commitments are continued as expected

Asset Allocation	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Risk-Reducing Assets	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%
Liquid Return-Seeking	43	41	35	29	26	24	23	22	22	21	20
Total Liquid	**65%**	**63%**	**57%**	**52%**	**48%**	**46%**	**45%**	**44%**	**44%**	**43%**	**43%**
Quasi-Liquid	17%	18%	19%	21%	22%	22%	22%	22%	22%	21%	21%
Illiquid: 5-10 Year Lock-up	6	8	10	11	12	12	12	12	12	12	11
Illiquid: 10+ Year Lock-up	12	12	14	16	18	20	21	22	23	24	25
Total Quasi + Illiquid	**35%**	**37%**	**43%**	**48%**	**52%**	**54%**	**55%**	**56%**	**56%**	**57%**	**57%**

Other Metrics	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Funded Ratio (MVA / AL)	81%	62%	49%	42%	39%	38%	38%	38%	38%	38%	39%
Total Contribution Amt (in $B)	$5.3	$5.7	$7.3	$9.7	$11.4	$12.4	$13.3	$14.1	$15.0	$15.8	$16.7

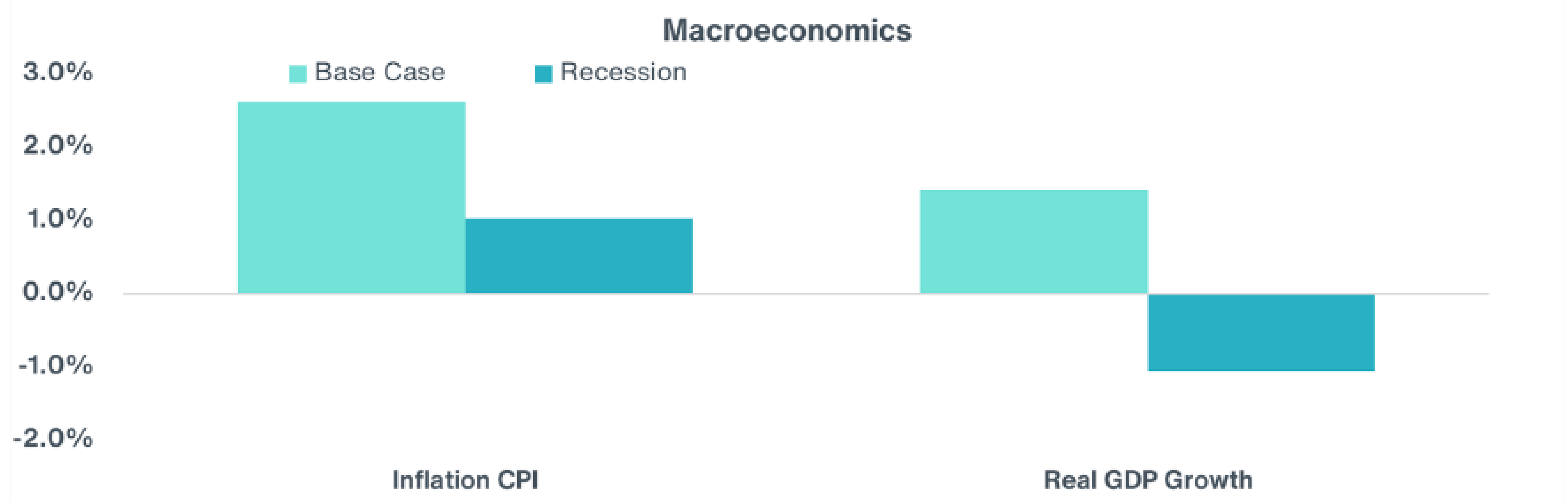
Note: Year 0 represents a starting point of December 31, 2022; Percentages may not sum to 100% due to rounding

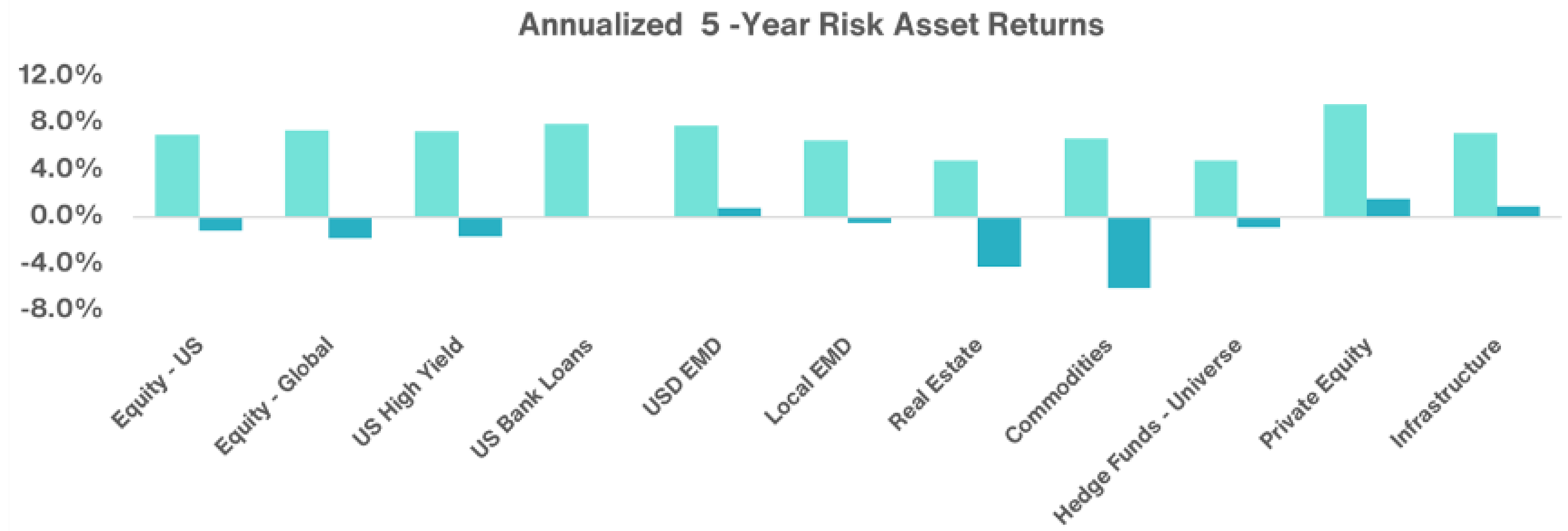
AON

Recession Scenario
Description

The US economy slips into recession in 2023

- Global growth is much weaker than the base case. Concerns that inflation will remain high for longer lead to central banks rapidly tightening monetary policies.
- Tightening financial conditions, combined with spill over effects from geopolitical volatility and reduced consumer and business spending, as real incomes are squeezed by high inflation, lead to a deep recession in the US in 2023.
- The economic slowdown leads to developed economies implementing modest fiscal stimulus measures and monetary policy becomes more accommodative as central banks are forced to reverse rate hikes within the next 12 months. Policy actions are only partially effective as they are tackling the demand side of the equation.
- Inflation is lower than the base case. However, inflation starts to rise in later years as the post-recession recovery gets underway.
- Treasury yields fall while TIPS yields remain at low levels as the US enters recession. Yields rise in later years as a recovery gets underway. Corporate spreads rise significantly due to the poor economic situation and increased risks of downgrades or defaults.
- Most risk assets make losses in the first two years but rebound in later years as the economy recovers.





Returns from 31 December 2022
Source: Aon
The opinions referenced are as of the date of publication and are subject to change due to changes in the market or economic conditions and may not necessarily come to pass. Information contained herein is for informational purposes only and should not be considered investment advice.

Recession Scenario
Data

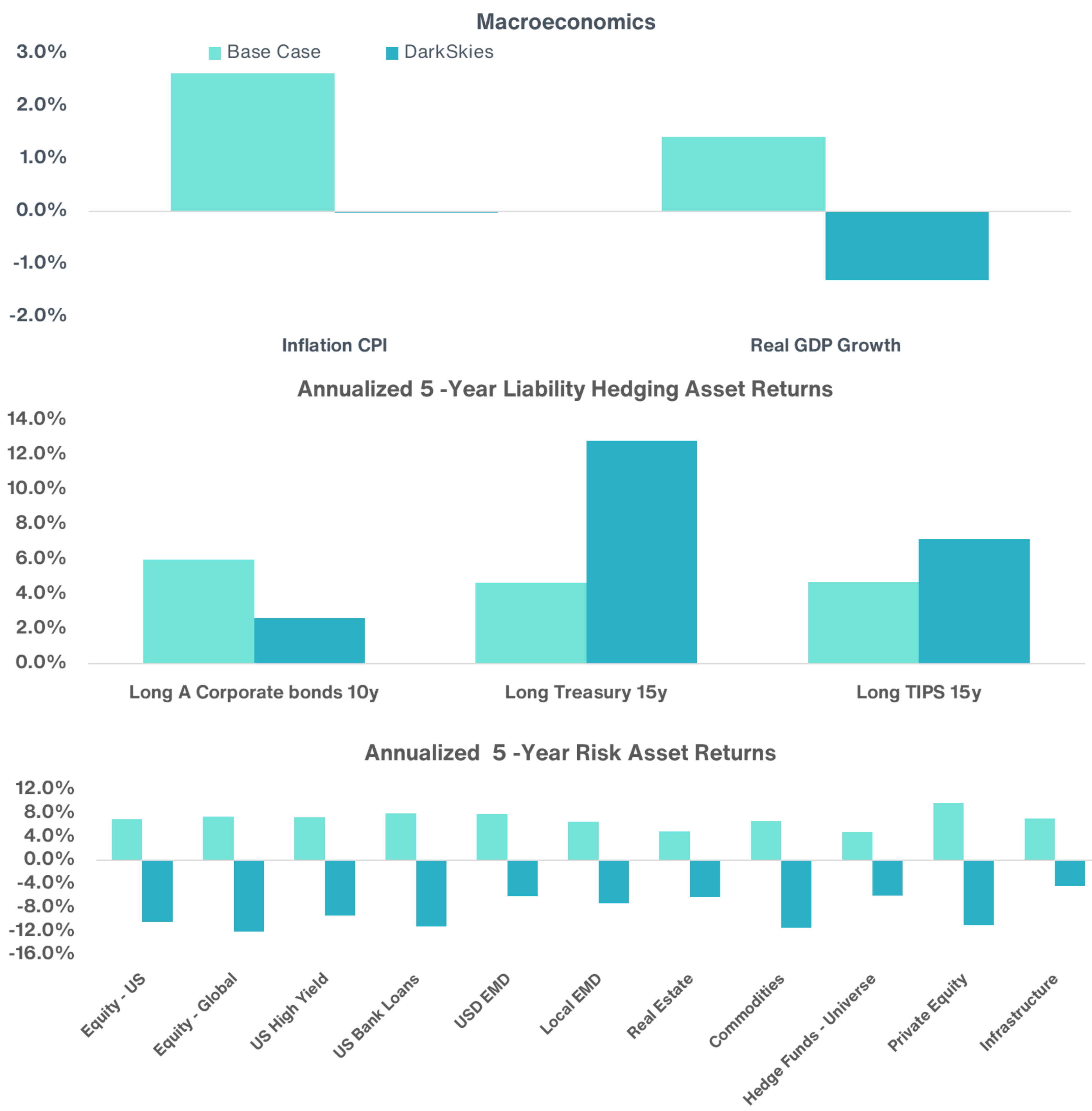
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Yields (BOY)											
Treasury yield 5y	4.1%	1.2%	0.9%	1.7%	2.0%	2.4%	2.6%	2.7%	2.8%	2.9%	3.0%
Long Treasury yield 15y	4.1%	1.4%	1.2%	2.2%	2.5%	2.7%	2.9%	3.0%	3.1%	3.1%	3.2%
TIPS yield 5y	1.8%	-0.3%	-0.4%	0.2%	0.3%	0.6%	0.7%	0.8%	0.9%	1.0%	1.2%
Long TIPS yield 15y	1.7%	-0.3%	-0.4%	0.3%	0.5%	0.6%	0.8%	0.9%	1.0%	1.1%	1.2%
Breakeven price inflation 15y	2.4%	1.7%	1.6%	1.9%	2.0%	2.1%	2.1%	2.1%	2.1%	2.0%	1.9%
A Corporate bond yield 5y	5.4%	5.3%	5.7%	5.8%	5.5%	5.5%	5.4%	5.3%	5.2%	5.1%	5.0%
Long A Corporate bond yield 10y	5.3%	4.8%	5.0%	5.6%	5.4%	5.4%	5.4%	5.4%	5.4%	5.3%	5.3%
A Corporate spread 5y	1.3%	4.1%	4.8%	4.1%	3.5%	3.1%	2.9%	2.6%	2.4%	2.2%	1.9%
Long A Corporate spread 10y	1.2%	3.4%	3.9%	3.5%	3.1%	2.8%	2.7%	2.5%	2.4%	2.2%	2.1%
Expected nominal return on assets											
Equity - US		-17.4%	-9.4%	11.3%	6.4%	6.4%	6.5%	6.5%	6.6%	6.6%	6.7%
Equity - Global		-19.9%	-10.7%	12.2%	6.7%	6.7%	6.8%	6.8%	6.9%	7.0%	7.0%
A Corporate bonds 5y		5.5%	2.5%	3.9%	6.1%	4.9%	5.6%	5.7%	5.6%	5.6%	5.6%
Long A Corporate bonds 10y		8.2%	-0.3%	-2.1%	6.2%	3.7%	4.3%	4.8%	5.0%	5.2%	5.4%
Treasury 5y		16.9%	2.7%	-1.2%	1.1%	1.4%	2.9%	3.0%	3.0%	3.1%	3.1%
Long Treasury 15y		50.9%	4.9%	-11.8%	-0.5%	-0.9%	1.4%	1.6%	1.9%	2.1%	2.4%
TIPS 5y		11.9%	1.0%	-1.5%	0.8%	1.2%	2.1%	2.3%	2.4%	2.6%	2.8%
Long TIPS 15y		36.1%	2.0%	-8.9%	-0.1%	-0.3%	0.8%	1.0%	1.2%	1.3%	1.6%
US High Yield		-11.5%	-11.3%	7.0%	5.5%	4.0%	5.6%	5.8%	5.9%	6.1%	6.2%
Bank Loans		-8.0%	-6.3%	6.9%	4.2%	4.0%	4.4%	4.8%	5.2%	5.5%	5.8%
USD Emerging Market Debt		-9.7%	-6.7%	9.2%	6.5%	6.2%	6.8%	6.9%	6.9%	7.0%	7.0%
Local Emerging Market Debt		-10.9%	-7.9%	7.9%	5.3%	4.9%	5.6%	5.7%	5.7%	5.8%	5.8%
Real Estate		-13.3%	-8.2%	-3.1%	0.4%	4.3%	4.3%	4.4%	4.4%	4.5%	4.6%
Commodities		-25.6%	-19.7%	9.3%	5.9%	5.9%	5.9%	6.0%	6.1%	6.2%	6.3%
Hedge Funds - FoHF - Universe		-13.1%	-7.9%	7.6%	6.5%	4.7%	4.7%	4.7%	4.7%	4.7%	4.8%
Private Equity		-20.0%	-10.1%	14.4%	8.9%	8.9%	9.0%	9.0%	9.1%	9.2%	9.3%
Private Credit		-7.4%	-6.2%	7.2%	4.5%	4.3%	4.7%	5.1%	5.4%	5.8%	6.1%
Infrastructure - US		-5.6%	-1.2%	2.3%	3.1%	6.7%	6.7%	6.8%	6.8%	6.9%	6.9%
Cash		4.5%	0.9%	0.8%	1.1%	1.4%	1.6%	1.8%	2.0%	2.2%	2.4%
CPI		1.1%	0.7%	0.9%	1.1%	1.4%	1.5%	1.6%	1.7%	1.8%	1.9%

Scenario information as of December 31, 2022

Dark Skies Scenario
Description

A deep recession followed by a longer period of stagnant growth

- A worsening Russia-Ukraine war, which expands beyond Ukraine's borders, and a renewed flare up of the pandemic, disrupts to the global economy, as additional restrictions are required over the next few years. China experiences a sharp deterioration in economic growth, due to stricter Covid restrictions and structural issues.
- Worsening geopolitical instability and central banks' aggressive monetary tightening has a severe impact on world economic growth. Economic weakness in developed and emerging market economies and severe levels of financial distress (due to high debt levels and political crisis) lead to a global recession followed by stagnation.
- Inflation falls sharply in early 2023 and sluggish growth over the following years means that inflation stays low.
- Treasury yields fall and remain at low levels as the US enters recession. Corporate spreads rise significantly due to the poor economic situation and increased risks of downgrades or defaults.
- Risk assets make losses in the first few years. There is no pronounced bounce in growth and the economic situation remains poor for a long time, which weighs in returns in later years.



Returns from 31 December 2022
Source: Aon
The opinions referenced are as of the date of publication and are subject to change due to changes in the market or economic conditions and may not necessarily come to pass. Information contained herein is for informational purposes only and should not be considered investment advice.

Dark Skies Scenario
Data

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Yields (BOY)											
Treasury yield 5y	4.1%	0.6%	-0.4%	-0.6%	-0.5%	-0.3%	0.0%	0.4%	0.7%	1.0%	1.3%
Long Treasury yield 15y	4.1%	0.7%	0.1%	0.0%	0.0%	0.2%	0.5%	0.8%	1.1%	1.4%	1.7%
TIPS yield 5y	1.8%	-0.4%	-1.2%	-1.4%	-1.3%	-1.2%	-0.9%	-0.7%	-0.5%	-0.2%	0.1%
Long TIPS yield 15y	1.7%	-0.7%	-1.2%	-1.3%	-1.2%	-1.1%	-0.9%	-0.6%	-0.4%	-0.1%	0.1%
Breakeven price inflation 15y	2.4%	1.5%	1.3%	1.3%	1.2%	1.3%	1.4%	1.4%	1.5%	1.5%	1.5%
A Corporate bond yield 5y	5.4%	6.1%	5.7%	5.2%	4.6%	4.4%	4.4%	4.4%	4.4%	4.4%	4.4%
Long A Corporate bond yield 10y	5.3%	5.1%	4.9%	4.6%	4.2%	4.1%	4.2%	4.2%	4.3%	4.4%	4.5%
A Corporate spread 5y	1.3%	5.5%	6.1%	5.8%	5.1%	4.7%	4.4%	4.0%	3.7%	3.4%	3.1%
Long A Corporate spread 10y	1.2%	4.5%	4.9%	4.7%	4.3%	4.0%	3.7%	3.5%	3.3%	3.1%	2.8%
Expected nominal return on assets											
Equity - US		-26.4%	-18.8%	-10.0%	3.4%	3.4%	3.8%	4.2%	4.5%	4.9%	5.2%
Equity - Global		-29.7%	-21.3%	-11.3%	3.4%	3.4%	3.8%	4.2%	4.6%	5.0%	5.4%
A Corporate bonds 5y		1.7%	3.1%	2.2%	2.9%	1.4%	0.7%	1.3%	1.8%	2.3%	2.8%
Long A Corporate bonds 10y		3.9%	1.8%	2.5%	3.6%	1.4%	-0.3%	0.4%	1.1%	1.6%	2.2%
Treasury 5y		19.8%	4.8%	0.1%	-0.6%	-1.1%	-1.6%	-1.2%	-0.8%	-0.4%	-0.1%
Long Treasury 15y		66.4%	10.6%	1.9%	-0.6%	-2.0%	-4.0%	-3.6%	-3.1%	-2.7%	-2.1%
TIPS 5y		11.0%	1.7%	-0.6%	-1.5%	-1.4%	-1.4%	-0.9%	-0.5%	-0.1%	0.4%
Long TIPS 15y		42.0%	4.9%	-0.2%	-2.4%	-2.7%	-4.1%	-3.6%	-3.2%	-2.8%	-2.3%
US High Yield		-15.5%	-14.3%	-11.1%	-1.7%	-3.1%	-3.4%	-2.3%	-1.3%	-0.2%	0.8%
Bank Loans		-21.1%	-19.2%	-12.1%	-0.5%	-0.8%	-0.2%	0.6%	1.4%	2.1%	2.9%
USD Emerging Market Debt		-15.5%	-12.0%	-6.8%	2.9%	2.3%	2.3%	2.8%	3.4%	3.9%	4.4%
Local Emerging Market Debt		-16.7%	-13.2%	-8.0%	1.7%	1.1%	1.1%	1.6%	2.1%	2.7%	3.1%
Real Estate		-15.0%	-10.7%	-5.0%	-0.7%	1.4%	1.8%	2.1%	2.5%	2.8%	3.1%
Commodities		-32.7%	-24.7%	-1.2%	4.5%	4.5%	4.7%	4.9%	5.1%	5.3%	5.6%
Hedge Funds - FoHF - Universe		-16.0%	-10.8%	-5.2%	1.8%	1.8%	2.1%	2.4%	2.7%	3.0%	3.3%
Private Equity		-30.8%	-21.6%	-10.7%	5.3%	5.3%	5.8%	6.2%	6.6%	7.1%	7.5%
Private Credit		-19.5%	-19.0%	-12.6%	-0.5%	-0.8%	-0.2%	0.6%	1.5%	2.3%	3.0%
Infrastructure - US		-12.4%	-8.2%	-4.4%	0.6%	3.2%	3.6%	4.0%	4.4%	4.8%	5.2%
Cash		4.5%	0.3%	-0.3%	-0.4%	-0.4%	-0.2%	0.2%	0.5%	0.8%	1.1%
CPI		-0.4%	-1.0%	0.3%	0.4%	0.6%	0.8%	0.9%	1.1%	1.3%	1.5%

Scenario information as of December 31, 2022

AON

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200 E. Randolph Street
Suite 700
Chicago, IL 60601
ATTN: Aon Investments Compliance Officer

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State Board of Administration

Investment Programs & Governance (IP&G)

Michael McCauley
Senior Officer

Investment Advisory Council Meeting – March 28, 2023

Investment Programs & Governance (IP&G)

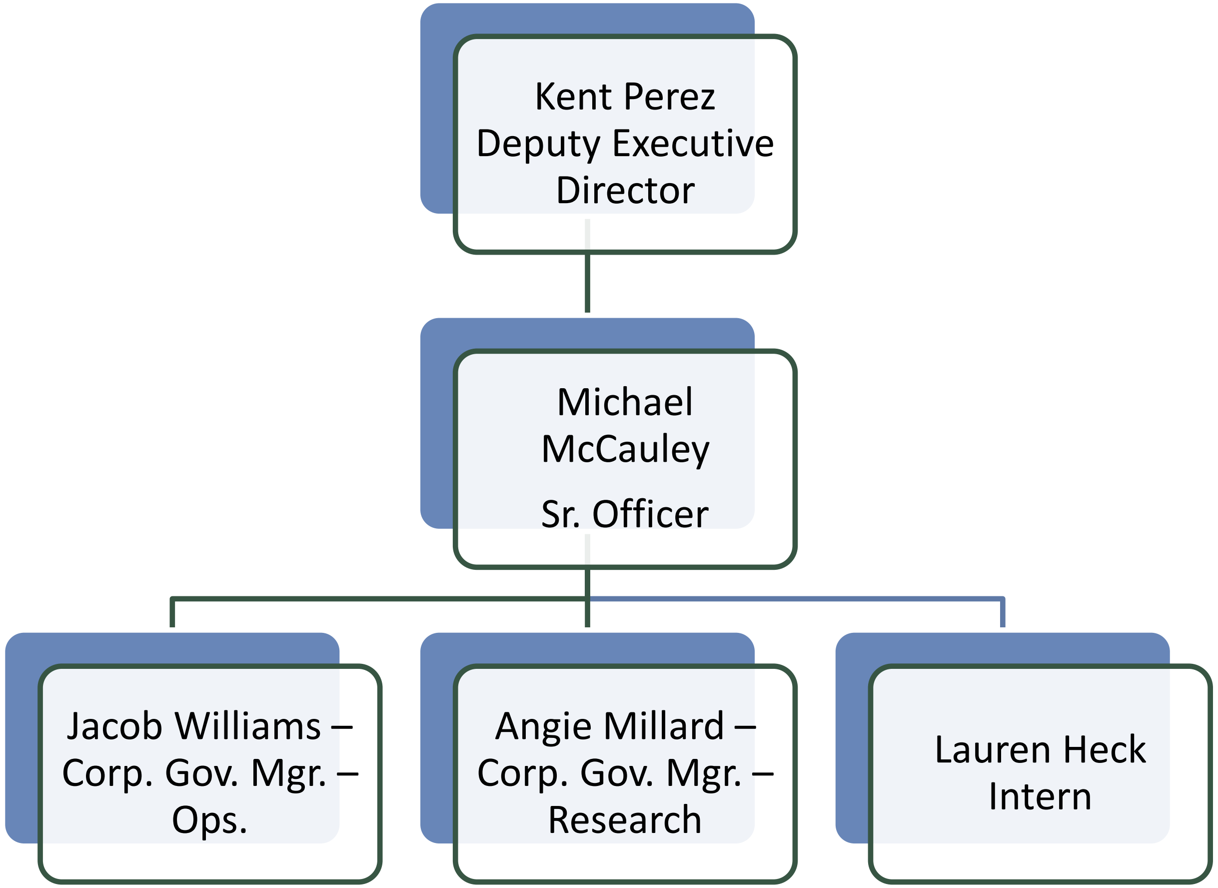
Corporate Governance
- Proxy Voting
- Issuer Engagement
- Divestment Research (PFIA, other)
- Regulatory Commentary
- Investor Collaboration

Florida PRIME
- Program Management
- External Investment Manager Liaison
- Investor Reporting

Non-Pension Client Mandates
- Client Service
- Trust Agreements
- Special Corporations

SBA FLORIDA
STATE BOARD OF ADMINISTRATION

IP&G Organization Chart



SBA Proxy Committee

SBA Corporate Governance & Proxy Voting Oversight Group ("Proxy Committee")

- Meets at least once each quarter to review ongoing governance issues
- Reviews volume and trends for SBA proxy votes
- Company-specific voting scenarios
- Oversight and development of corporate governance principles and proxy voting guidelines
- Reviews major regulatory developments by SEC, DOL, NYSE, etc.
- Reviews divestment research and reporting related to the Protecting Florida's Investments Act (PFIA) and other statutory investment requirements related to Israel and Venezuela.

SBA Policy 10-015

- The primary objective of the SBA corporate governance program is to improve the governance structures at invested companies—with the ultimate goal of lowering risk and enhancing the long-term value of SBA investments.

SBA FLORIDA STATE BOARD OF ADMINISTRATION

Corporate Governance and Firm Performance

Corporate Governance Defined—Framework of legal rules, regulations, and corporate policies that ensures the strategic guidance of the company by the board and its accountability to the company and its shareowners. Corporate governance focuses on the equitable treatment of all shareowners, including minority and foreign investors.

SBA Perspective—Public companies should meet high standards of independent and ethical corporate governance practices. The SBA acts as a strong advocate on behalf of FRS members and beneficiaries, retirees, and other clients to strengthen shareowner rights and promote leading corporate governance practices at U.S. and international companies in which the SBA holds stock. SBA mitigates governance-related risks, which can lead to higher returns and/or lower risk for our portfolio companies. This is an important aspect of fulfilling our fiduciary responsibility.

- ❑ SBA focuses on enhancing share value and ensuring that public companies are accountable to their shareowners, with qualified boards of directors, transparent disclosures, accurate financial reporting, ethical business practices, and policies that protect and enhance the value of trust fund investments.
- ❑ Well-governed companies can lead to market confidence and higher business integrity, typically exhibit lower risk levels, and can achieve a lower cost of capital.
- ❑ National governance codes provide foundation for economic development and investment growth.
- ❑ Companies routinely communicate their long-term planning and governance practices with their investors.

SBA FLORIDA
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Corporate Engagement

- Actively engage approximately 100 companies per year
- Dialogue through virtual and in-person meetings
- Correspondence through letters, email, and phone calls
- Include input from SBA asset classes and external investment managers
- Global shareowner initiatives with member organizations

Corporate Engagement—Practice of shareowners entering discussions with company management in order to change or influence a company's operations. The topics discussed vary by company and the individual situation but can include board practices (director qualifications, director classes, etc.), executive compensation and related equity incentives, company disclosures (environmental, lobbying, etc.), external audit, and corporate bylaw/charter rules and procedures (majority voting, proxy access, etc.)

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SBA Proxy Voting

Proxy Voting is a primary means by which shareowners can influence a company's business operations and corporate governance practices.

Voting corporate proxies is a fiduciary responsibility and an important way to manage the risks associated with public equity ownership and attempts to align interests between investors and management.

Over the course of any fiscal year, staff considers thousands of management proposals and hundreds of shareowner proposals covering a wide variety of issues.

Voting on ballot items including director elections, audit firm ratification, executive compensation plans, mergers & acquisitions, and a variety of other management and shareowner proposals.

Analysis is focused on the drivers of company performance and investor protections associated with shareowner rights.

Emphasis on corporate disclosures and reporting—investors benefit from consistent and accurate corporate disclosures, providing shareowners with comparable and reliable information that is used to identify drivers of risk and return and efficiently allocate capital

10,816	• Eligible votes on public company proxies
72	• Countries where SBA cast votes
103,506	• Total number of distinct voting decisions across all ballot items

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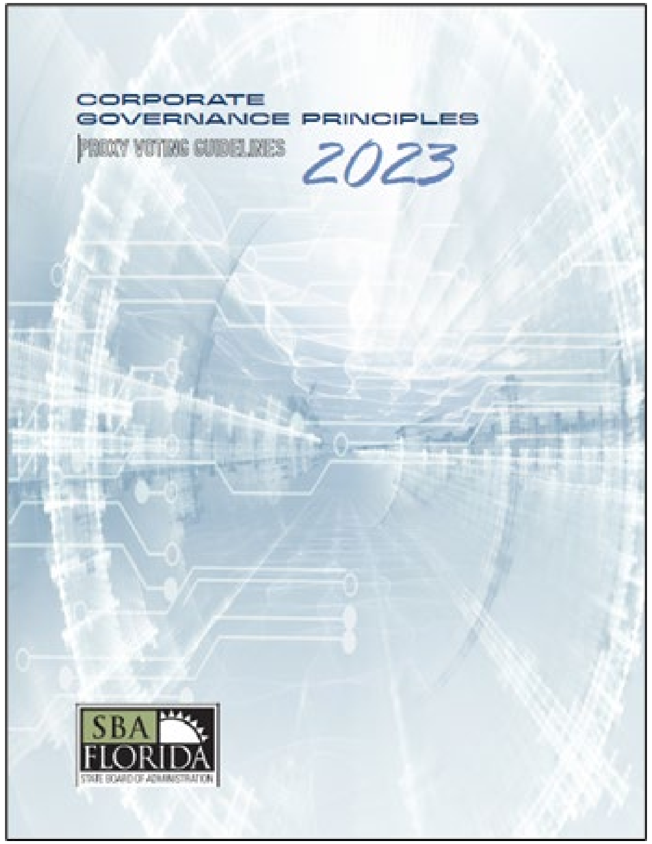
SBA Proxy Voting Guidelines



- Policies linked to portfolio value and risk mitigation
- Comprehensive and empirically grounded, supporting consistent approach to voting
- SBA policies modeled on best practices, global codes, and state law
- *Principles* – high level, global best practice
- *Guidelines* – general rationale and specific factors used by staff to aid decision making

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Proxy Advisors & Voting Agent

ISS Proxy Voting Research:

- All U.S. equities / Large Cap Dev. Intl. / Material Non-U.S.
- Data Screening—DataDesk, Director Database

Glass Lewis Voting Research and Voting Agency:

- SBA's proxy voting agent since 2016 (ViewPoint system)
- All U.S. and Foreign Equities

Proxy Research and Advice—SBA staff use a variety of news, research, and ratings sources to understand the issues that are facing the markets, specific industries, and individual companies. This information helps SBA staff develop governance policies, make informed proxy voting decisions, collaborate with other asset owners and asset managers, elevate items of concern at owned companies, and weigh in on regulatory proposals that may impact portfolio value. The SBA utilizes proxy research from several different sources in order to gain high-quality assessments of financially-material risks.

Voting Agent & Proxy Advisors

GLASS LEWIS

ISS

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Governance and Data Partners

Investor Advocacy

Council of Institutional Investors®
The voice of corporate governance

CFA Institute

The Harvard Law School
Program on Institutional Investors

ICGN
International Corporate Governance Network

isg

UNIVERSITY OF DELAWARE
WEINBERG CENTER FOR CORPORATE GOVERNANCE

Analysis and Data

MSCI

SUSTAINALYTICS

ISS

EIRIS CONFLICT RISK NETWORK

insightia
INTELLIGENT ANALYTICS

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Top Voted Markets Over Last 5 Years

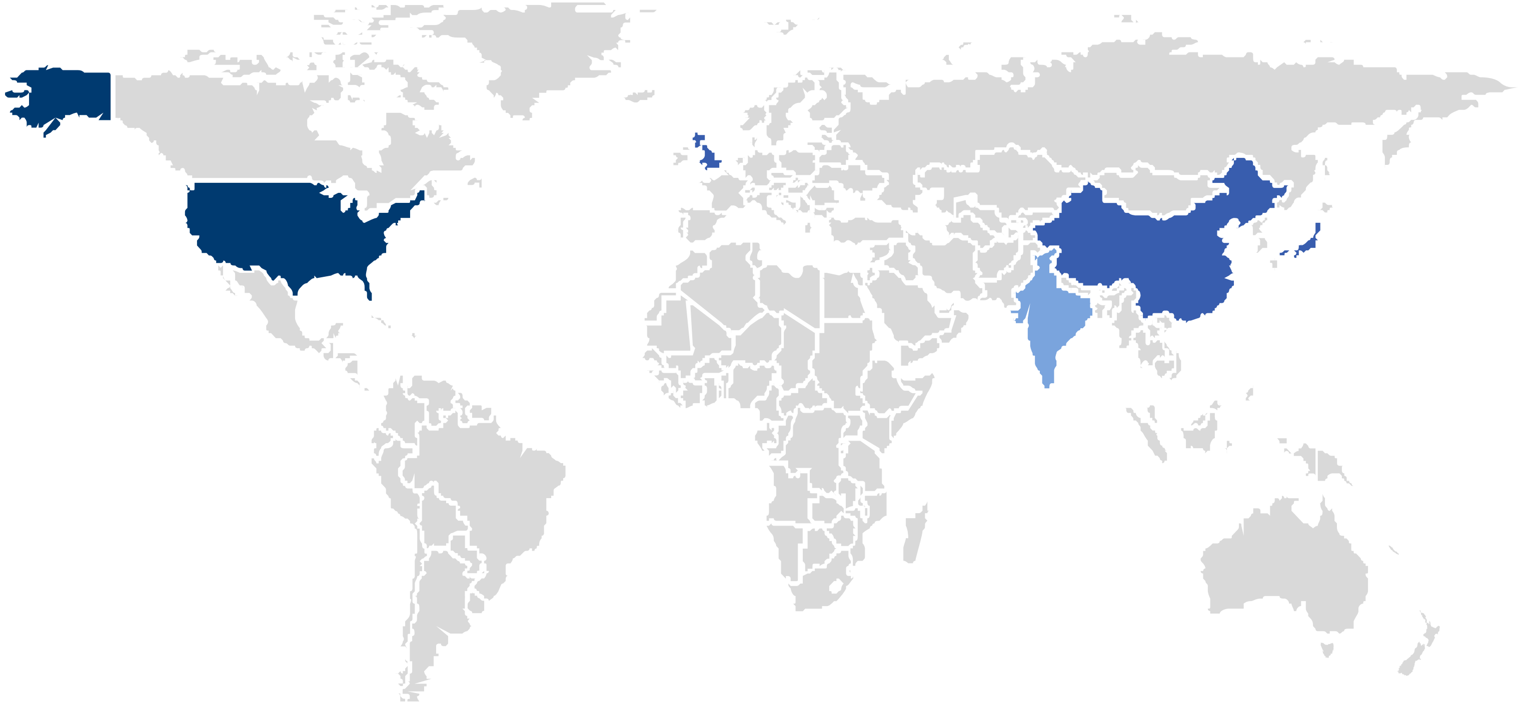
United States
- ✓ ~17,700 meetings

Japan
- ✓ ~7,200 meetings

China
- ✓ ~6,300 meetings

India
- ✓ ~3,700 meetings

United Kingdom
- ✓ ~2,600 meetings



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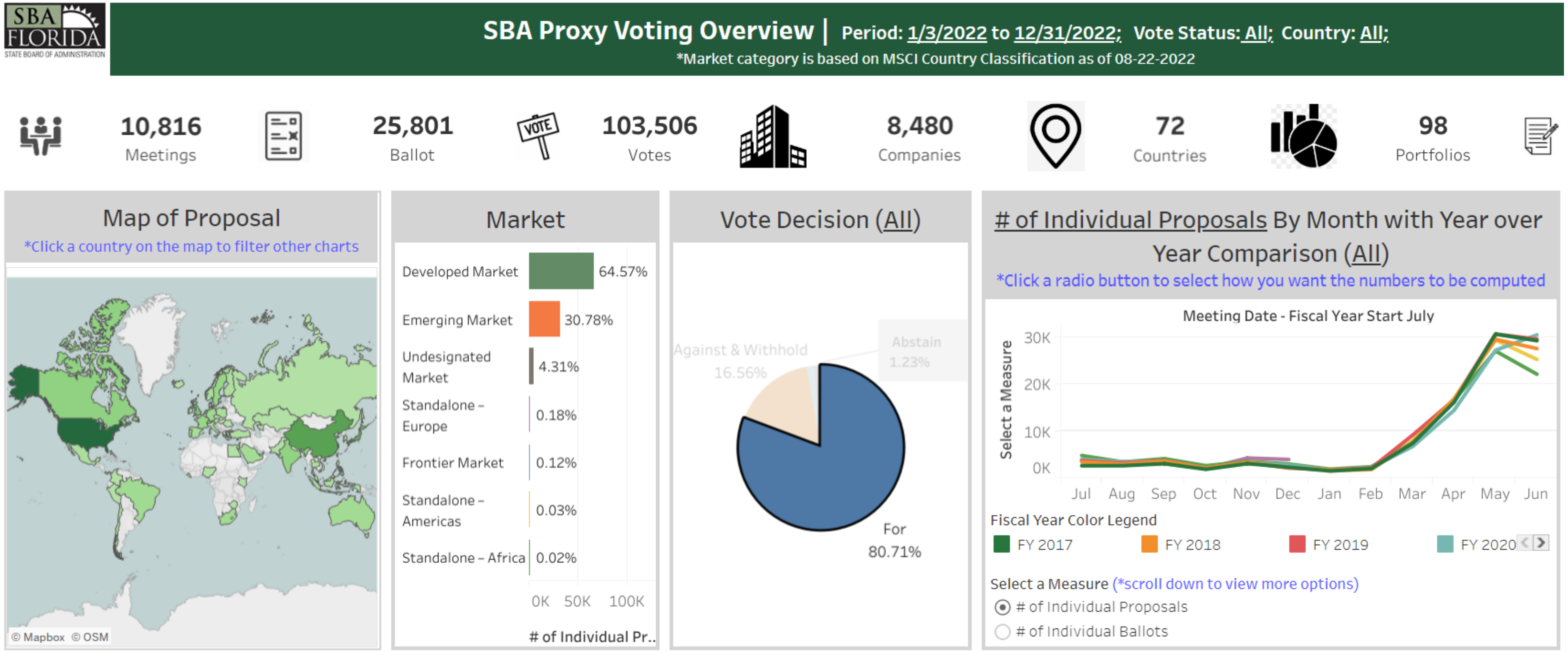
Proxy Votes Drive Value and Lower Risk—CY2022



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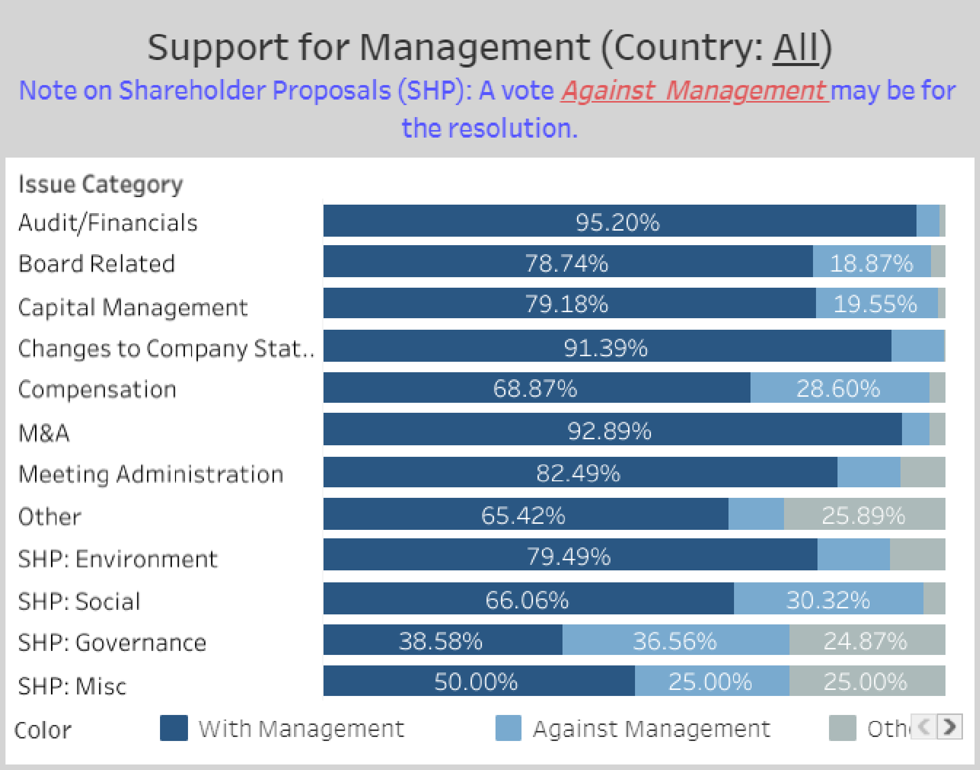
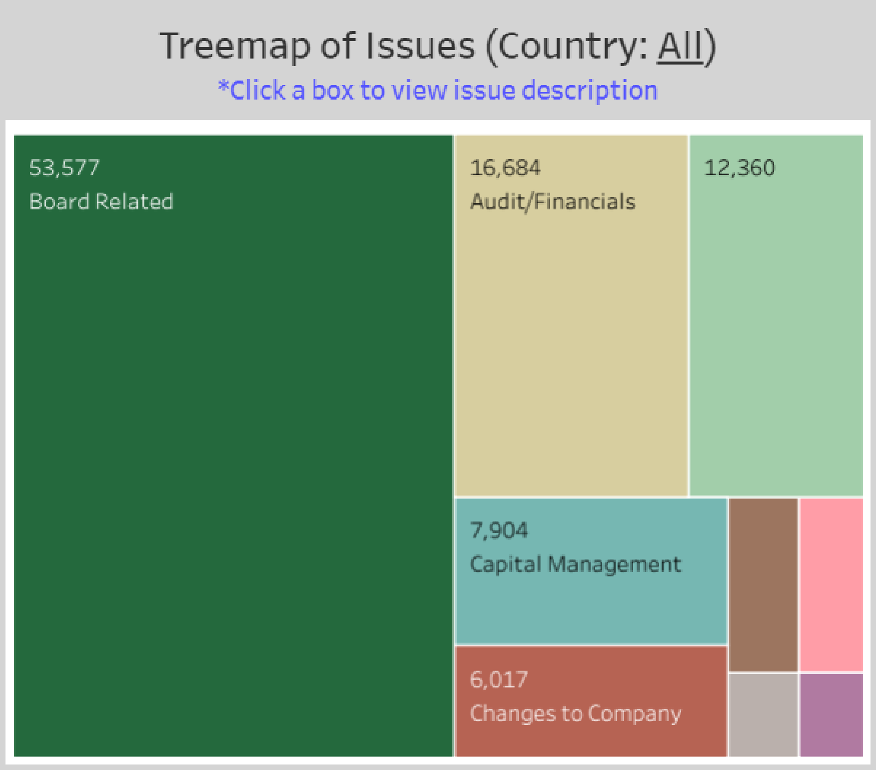
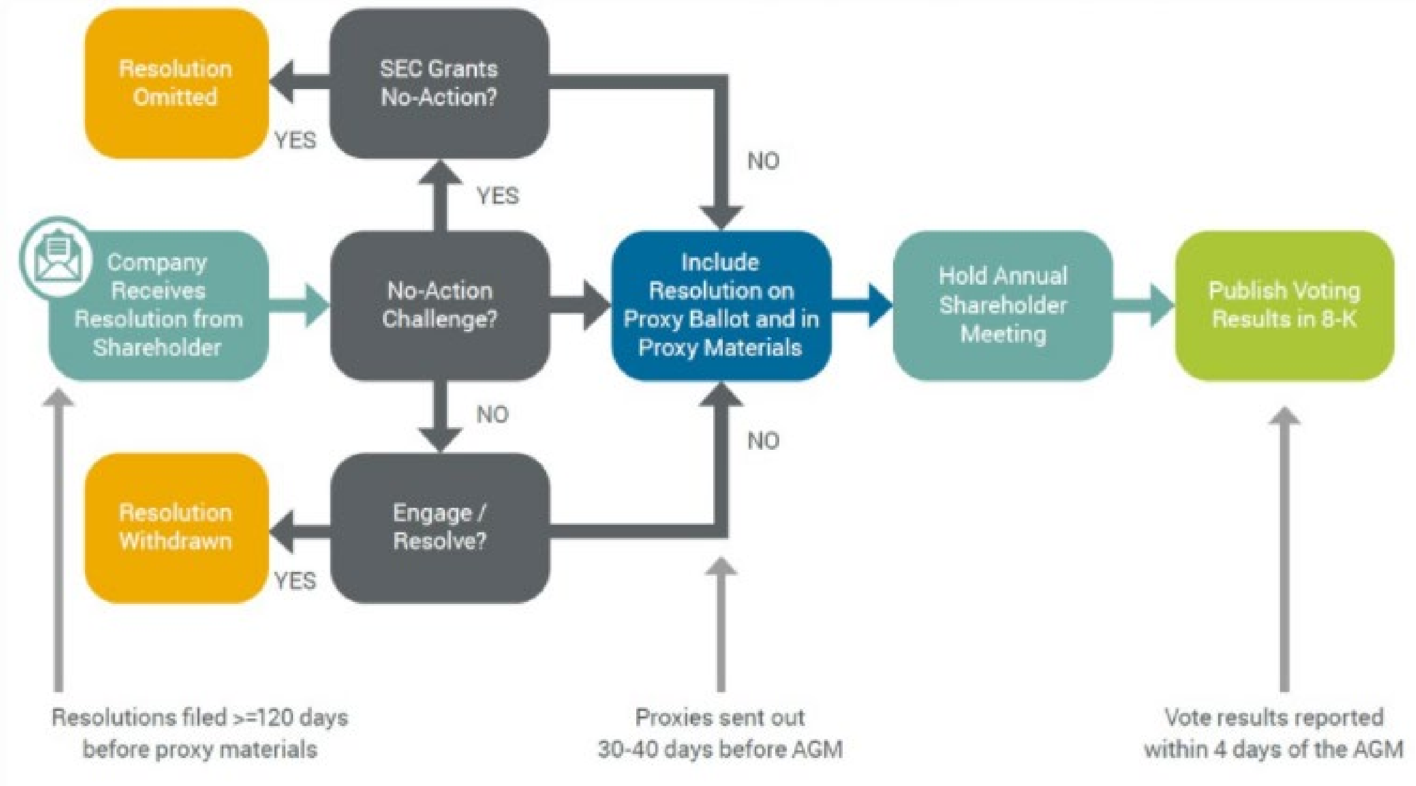
Voting Aimed at Portfolio Value & Risk Mitigation—CY2022





Shareowner Resolutions / SEC Rule 14a-8



		Support for Re-submission within 5 years		
		1st	2nd	3rd
14a-8(i)(12): Revised level of shareholder support a proposal must receive to be eligible for resubmission	Before	3%	6%	10%
	After	5%	15%	25%
Effective Date: **January 1, 2022**				

Source: Morningstar

Proxy Voting on Shareowner Proposals (Last 3 FYs)

Shareowner Proposals (SHP) Vote Decision Summary by Fiscal Year| Fiscal Year : FY 2021, FY 2022, FY 2023; Country: All

SHP: Environment	SHP: Social	SHP: Governance	SHP: Misc
283 Votes	457 Votes	1,499 Votes	22 Votes

Country of Origin Filter: (All)

Fiscal Year Filter: (Multiple values)

Select Date Part: Fiscal Year

Vote Decision Color Legend: Against, For, Withhold, Abstain, Other Votes

Key Metrics

Issue Category	FY2021 Proposal	FY2021 % of SHP	FY2021 SBA Support %	FY2022 Proposal	FY2022 % of SHP	FY2022 SBA Support %	FY2023 Proposal	FY2023 % of SHP	FY2023 SBA Support %
SHP: Environment	106	11.30%	31.13%	158	13.17%	19.62%	19	15.45%	5.26%
SHP: Social	158	16.84%	57.59%	276	23.00%	35.51%	23	18.70%	17.39%
SHP: Governance	668	71.22%	53.14%	754	62.83%	38.86%	77	62.60%	37.66%
SHP: Misc	6	0.64%	33.33%	12	1.00%	25.00%	4	3.25%	0.00%
Grand Total	**938**	**100.00%**	**51.28%**	**1,200**	**100.00%**	**35.42%**	**123**	**100.00%**	**27.64%**

Vote Decision

Issue Category	"For" FY2021	"For" FY2022	"For" FY2023	"Against&Withhold" FY2021	"Against&Withhold" FY2022	"Against&Withhold" FY2023	"Abstain" FY2021	"Abstain" FY2022	"Abstain" FY2023	"Other" FY2021	"Other" FY2022	"Other" FY2023
SHP: Environment	33	31	1	63	117	18	1	1	0	9	9	0
SHP: Social	91	98	4	63	171	19	1	1	0	3	6	0
SHP: Governance	355	293	29	198	325	42	37	33	1	78	103	5
SHP: Misc	2	3	0	1	6	4	0	1	0	3	2	0
Grand Total	**481**	**425**	**34**	**325**	**619**	**83**	**39**	**36**	**1**	**93**	**120**	**5**

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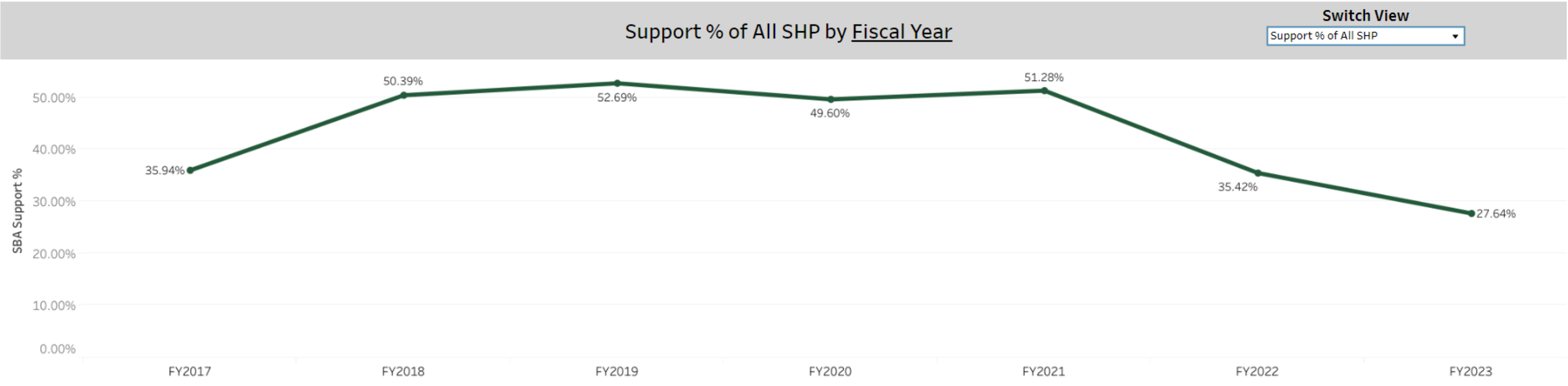
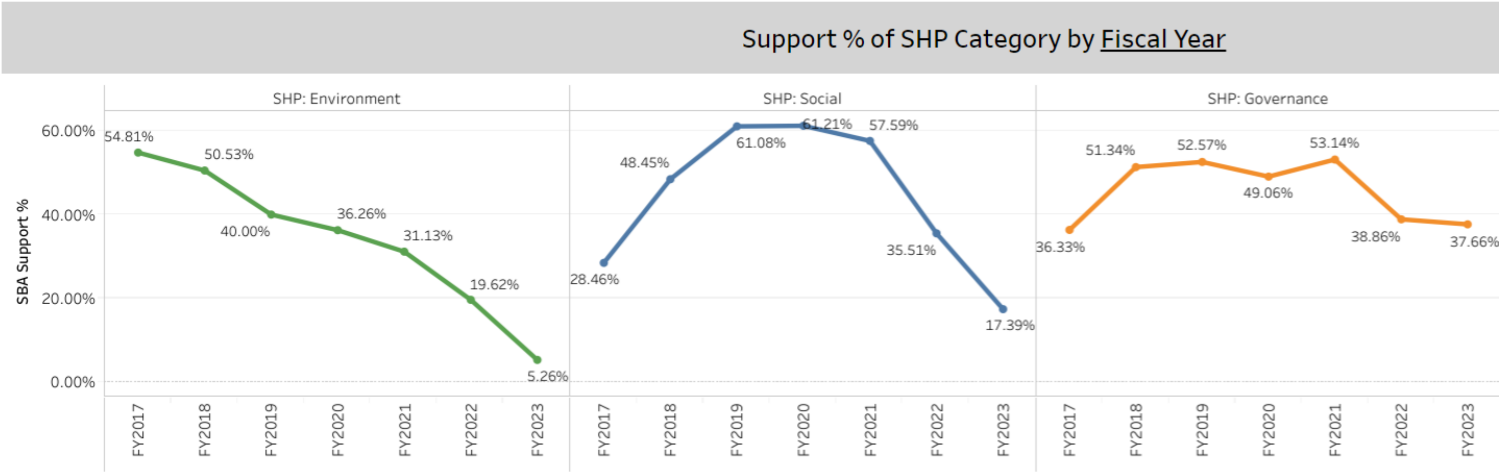
SBA Voting on Investor-proposed Ballot Items—SHPs





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Example Proxy Vote

Canadian National Railway—prior to its 2021 annual meeting, CN released a proxy circular covering its new board policy on simultaneous directorships, revising its "over-boarding" policy, allowing for a maximum of three public boards on which directors other than full-time chief executive officers or senior officers of the firm may serve. The rule is subject to a one-year transition period where necessary. The SBA withheld support for the single, over-boarded director in line with our proxy voting guidelines.

The company stated in the circular that, "CN believes in the importance of consistent engagement and meaningful dialogue with all stakeholders, including shareholders, and the aforementioned initiatives were all informed by such interactions. The Board is confident that its enhanced governance rules help position CN as a leader in corporate governance and diversity with best-in-class practices, while maintaining the high level of expertise, institutional knowledge and strong board dynamics that have served the company so well over the last 25 years."

Example Proxy Vote

McDonald's Corporation—for its annual meeting in 2022, McDonald's was the subject of a proxy contest lodged by dissident Barberry Corporation, an investment firm affiliated with Carl Icahn. The dissident nominated two directors in opposition to management. SBA staff voted using the management card, which supported the existing company nominees. All 12 of the company's nominees won re-election to the board. The investor's two nominees received about 1% of the vote.

The dissident also attempted to overhaul the chain's animal welfare practices. Icahn claimed that McDonald's board of directors was "failing shareholders" by presiding over animal welfare violations and cruelty in its supply chains, citing the company's use of pork suppliers that confine pigs in gestation crates, or individual stalls. The advisory shareholder proposal requesting disclosure regarding gestation stall use in the company's U.S. pork supply chain was withdrawn by the shareholder proponent and was not voted on at the annual meeting.

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Example Proxy Vote

Twitter, Inc.—for its May 25, 2022, annual meeting, SBA staff voted for and against several ballot items in line with proxy voting guidelines. On April 25, 2022, the company entered into a definitive agreement to be acquired by Elon Musk for $54.20 in cash per share, valuing the company at approximately $44 billion at the time of announcement. Management ballot items included two board members up for re-election, auditor ratification, and a proposal to de-stagger the terms of the board of directors. SBA staff voted against one of the two directors up for election, pursuant to our voting guideline that limits simultaneous directorships to no more than three boards. The management proposal to remove the classified board failed to receive at least 80% support from the total number of outstanding shares for a second year in a row. SBA staff voted in favor of the item which should improve board accountability through annual director elections. SBA staff voted against the SOP ballot item as the company's pay design exhibits several flaws including short term performance periods utilized within the long-term incentive plan (LTIP), the lack of stock ownership requirements, and poorly designed compensation, which is largely disconnected from corporate performance.

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Example Proxy Vote

Shopify—For its June 7, 2022, annual meeting, SBA staff voted for and against several ballot items in line with proxy voting guidelines including the withholding of support for one director due to poor governance practices. The company has continued to maintain a multi-class share structure with unequal voting rights. Commensurate to the director vote, SBA staff voted against a management proposal to amend the articles of incorporation to create a new class of share, designated the "Founder" share, and the issuance of such Founder share to the CEO. The proposal removes the existing “dilution sunset” feature and is viewed as overly concessionary, with the potential to lead to higher compensation costs. Since going public in 2015, Shopify has had two classes of voting shares, Class A subordinate voting shares carrying one vote per share, and Class B multiple voting shares carrying 10 votes per share—the difference between Class A and Class B shares’ economic versus voting power is 90.5% and 49% and 9.5% and 85%, respectively. The SBA voted against the company’s Say-on-Pay compensation item—due primarily to a lack of short-term incentive structures and the use of time-based vesting within the long-term incentive plan. The SBA voted in favor of a management proposal to approve a 10-for-1 stock split.

State Board of Administration

Fixed Income Update

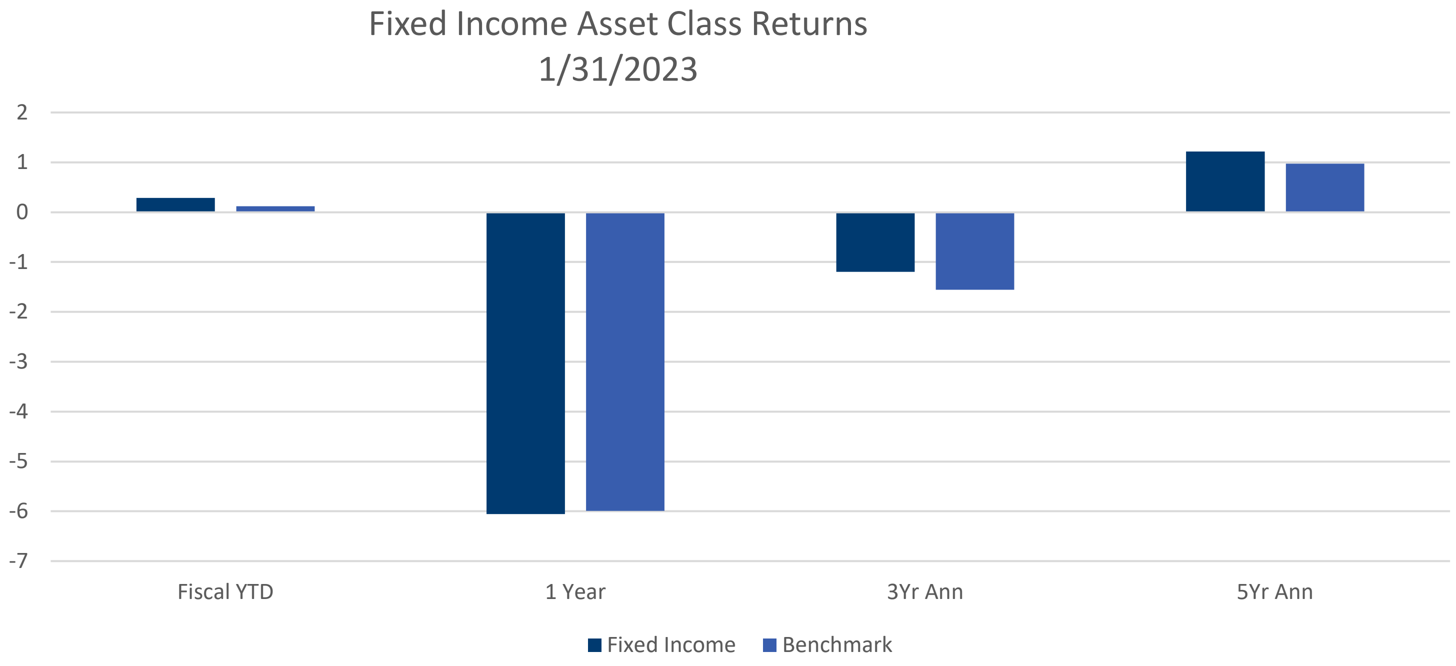
Katy Wojciechowski, Senior Investment Officer Fixed Income

Investment Advisory Council

March28, 2023

Asset Class Portfolio Performance

Asset class outperformed Benchmark fiscal YTD and over 3- and 5-year time periods with low risk and high Information Ratio. For FYTD through 1/31/22, FI produced returns of 0.29%, for an outperformance of 0.36% over three-year horizon in a very challenged environment



Fixed Income Review and Outlook
March 2023

- 12 Month Returns for the Fixed Income benchmark – Bloomberg Intermediate Aggregate through 1/31/2023 were 4.95. **Benchmark returns for the fiscal YTD are 0.11% through 1/31. Returns for the for the fiscal YTD are 0.017% through 1/31.**

- Annual Absolute and Excess Returns were positive for all spread sectors for the quarter.

- **Ten-year Treasury yields rose from 3.74% to 3.92% from end of year through 2/28/23.**

- **Yield on the entire Benchmark is now 4.88% with a 4.62yr duration**.
    - Yield on the broader Barclay's Aggregate is also 4.88% with a duration of 6.30yrs.

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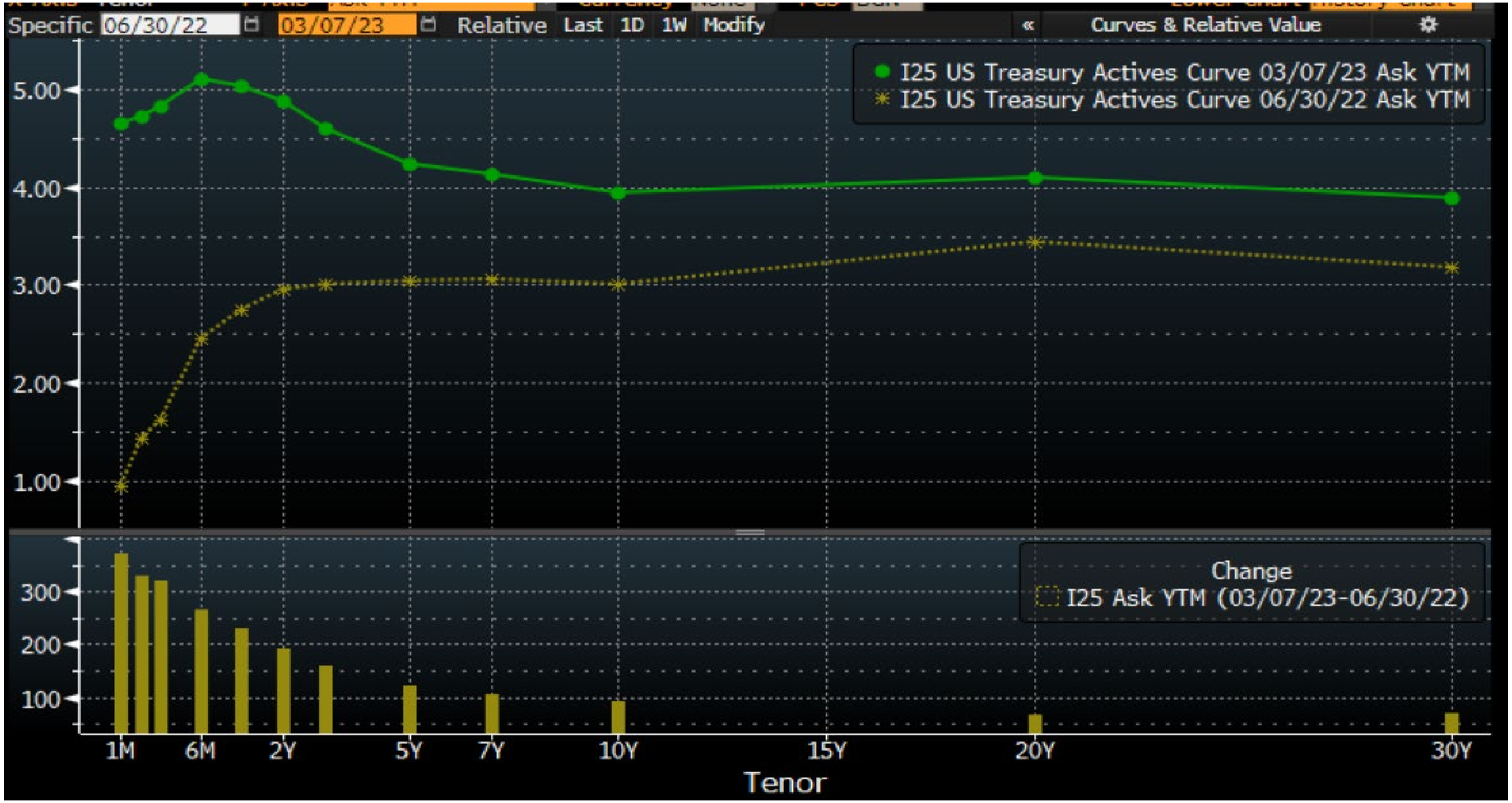
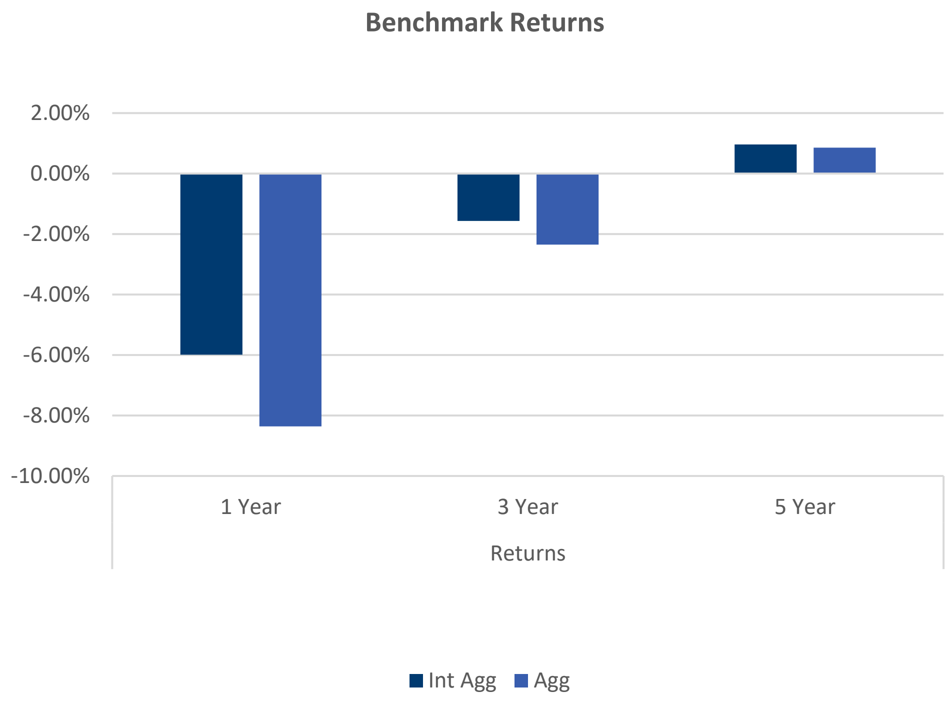
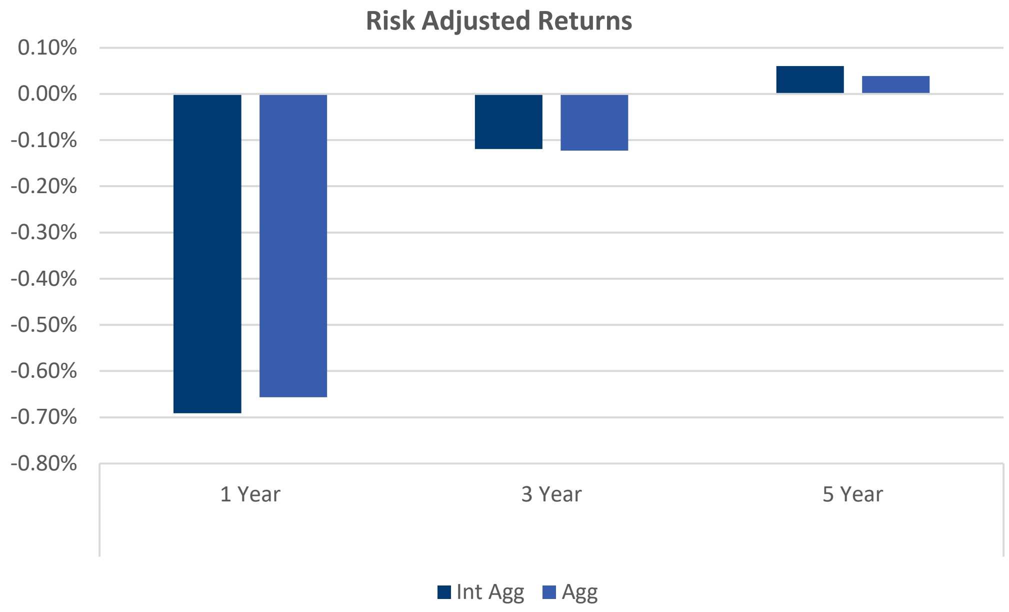
Yield Curve Inversion Continues



Source: Bloomberg

Benchmark Comparison as of 1/31/2023

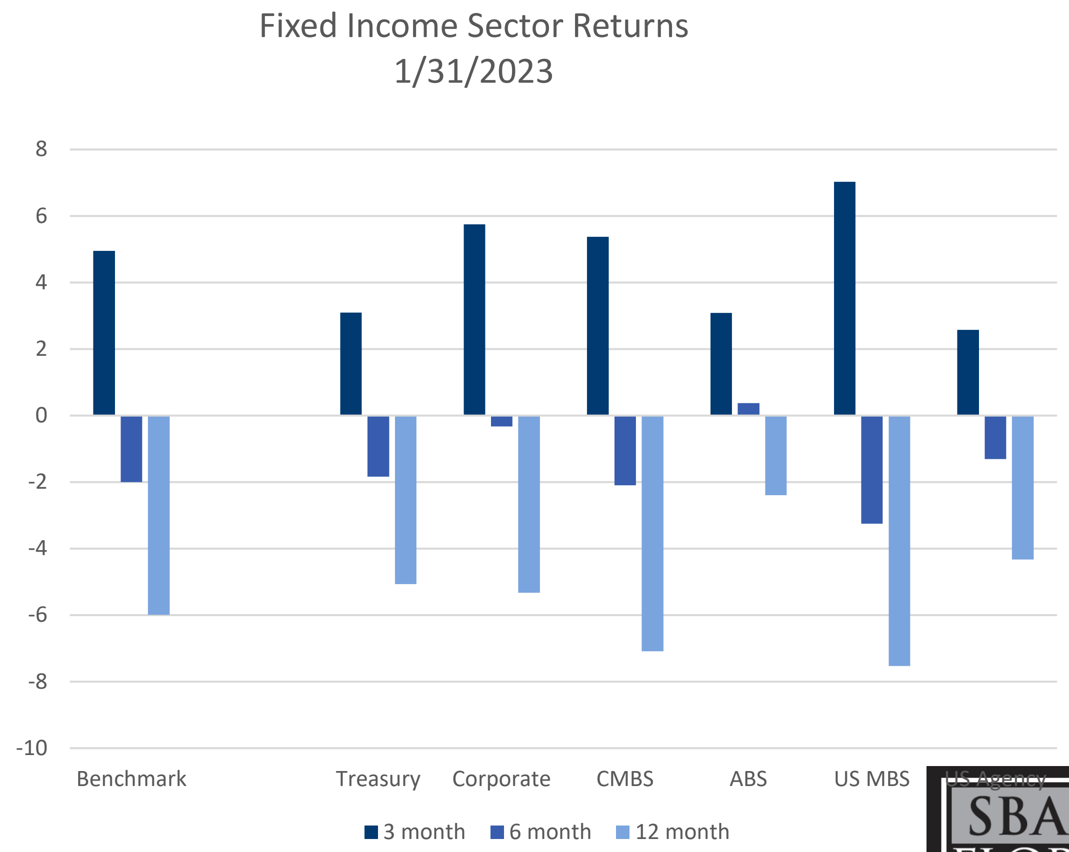




Fixed Income Review March 2023

Fixed Income produced strong returns for the quarter ended 1/31/2023 as demand for risk assets improved

Intermediate Aggregate Option Adjusted Spread



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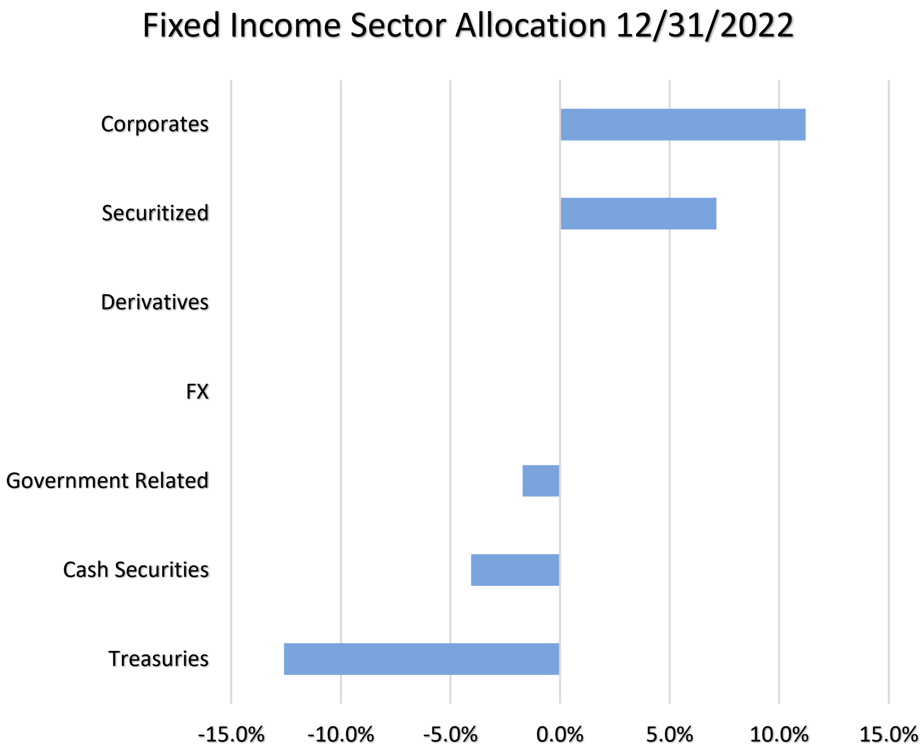
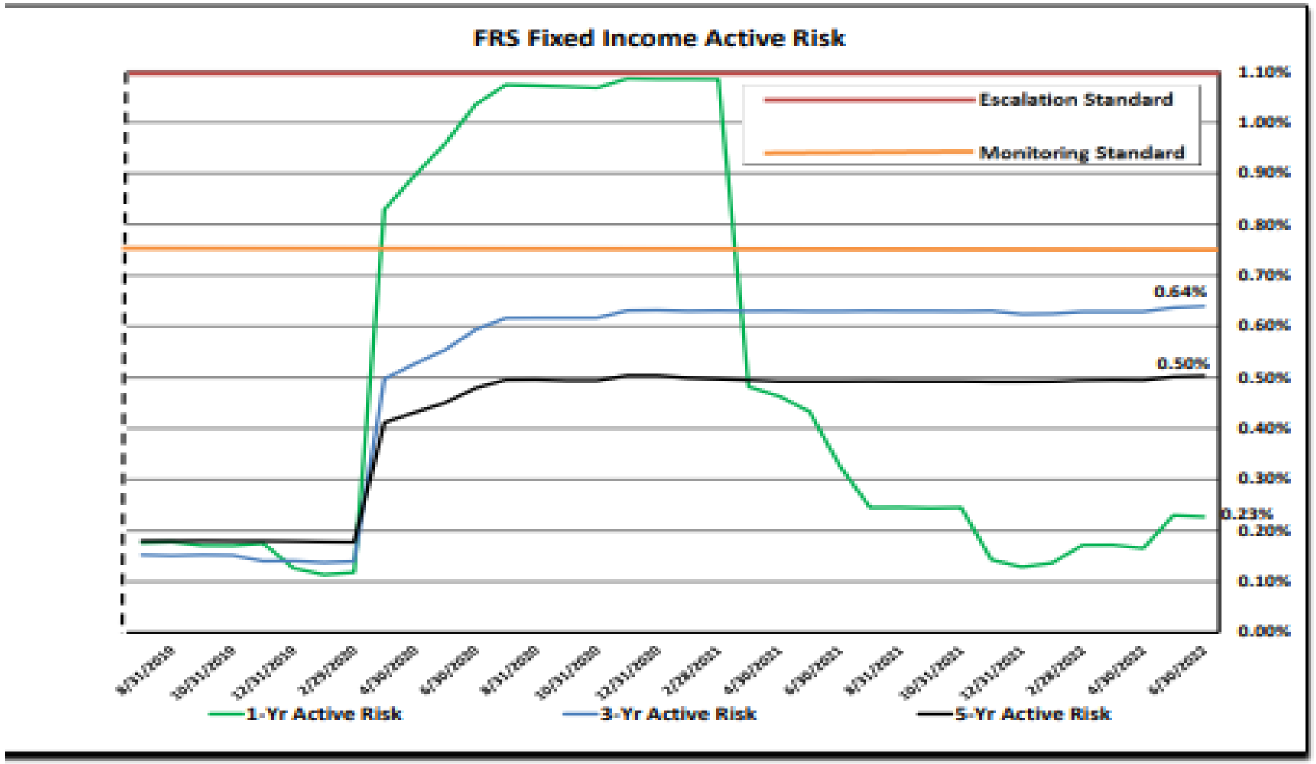
Fixed Income Review March 2023

Portfolio continues to overweight Spread Product, but with lower risk





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STATE BOARD OF ADMINISTRATION

Fixed Income Review March 2023

Expanded Risk Budget and increased Active Allocation

- Add exposure to out of benchmark structured products or other in a dedicated strategy
  Increased allocation to Core Plus Strategy Continuing to research opportunities outside of our benchmark, barbeling liquidity with yield.

- Consider opportunity to reduce risk to a rising rate environment, inflation, within overall allocation
  Tactically increased allocation to Liquidity portfolio in light of market volatility as Fed continues hiking/QT.

- Execute on tactical opportunities in out of Benchmark sectors – Core Plus opportunities
  Continuing to discuss opportunities ex-US, off benchmark, given limited opportunities in US Fixed Income. Considering derivative opportunities to increase ability to be nimble.

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STATE BOARD OF ADMINISTRATION

Global Equity Update

Tim Taylor, Senior Investment Officer

March 28, 2023

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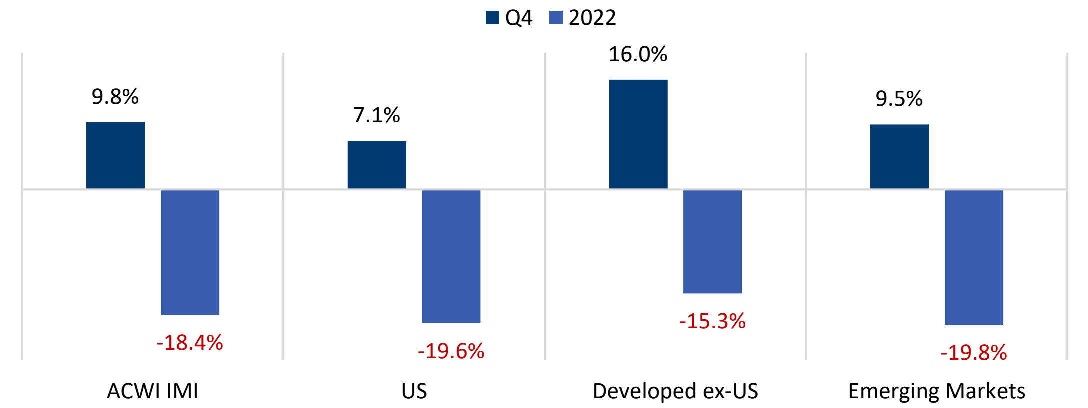
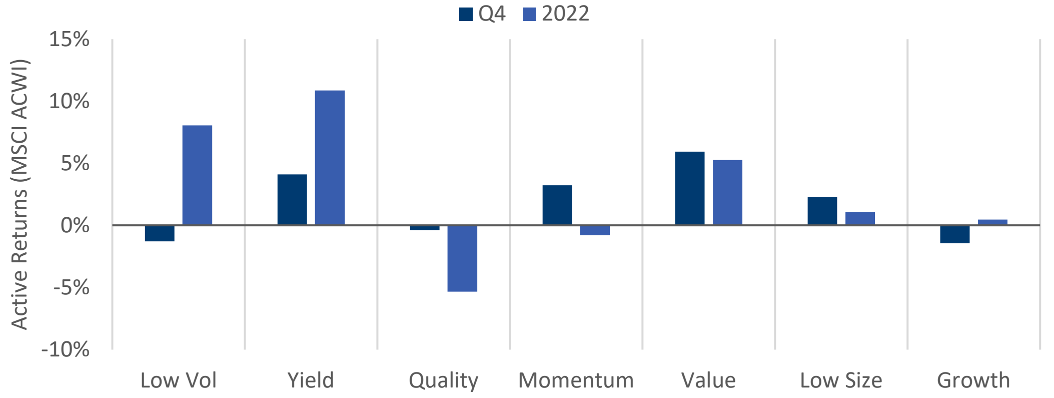
Q4 2022 Market Environment

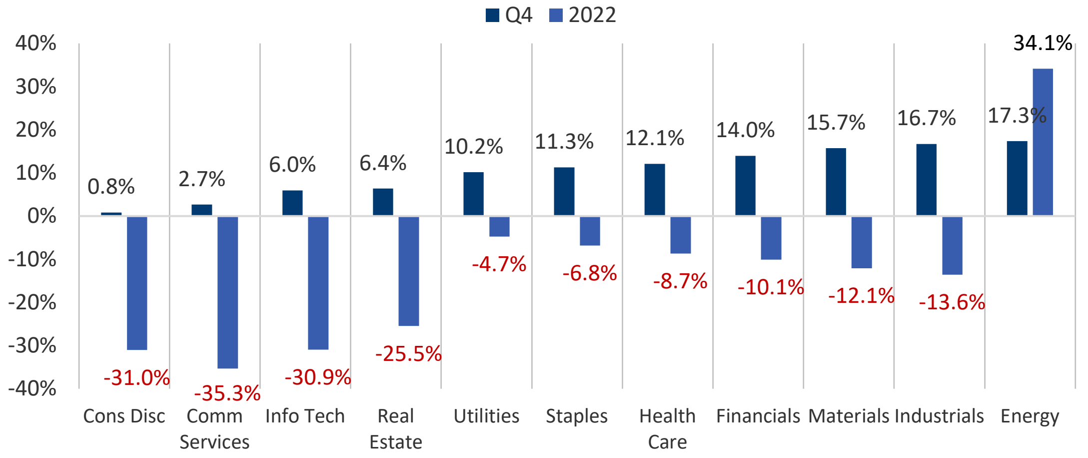
Global Markets Rebound



Yield & Value Factors Outperformed



Energy the Only Place to Hide in 2022



Q4 2022 Global Market Dynamics

- Global equity markets posted their first quarterly gain of the year. Signs that inflation and consumer prices have peaked gave hope that central banks would slow interest rate hikes.
- In Q4, US indexes rose but underperformed the rest of the world and the US dollar fell against most currencies.
- All sectors rose in Q4 with the majority posting double-digit positive returns.
- In 2022, Energy was the only sector with positive returns.
- Amid extreme volatility in global markets for the past year, value and yield factors were favored while quality struggled.

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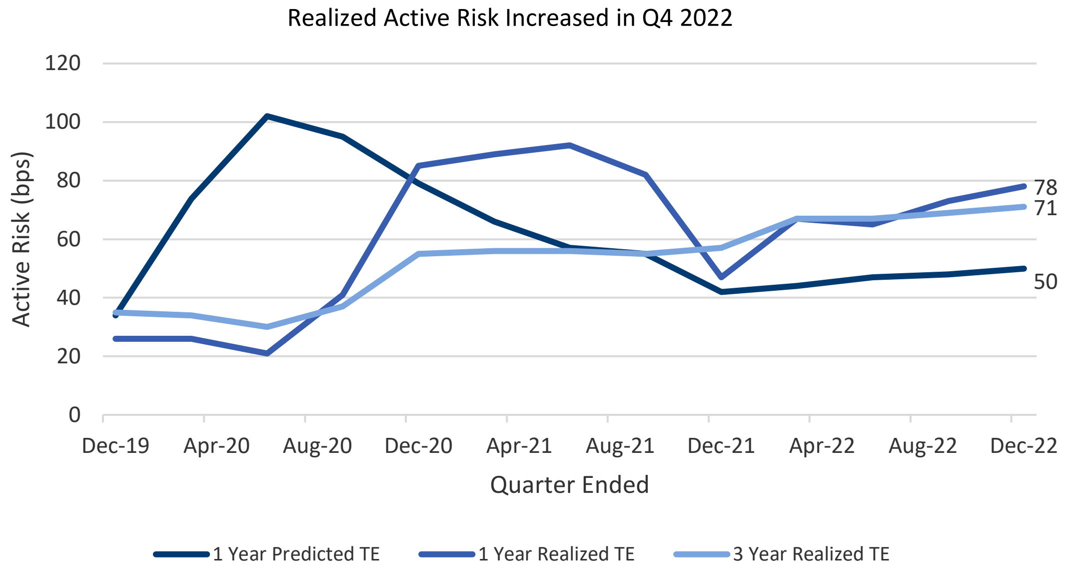
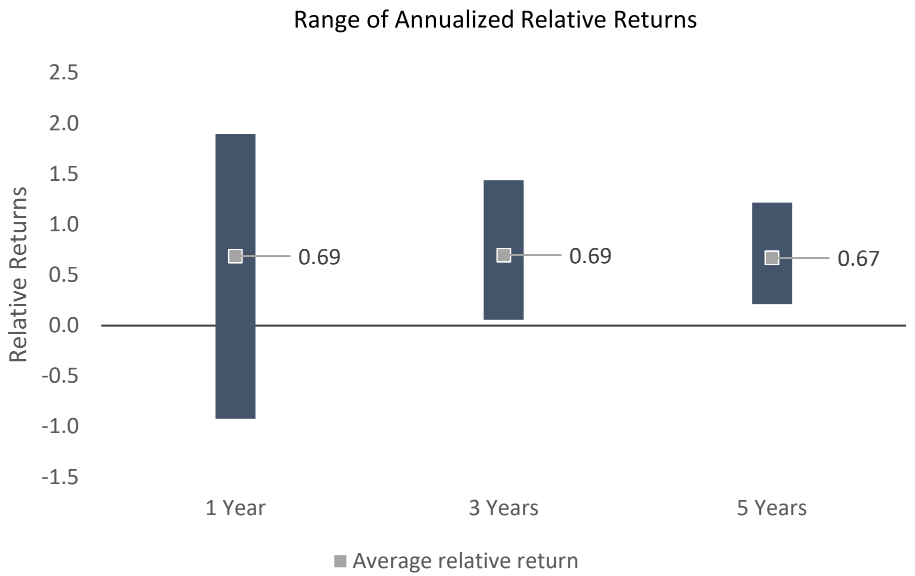
Note: As of December 31, 2022. Based on MSCI ACWI IMI for regional and sector returns. Factor returns are compared to the MSCI ACWI benchmark.

Aggregate Performance Summary

Total Global Equity	EMV ($M)	Q4 '22	FYTD	1 Yr	3 Yr	5 Yr	7 Yr	10 Yr	SI
Asset Class Return	$84,730	9.97%	2.79%	-18.73%	4.12%	5.27%	8.29%	8.50%	9.48%
vs Target		9.87%	2.53%	-18.40%	3.91%	4.97%	7.99%	7.98%	8.82%
Excess Return		**0.13%**	**0.26%**	**-0.33%**	**0.20%**	**0.30%**	**0.31%**	**0.53%**	**0.66%**
Tracking Error					0.71%	0.59%	0.55%	0.55%	0.55%
Return/Risk (IR)					0.21%	0.42%	0.47%	0.85%	1.07%





Note: All returns through 12/31/2022. Inception 7/1/10. Benchmark is Custom Iran Sudan Free MSCI ACWI IMI Index. Realized Risk is compared to prior 1 year Predicted Risk.

Active Strategy Performance Summary

	Excess Returns by Aggregate					What Happened in Q4 2022
Active Strategy Group	**% of Asset Class**	**Q4 2022**	**1 Year**	**3 Year**	**5 Year**	**Recent Performance Drivers**
Foreign Developed Large Cap	21%	-0.43%	-2.46%	0.57%	0.65%	The aggregate trailed the benchmark due to a reversal in high growth stocks in the IT and Consumer Discretionary sectors that previously drove outperformance. An underweight to international banks also detracted, but the impact was mitigated by the value managers in the exposure who outperformed.
Emerging Markets	11%	0.02%	-0.50%	0.45%	0.80%	Stock selection in India contributed positively as did an underweight to Saudi Arabia and Qatar. The managers who focus on value and quality did exceptionally well and offset the struggles of the growth managers this quarter.
Dedicated Global	10%	2.12%	1.57%	-1.58%	-0.99%	Strong stock selection across sectors and countries drove outperformance, with the U.S. consumer discretionary holdings as the strongest contributors. Top individual contributors included underweight positions in Tesla, Amazon and Alphabet.
Foreign Developed Small Cap	4%	1.12%	-0.25%	0.05%	-0.17%	The value and quality exposures in the portfolio drove outperformance and came from a wide range of sector and country exposures as several different investment approaches in the aggregate had strong performance.
US Large Cap	4%	-0.34%	2.45%	1.41%	-0.33%	Active managers were positioned well from a sector perspective but their emphasis on quality within each sector detracted. Underweight allocations to mega cap stocks like Tesla, Apple and Amazon contributed positively to performance, but not enough to offset the negative impact from overweight positions in quality holdings M&T Bank, Cable One and Public Storage.
US Small Cap	2%	2.25%	0.92%	2.52%	2.15%	The exposure and emphasis on quality, value and low volatility meaningfully contributed to the outperformance this quarter and was sourced from strong stock selection across most sectors.
Total Active Aggregate	**52%**	**0.18%**	**-1.04%**	**0.10%**	**0.19%**	

Note: All returns through 12/31/2022. Excess returns are relative to strategy group benchmark. Weights are relative to total equity assets under management.

Update on Initiatives

Provide Alpha

- Continued to research and implement structural enhancements.
- Streamlined and enhanced process to identify and review "non-traditional" strategies that add alpha and/or diversification to the Global Equity asset class.
- Researched investment opportunities for the internal portfolio management team.
- Began reviewing and addressing recommendations in Callan's Asset Class Structure Review.

Provide Liquidity

- Global Equity continues to be a significant provider of liquidity to support benefit payments.
- Raised $1.6 billion in Q4 2022 and $5 billion for calendar year 2022. GE has provided $51.8 billion of liquidity since July 2010.

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Private Equity Asset Class Update

John Bradley, SIO Private Equity

Investment Advisory Council

March 28, 2023

Market/Portfolio Update

- Market/Portfolio Update:
  - Market
    - 2022 was a difficult environment for private equity
      - 2022 U.S. buyout activity down 40%, global activity down 44%
      - IPO market was virtually non-existent in 2022
      - Fundraising activity continues to slow; down 10% for 2022
  - Portfolio
    - PE portfolio down 2.2% for Q3 2022
    - Venture (-3.5%) and European buyout (-5.8%) strategies were the worst performers during Q3
    - 2022 net cash flow $142 million
      - $2.03 billion in GP distributions
      - $1.89 billion of contributions

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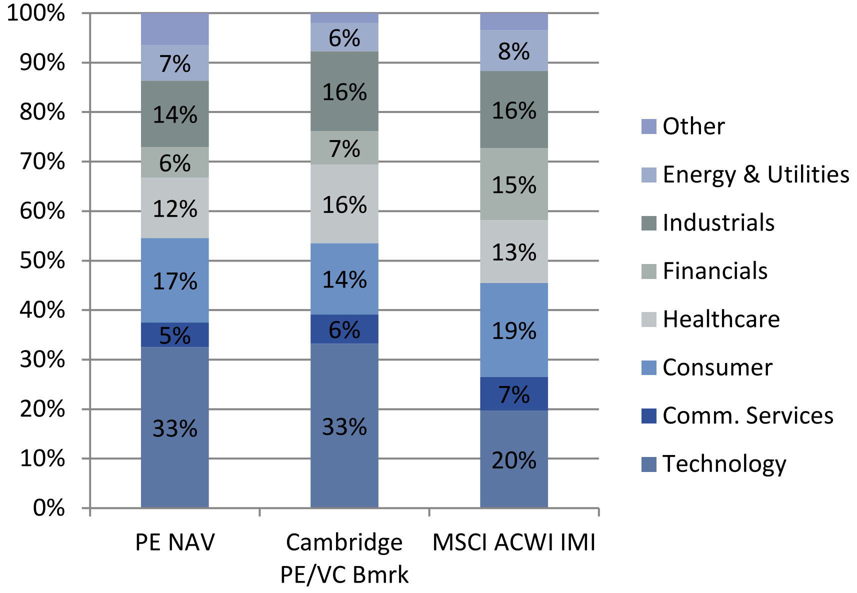
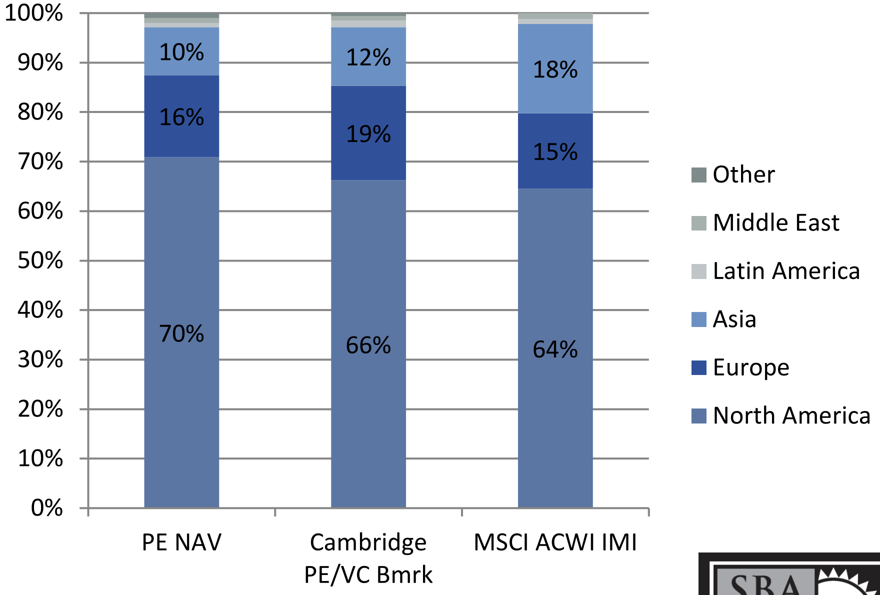
Sector and Geographic Exposure

As of September 30, 2022





Source: Cambridge Associates

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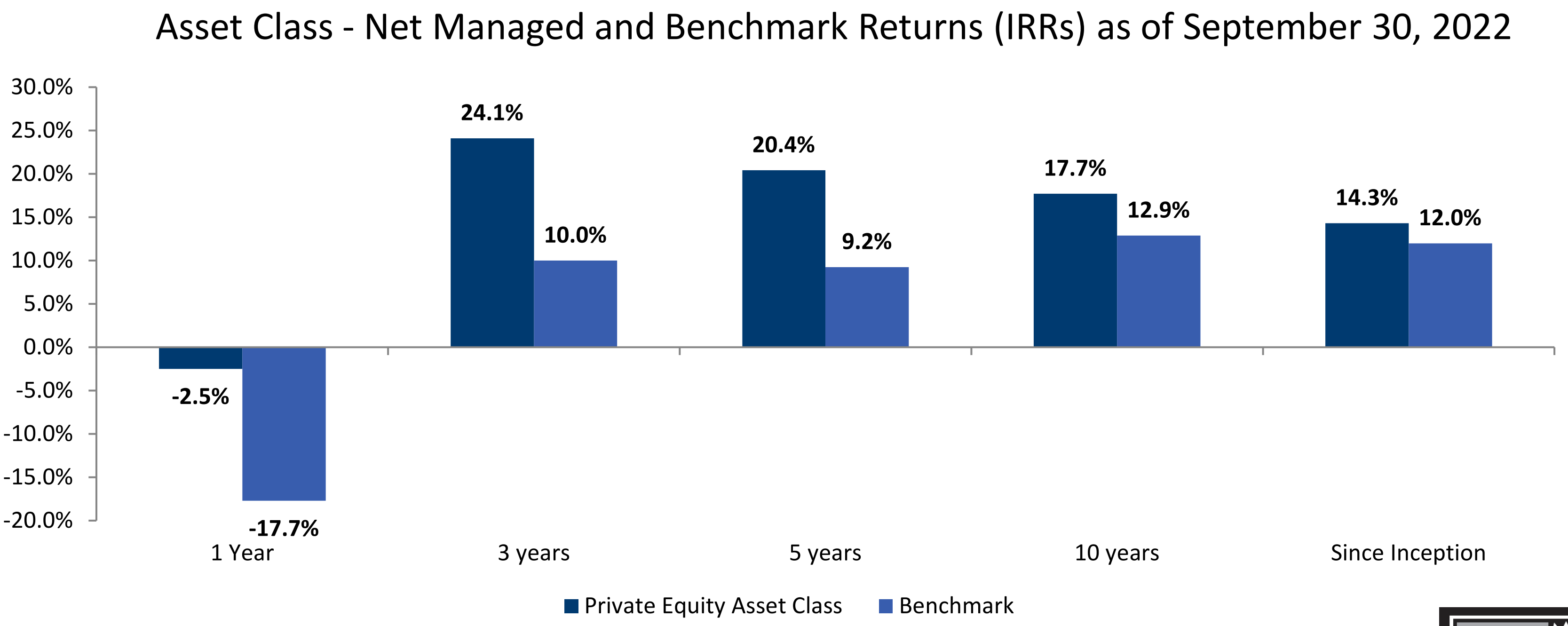
Private Equity Performance



Note: Asset class IRR performance data is provided by Cambridge Associates. The PE benchmark is currently the Custom Iran- and Sudan-free ACWI IMI + 300bps. From July 2010 through June 2014 the benchmark was the Russell 3000 + 300 bps. Prior to July 2010 , the benchmark was the Russell 3000 + 450 bps. Prior to November 1999, Private Equity was part of the Domestic Equities asset class and its benchmark was the Domestic Equities target index + 750 bps.

Please see Appendix for performance of the Legacy or pre-asset class portfolio.

Sub-strategy Performance

As of September 30, 2022

	1yr	3yr	5yr	10yr	Since Inception	PME Benchmark
U.S. Buyouts	0.4%	18.8%	17.9%	16.7%	13.1%	6.2%
Non-U.S. Buyouts	-11.2%	16.9%	15.3%	16.0%	12.6%	6.9%
U.S. Venture	-10.4%	38.7%	30.3%	21.9%	16.9%	6.9%
U.S. Growth Equity	4.1%	26.8%	22.5%	19.2%	15.8%	7.6%
Non-U.S. Growth Equity	-1.2%	13.0%	12.0%	11.5%	9.8%	5.4%
Distressed/Turnaround	20.4%	23.1%	15.9%	16.4%	18.6%	7.1%
Secondaries	5.2%	20.1%	15.3%	13.5%	15.8%	7.5%
Total PE Asset Class	-2.5%	24.1%	20.4%	17.7%	14.3%	6.6%

Sub-strategy returns and benchmark returns provided by Cambridge Associates and are calculated net of all fees and expenses. The benchmark is a public market equivalent (PME) benchmark and evaluates what a portfolio's return would have been had it been invested in a public market index. The index used for all strategies except for U.S. Venture is the MSCI ACWI IMI. The benchmark used for U.S. Venture is the Russell Microcap Growth Index.

SBA FLORIDA
STATE BOARD OF ADMINISTRATION

2022 Commitment Activity

Commitments totaling $1.1 billion to 12 funds through December 31, 2022

– $802 million to 8 buyout funds
  - Small 25%, Middle-Market 37%, Large 37%

– $115 million to 3 venture funds

– $150 million to 1 secondary fund

– Geographic Focus
  - US 63%, Europe 9%, Asia 0%, Global 28%

SBA FLORIDA
STATE BOARD OF ADMINISTRATION

Appendix

SBA FLORIDA
STATE BOARD OF ADMINISTRATION

Private Equity Aggregates

Dollar-Weighted Performance (IRRs) as of September 30, 2022

	Inception Date	Market Value (in Millions)	1yr	3yr	5yr	10yr	Since Inception
Total Private Equity	1/27/1989	$17,041.1	-2.5%	24.1%	20.3%	17.4%	11.0%
Custom Iran- and Sudan-free ACWI IMI +300bps			-17.7%	10.0%	9.3%	12.8%	10.8%
Private Equity Legacy Portfolio	1/27/1989	$2.6	0.0%	0.0%	-3.4%	-13.7%	3.7%
Custom Iran- and Sudan-free ACWI IMI +300bps			-18.3%	6.5%	7.8%	12.9%	9.5%
Private Equity Asset Class Portfolio	8/31/2000	$17,038.6	-2.5%	24.1%	20.4%	17.7%	14.3%
Custom Iran- and Sudan-free ACWI IMI +300bps			-17.7%	10.0%	9.3%	12.9%	12.0%

Note: Asset class IRR performance data is provided by Cambridge Associates. The PE benchmark is currently the Custom Iran- and Sudan-free ACWI IMI + 300bps. From July 2010 through June 2014 the benchmark was the Russell 3000 + 300 bps. Prior to July 2010 , the benchmark was the Russell 3000 + 450 bps. Prior to November 1999, Private Equity was part of the Domestic Equity asset class and its benchmark was the Domestic Equity target index + 750 bps.

SBA FLORIDA STATE BOARD OF ADMINISTRATION

State Board of Administration

Strategic Investments Asset Class Review

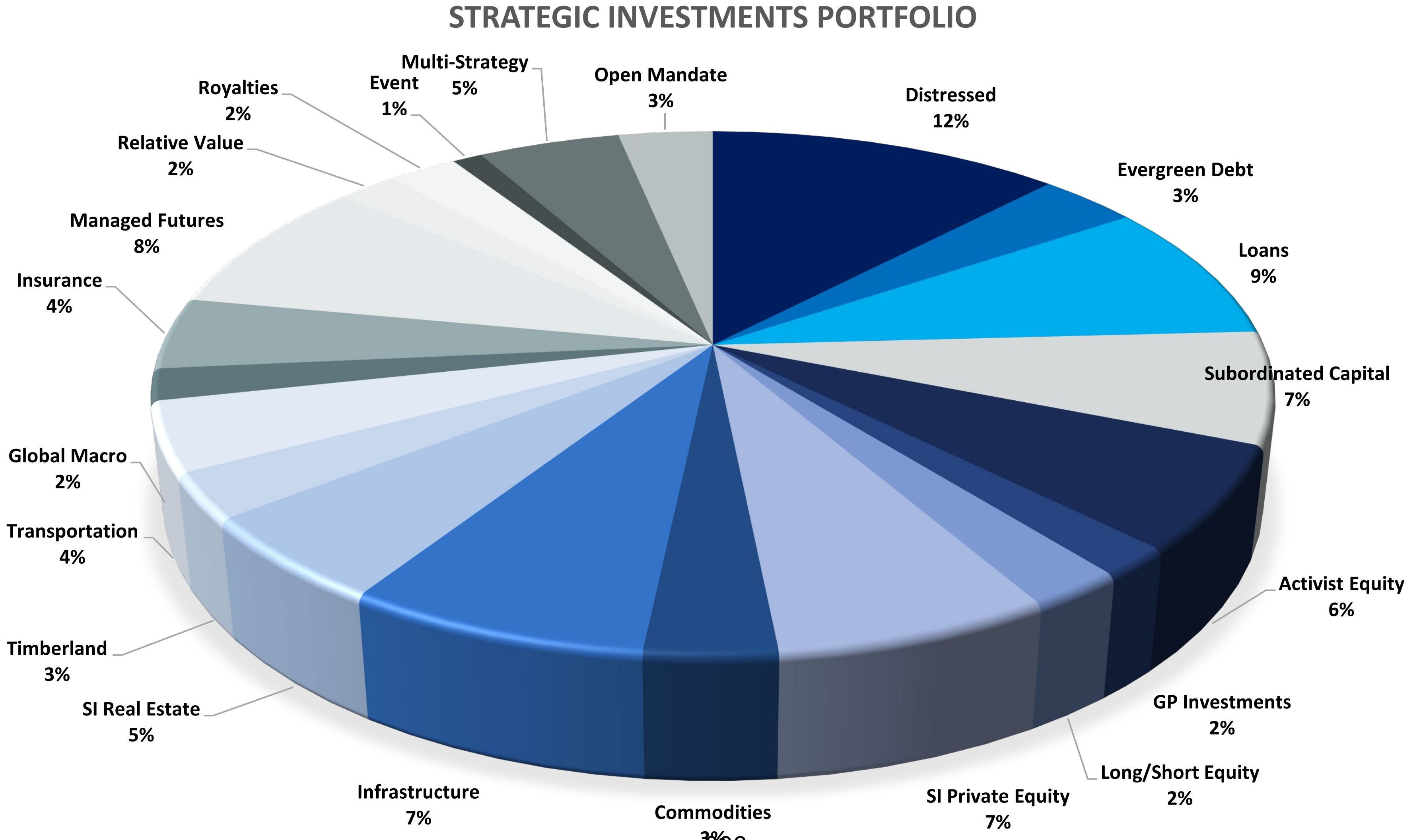
Trent Webster

Senior Investment Officer – Strategic Investments

Investment Advisory Council Meeting

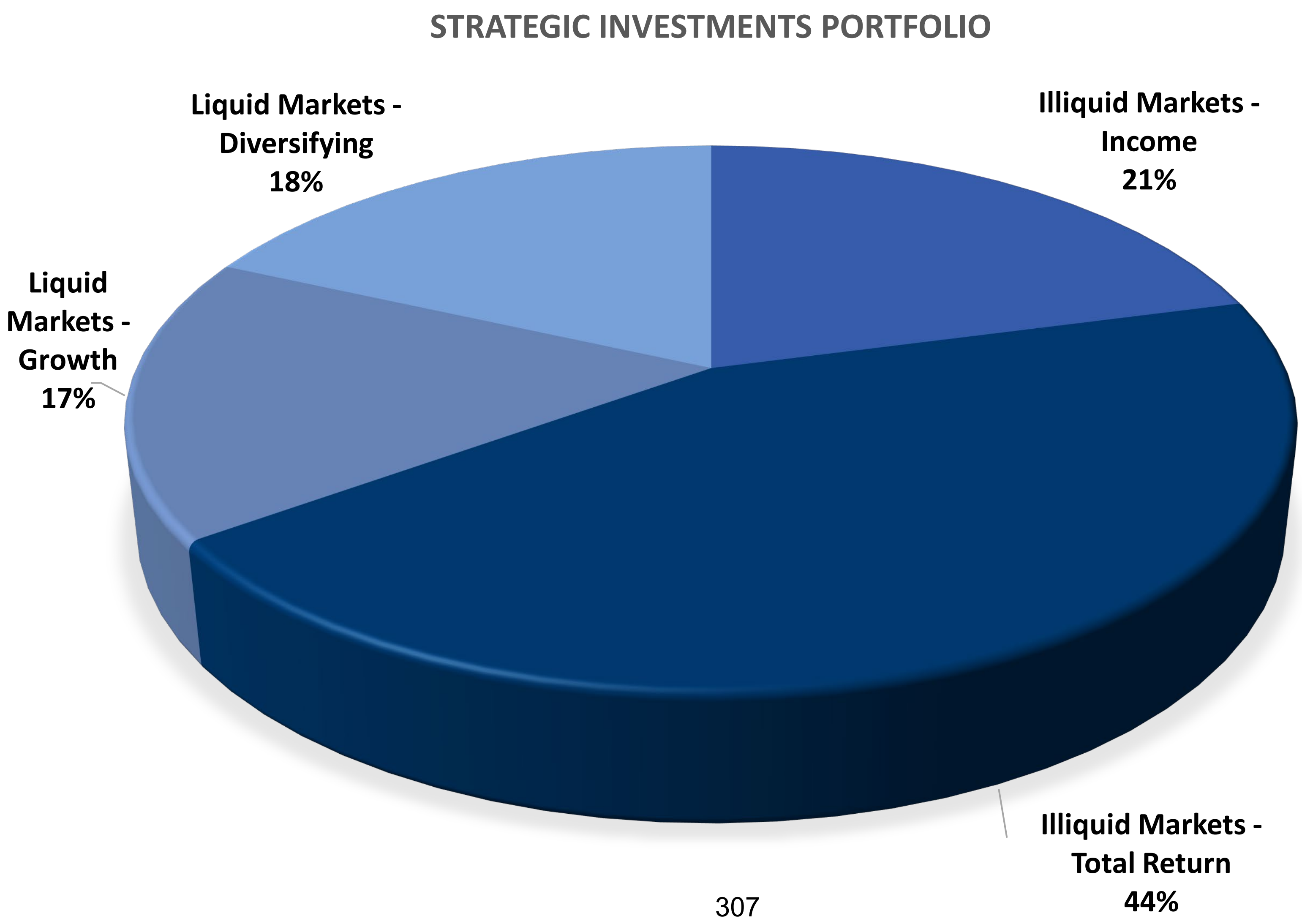
March 28, 2023

Portfolio

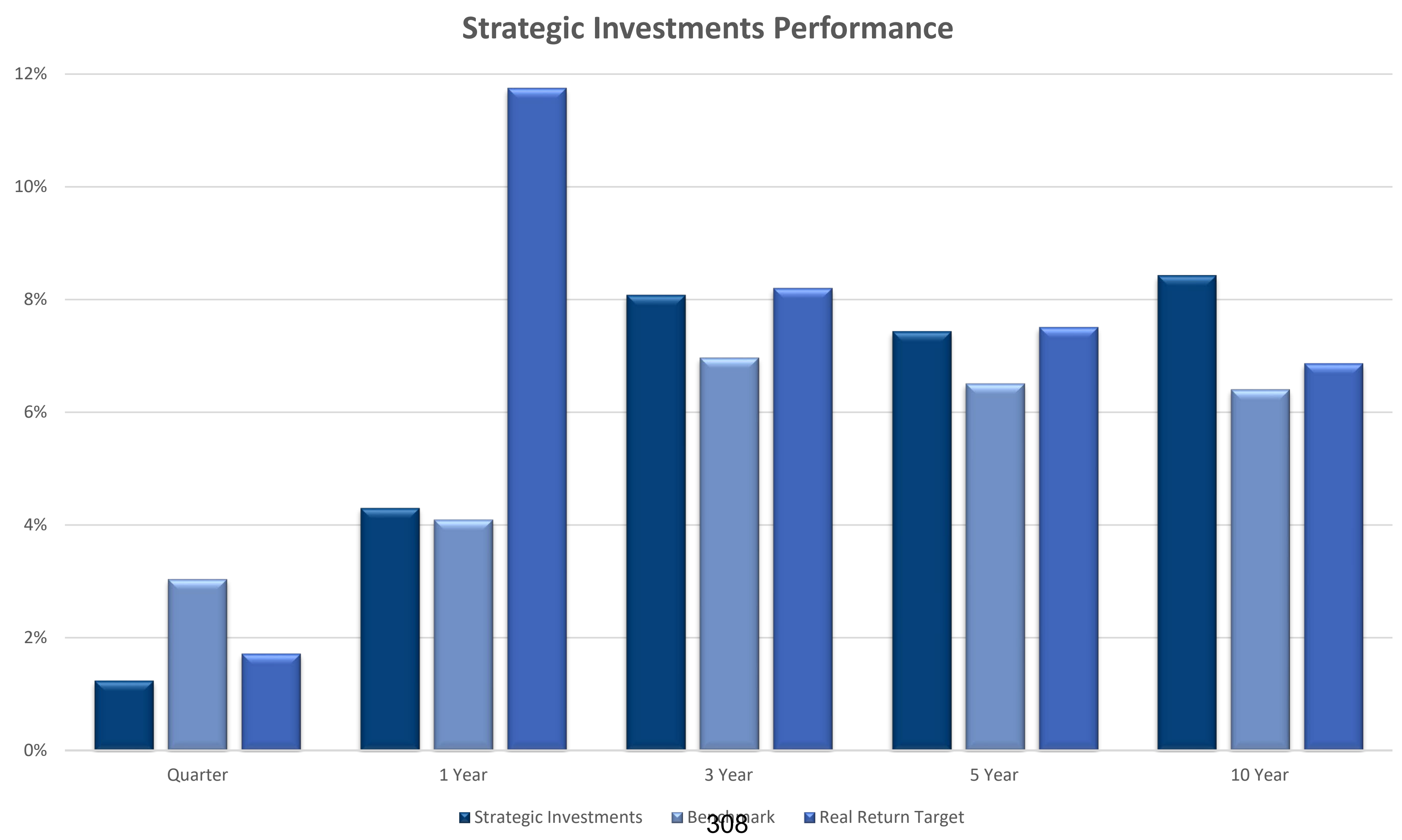


STRATEGIC INVESTMENTS PORTFOLIO
Multi-Strategy 5%
Open Mandate 3%
Distressed 12%
Royalties 2%
Event 1%
Evergreen Debt 3%
Relative Value 2%
Loans 9%
Managed Futures 8%
Insurance 4%
Subordinated Capital 7%
Global Macro 2%
Transportation 4%
Activist Equity 6%
Timberland 3%
SI Real Estate 5%
GP Investments 2%
Long/Short Equity 2%
Infrastructure 7%
SI Private Equity 7%
Commodities 3%

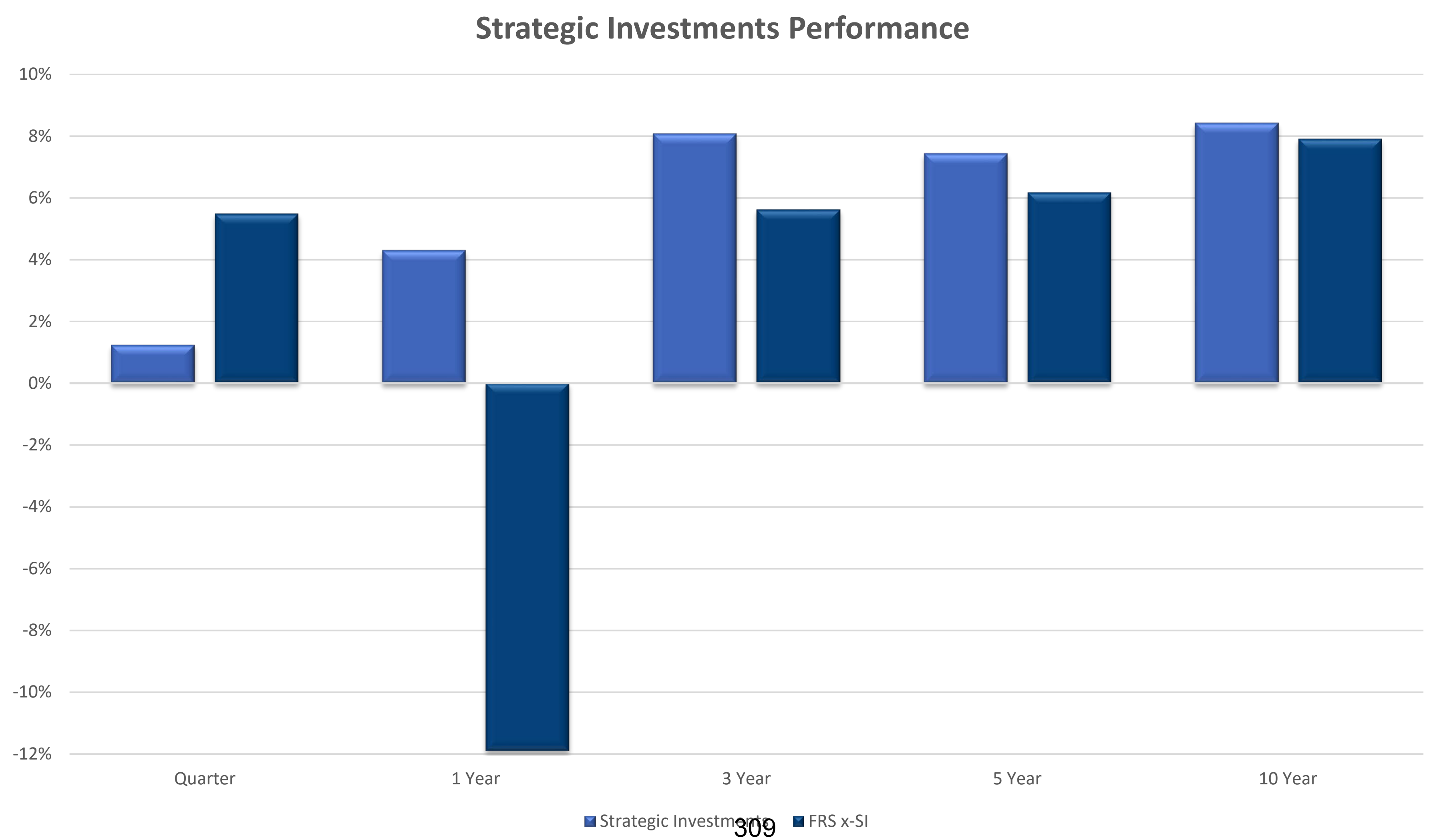
Portfolio


STRATEGIC INVESTMENTS PORTFOLIO
Liquid Markets - Diversifying 18%
Illiquid Markets - Income 21%
Liquid Markets - Growth 17%
Illiquid Markets - Total Return 44%

Performance



Performance



Hedge Fund Performance

December-22	1 Year	3 Year		5 Year				10 Year		
	Return	Return		Return	Sharpe	Correlation		Return	Sharpe	Correlation
Strategic Investments Hedge Funds	1.8%	5.0%		3.9%	0.69	0.56		4.6%	1.06	0.55
Benchmark	4.1%	5.8%		4.6%	0.60	0.57		4.8%	0.85	0.56
Credit Suisse Hedge Fund Composite	1.1%	5.2%		4.2%	0.63	0.74		4.2%	0.72	0.73
HFRI Hedge Fund-of-Funds Composite	-5.3%	3.7%		3.0%	0.27	0.79		3.5%	0.53	0.78
Credit Suisse Long/Short Equity Composite	-5.8%	3.3%		3.3%	0.24	0.86		5.2%	0.65	0.83
Credit Suisse Fixed Income Arbitrage Composite	-1.0%	2.6%		3.0%	0.40	0.44		3.4%	0.80	0.42
Credit Suisse Global Macro Composite	15.9%	10.6%		8.3%	0.84	0.37		5.5%	0.71	0.38
Credit Suisse Managed Futures Composite	19.1%	9.5%		6.0%	0.49	0.02		3.9%	0.31	0.05
Credit Suisse Multi-Strategy Composite	1.3%	4.6%		4.0%	0.48	0.57		5.2%	1.02	0.54
FRS ex-SI	-11.9%	5.6%		6.2%	0.44	0.97		7.9%	0.79	0.96
S&P 500 Total Return Index	-18.1%	7.7%		9.4%	0.43	1.00		12.6%	0.79	1.00
Barclay's Aggregate	-13.0%	-2.7%		0.0%	-0.26	0.35		1.1%	0.05	0.26
60/40 S&P 500/Barclay's Agg Portfolio	-15.8%	3.8%		6.0%	0.38	0.99		8.1%	0.77	0.99
Correlation is to the S&P 500 index										

SBA FLORIDA
STATE BOARD OF ADMINISTRATION

Recent Activity

- Quarterly cash inflow of $58 million
- Calendar year cash outflow of $424 million
- One fund totaling $150 million closed during the last quarter
- Four funds totaling $700 million closed quarter-to-date
- Fifteen funds totaling $2.26 billion closed this calendar year
- Four funds totaling $600 million in the pipeline

SBA FLORIDA STATE BOARD OF ADMINISTRATION

Pipeline

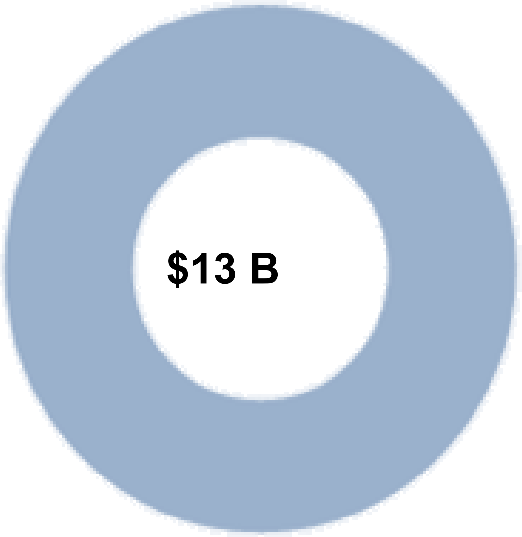
- Four Debt funds – Three Loan, one Evergreen Debt
- Three new relationships
- Three private markets strategies
- One hedge fund

FLORIDA RETIREMENT SYSTEM (FRS) INVESTMENT PLAN

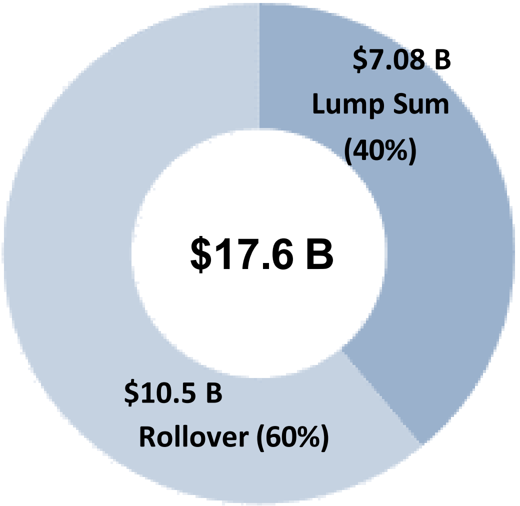
FRS INVESTMENT PLAN SNAPSHOT

(as of December 31, 2022)

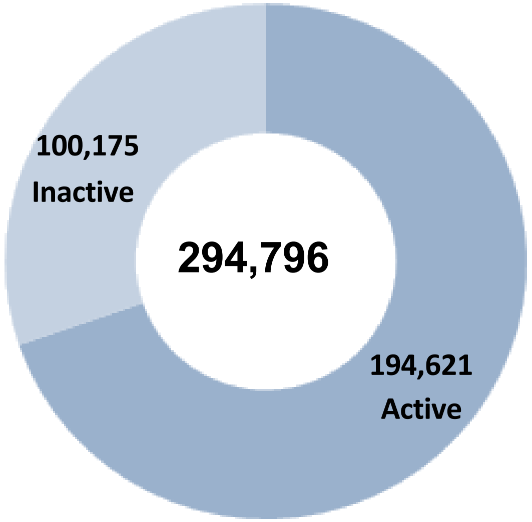
Assets



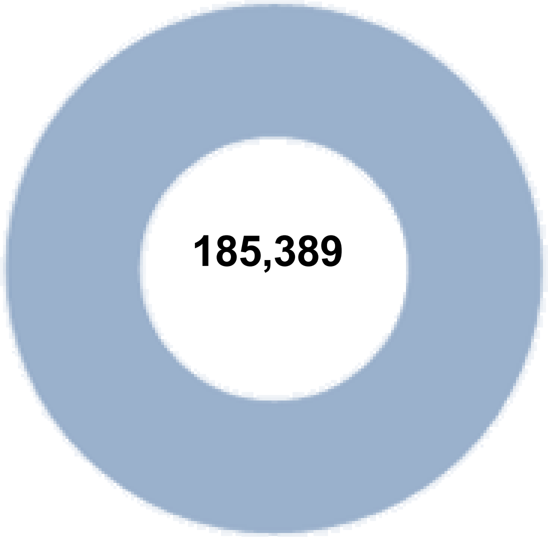
Distributions



Members



Retirees



Average Statistics

Female 49% Male 47%

Age 47

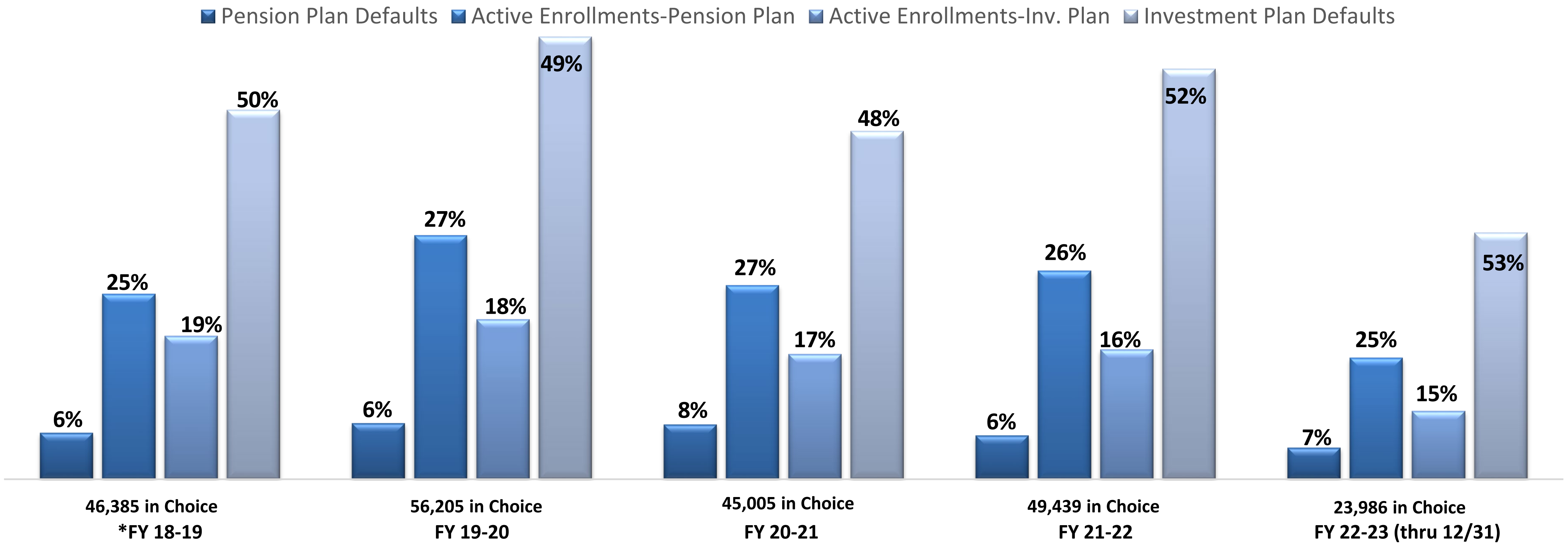
$44,026 balance

4.62 years of service

STATE BOARD OF ADMINISTRATION

PLAN CHOICE STATISTICS

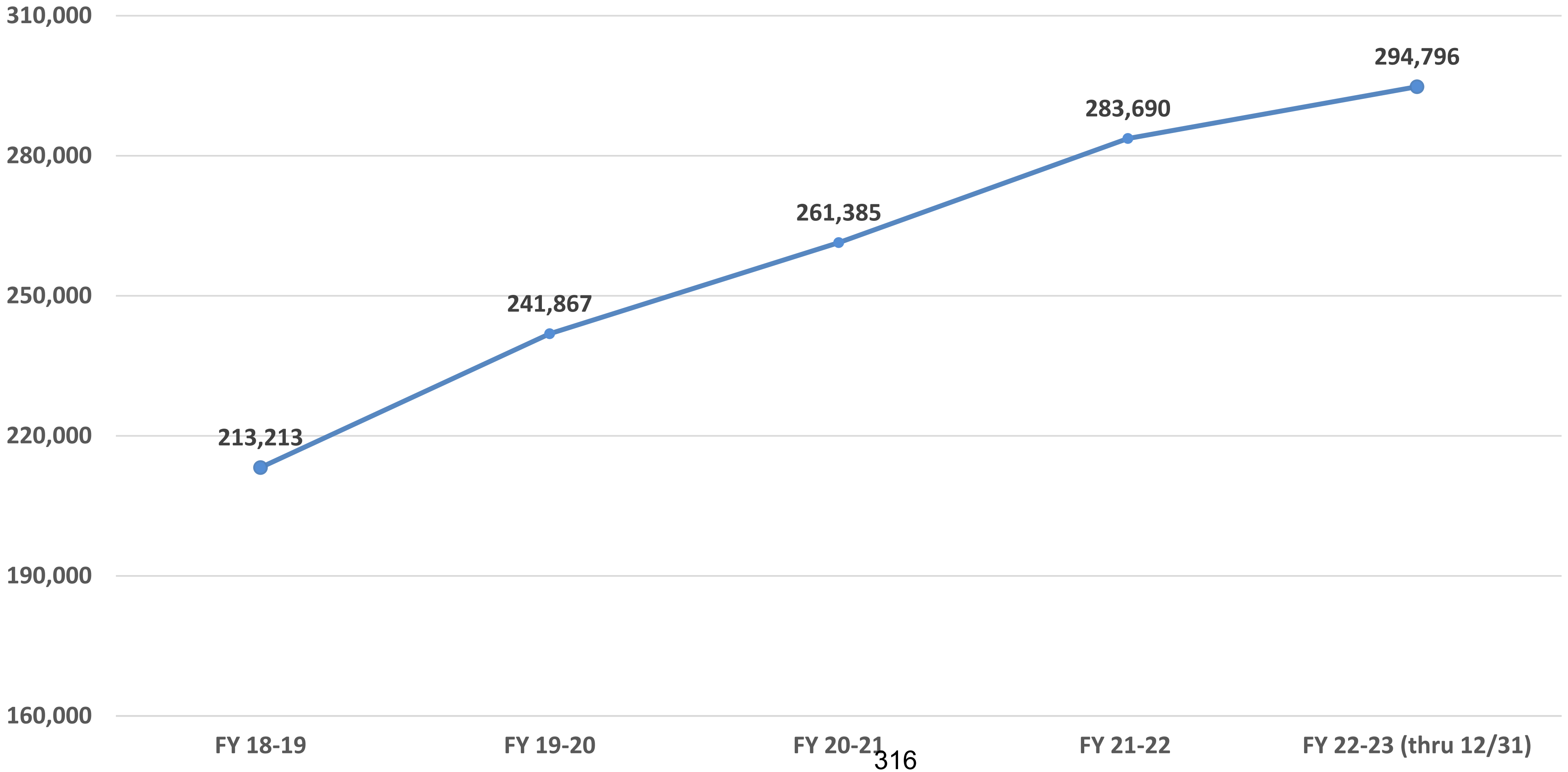
(as of December 31, 2022)



*Default Change to Investment Plan (except for Special Risk)

SBA FLORIDA STATE BOARD OF ADMINISTRATION

INVESTMENT PLAN MEMBERSHIP GROWTH



ASSET CLASS PERFORMANCE

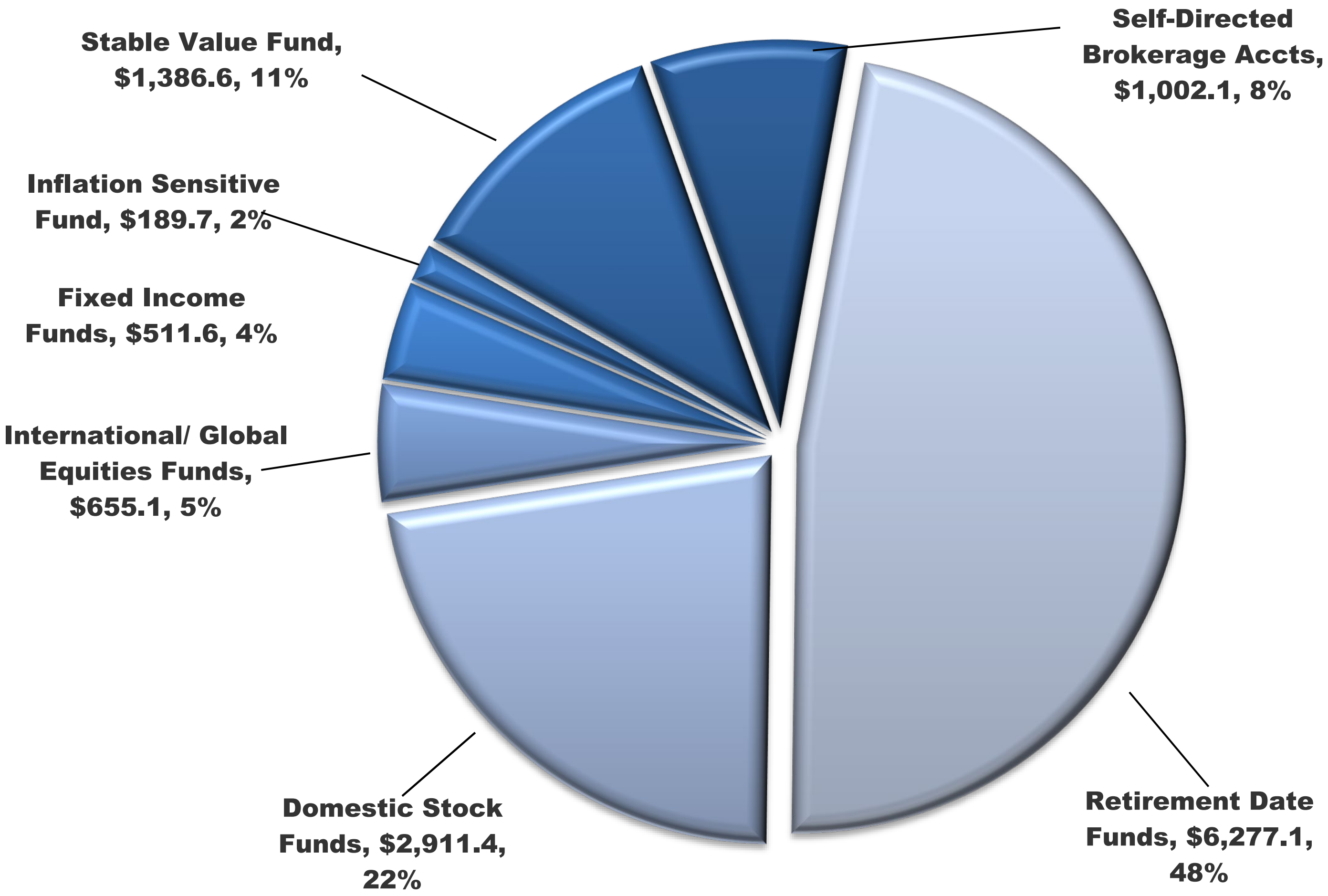
(as of December 31, 2022)

	QTD	FYTD	1 Yr	3 Yr	5 Yr	Incept.
Total Fund	6.15%	0.98%	-15.14%	3.06%	4.48%	6.53%
Stable Value	0.55%	1.03%	1.84%	1.93%	2.06%	2.01%
Inflation Protected Assets & TIPS*	3.78%	-2.51%	-7.70%	2.70%	2.94%	1.76%
Fixed Income	2.15%	-1.98%	-12.45%	-1.94%	0.67%	3.83%
Domestic Equities	7.29%	2.61%	-20.38%	5.99%	7.69%	9.75%
Global & International Equities	13.71%	2.49%	-18.18%	1.05%	2.01%	7.13%
Retirement Date Funds	6.81%	0.45%	-14.14%	3.01%	4.22%	4.95%
Real Estate	-4.86%	-5.81%	1.79%	7.97%	7.82%	7.82%
TF x RDFs	5.43%	1.55%	-16.19%	3.06%	4.68%	5.59%

*Prior to 2014, TIPS only.
Retirement Date Funds Inception July 1, 2014
TF x RDFs Inception July 1, 2014
Real Estate was added January 1, 2018
Stable Value Fund Inception July 1, 2021

FRS INVESTMENT PLAN AUM

(by Asset Class—in $millions, as of December 31, 2022)



Asset alocation is a result of member investment selection

MyFRS FINANCIAL GUIDANCE PROGRAM

(January 1, 2022-December 31, 2022)

INVESTMENT EDUCATION

EY FINANCIAL PLANNER CALLS	FINANCIAL PLANNING WORKSHOPS	ATTENDANCE FINANCIAL WORKSHOPS	WEBSITE HITS	WEBSITE CHATS
334,105	566	22,853	2,434,386	119,494
+1%	-17%	-19%	-26%	+.06%

(% change from previous 12 months)

46 Annuities purchased last 12 months - $6.0 million
235 Total Annuities purchased inception to date - $29.6 million

SBA FLORIDA
STATE BOARD OF ADMINISTRATION

QUESTIONS

Fourth Quarter 2022 Discussion Guide

State Board of Administration of Florida

March 28, 2023

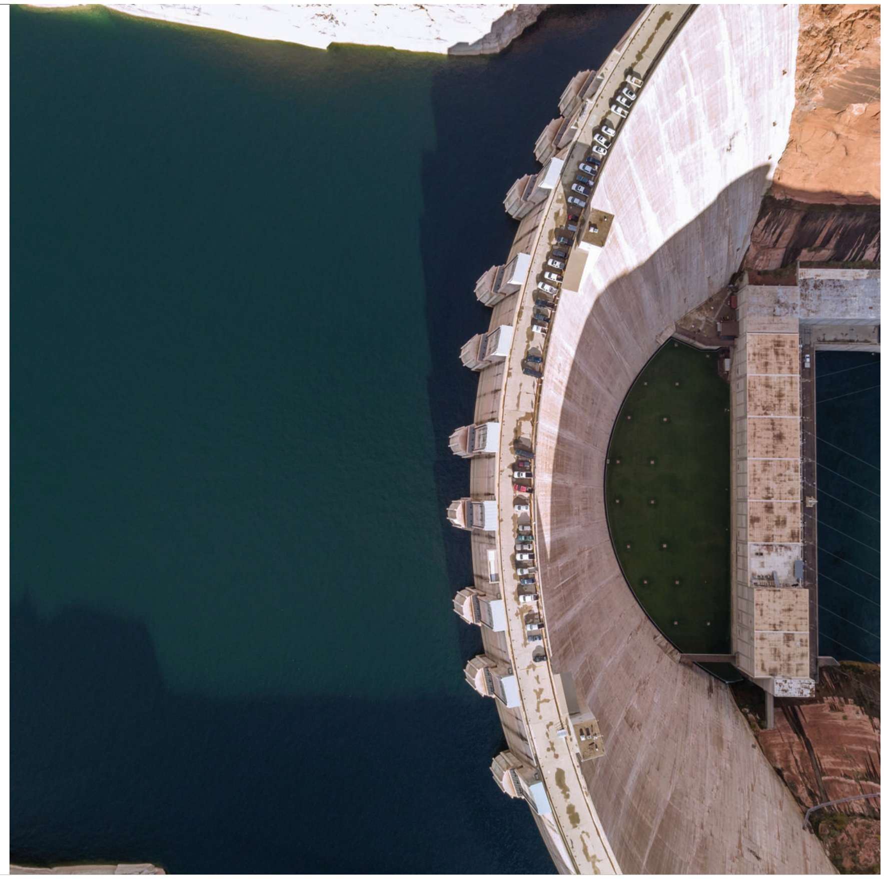


Table of Contents

Executive Summary

- The major mandates each produced generally strong returns relative to their respective benchmarks over both short- and long-term time periods ending December 31, 2022.
- The Pension Plan outperformed its Performance Benchmark over the trailing one-, three-, five-, ten-, and fifteen-year periods.
  - Over the trailing five-year period, Private Equity and Global Equity were the leading contributors to relative returns
- The FRS Investment Plan outperformed the Total Plan Aggregate Benchmark over the trailing five-, and ten-year periods.
- The CAT Funds' performance is strong over long-term periods, outperforming the benchmark over the trailing quarter, one-, three-, five- and ten-year periods.
- Florida PRIME has continued to outperform its benchmark over both short- and long-term time periods.

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Pension Plan: Executive Summary

- The Pension Plan assets totaled $177.7 billion as of December 31, 2022, which represents a $6.8 billion increase since last quarter.
- The Pension Plan, when measured against the Performance Benchmark, outperformed over the trailing one-, three-, five-, ten-, and fifteen- year periods.
- Relative to the Absolute Nominal Target Rate of Return, the Pension Plan outperformed over the trailing ten-year time period and underperformed over the trailing one-, three- and five-year time periods as inflation has surged recently.
- The Pension Plan is well-diversified across six broad asset classes, and each asset class is also well-diversified.
  - Public market asset class investments do not significantly deviate from their broad market-based benchmarks, e.g., sectors, market capitalizations, global regions, credit quality, duration, and security types.
  - Private market asset classes are well-diversified by vintage year, geography, property type, sectors, investment vehicle/asset type, and investment strategy.
  - Asset allocation is monitored on a daily basis to ensure that the actual asset allocation of the Pension Plan remains close to the long-term policy targets set forth in the Investment Policy Statement.
- Aon Investment Consulting and SBA staff revisit the plan design annually through informal and formal asset allocation and asset liability reviews.
- Adequate liquidity exists within the asset allocation to pay the monthly obligations of the Pension Plan consistently and on a timely basis.

FRS Pension Plan Change in Market Value

Periods Ending 12/31/2022

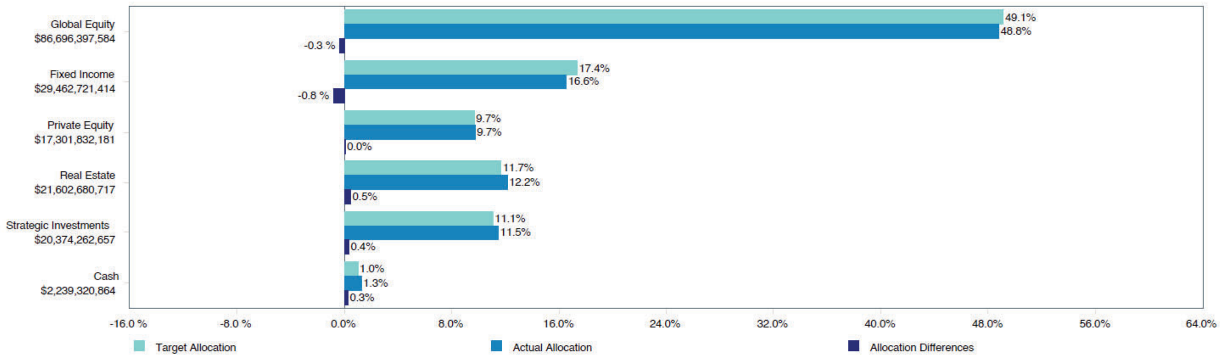
Summary of Cash Flows		
	Fourth Quarter	**Fiscal YTD***
Beginning Market Value	$170,859,676,055	$179,954,710,565
+/- Net Contributions/(Withdrawals)	$(1,698,171,883)	$(3,856,003,077)
Investment Earnings	$8,515,711,245	$1,578,507,929
= Ending Market Value	$177,677,215,416	$177,677,215,416
Net Change	$6,817,539,361	$(2,277,495,149)

*Period July 2022 – December 2022

Asset Allocation as of 12/31/2022

Total Fund Assets = $177.7 Billion

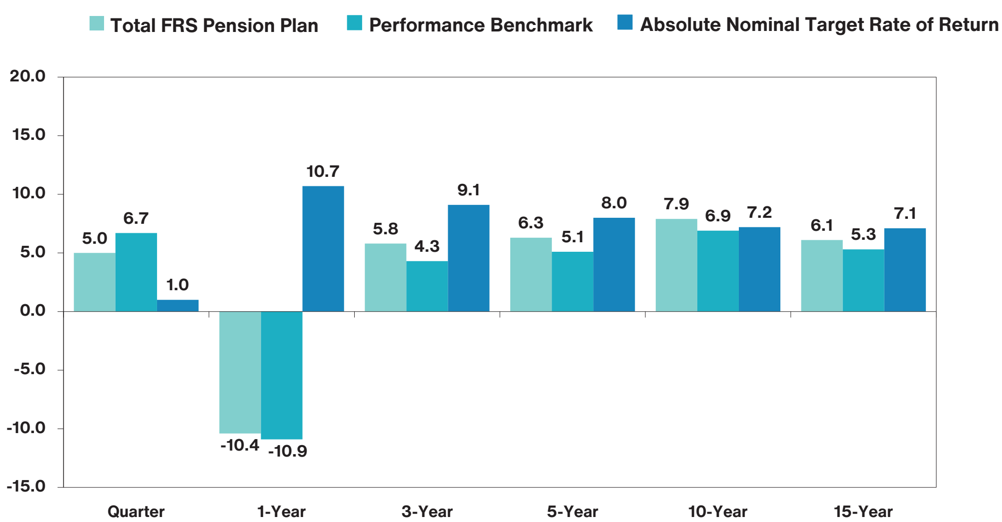
	Market Value $	Current Allocation %	Target Allocation %	Minimum Allocation %	Maximum Allocation %
Total Fund	**177,677,215,416**	**100.0**	**100.0**		
Global Equity	86,696,397,584	48.8	49.1	45.0	70.0
Fixed Income	29,462,721,414	16.6	17.4	10.0	26.0
Private Equity	17,301,832,181	9.7	9.7	2.0	12.0
Real Estate	21,602,680,717	12.2	11.7	4.0	16.0
Strategic Investments	20,374,262,657	11.5	11.1	0.0	16.0
Cash	2,239,320,864	1.3	1.0	0.3	5.0



AON

FRS Pension Plan Investment Results

Periods Ending 12/31/2022

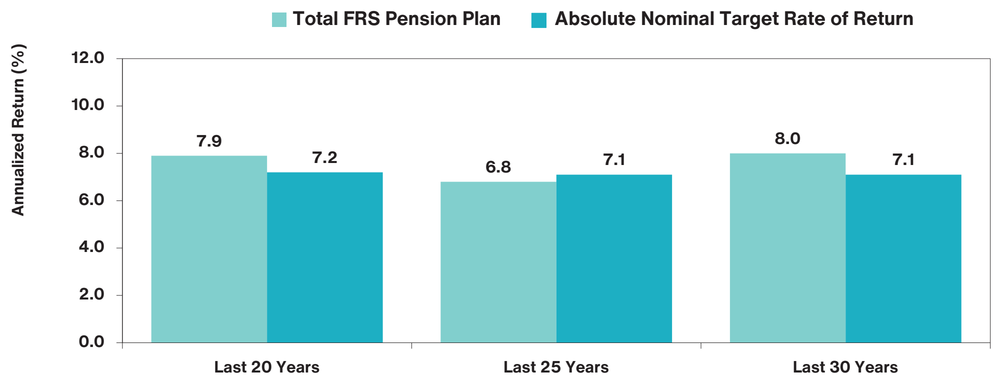


AON

FRS Pension Plan Investment Results

Periods Ending 12/31/2022

Long-Term FRS Pension Plan Performance Results vs. SBA's Long-Term Investment Objective

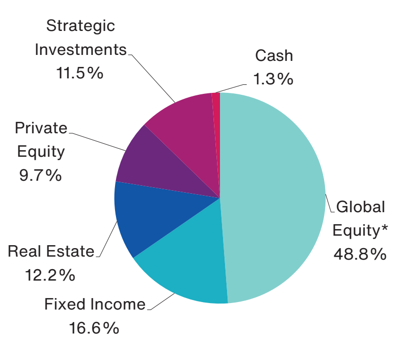


AON

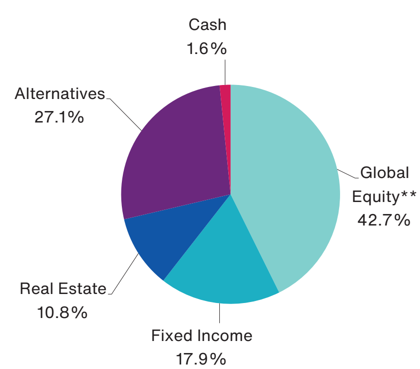
Comparison of Asset Allocation (TUCS Top Ten)

FRS Pension Plan vs. Top Ten Defined Benefit Plans

FRS TOTAL FUND
As of 12/31/2022



TUCS TOP TEN



*Global Equity Allocation: 24.2% Domestic Equities; 17.1% Foreign Equities; 6.3% Global Equities; 1.2% Global Equity Liquidity Account. Percentages are of the Total FRS Fund.

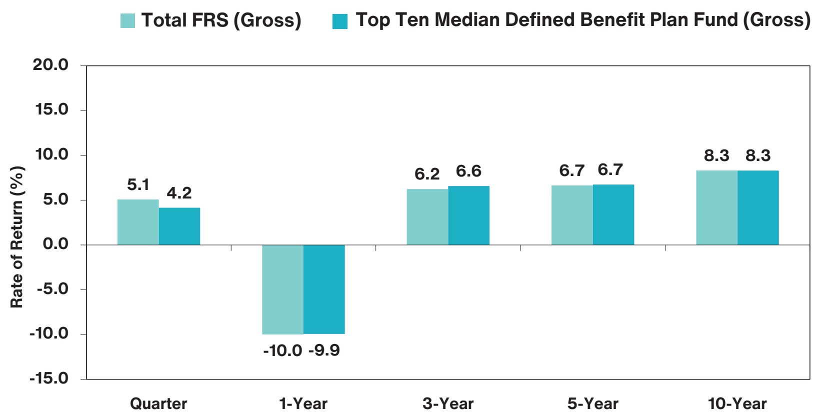
**Global Equity Allocation: 27.1% Domestic Equities; 15.6 Foreign Equities.

Note: The data set includes $1,894 billion in total assets. The median fund size was $178 billion and the average fund size was $189 billion.
Note: Due to rounding, percentage totals displayed may not sum perfectly.

AON

FRS Results Relative to TUCS Top Ten Defined Benefit Plans

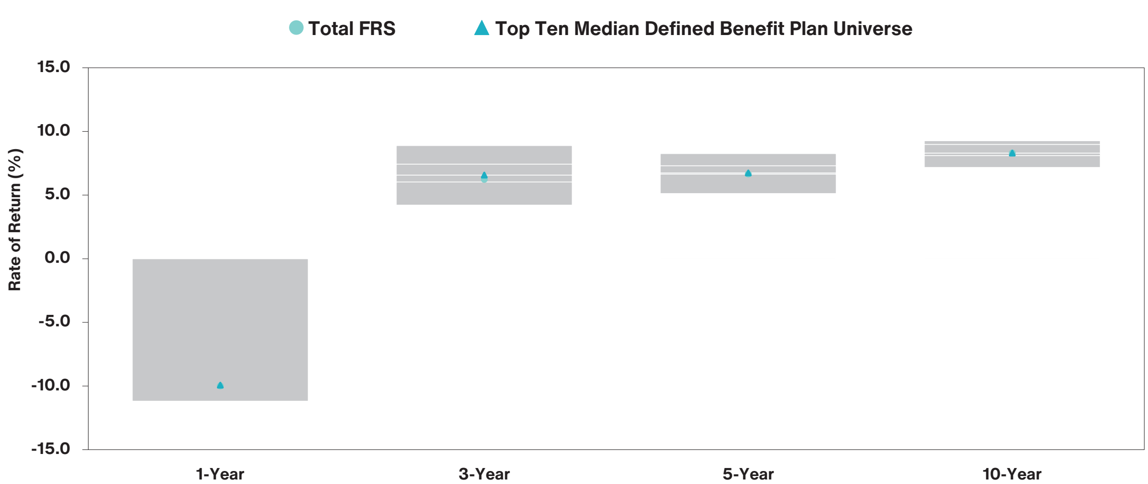
Periods Ending 12/31/2022



Note: The data set includes $1,894 billion in total assets. The median fund size was $178 billion and the average fund size was $189 billion.
Note: Due to rounding, percentage totals displayed may not sum perfectly.

Top Ten Defined Benefit Plans FRS Universe Comparison (TUCS)

Periods Ending 12/31/2022



	1-Year	3-Year	5-Year	10-Year
FRS Percentile Ranking	62	62	75	37

Note: The data set includes $1,894 billion in total assets. The median fund size was $178 billion and the average fund size was $189 billion.

Investment Plan: Executive Summary

- The FRS Investment Plan outperformed the Total Plan Aggregate Benchmark over the trailing five-, and ten-year periods. This suggests strong relative performance of the underlying fund options in which participants are investing.

- The FRS Investment Plan's total expense ratio is in line with peer defined contribution plans, based on year-end 2022 data. The total FRS Investment Plan expense ratio includes investment management fees, as well as administration, communication and education costs. Communication and education costs are not charged to FRS Investment Plan members; however, these and similar costs may be charged to members of plans within the peer group.

- Management fees are lower than the median as represented by Morningstar's mutual fund universe for every investment category.

- The FRS Investment Plan offers an appropriate number of fund options that span the risk and return spectrum.

- The Investment Policy Statement is revisited periodically to ensure that the structure and guidelines of the FRS Investment Plan are appropriate, taking into consideration the FRS Investment Plan's goals and objectives.

Total Investment Plan Returns & Cost

Periods Ending 12/31/2022*

	One-Year	Three-Year	Five-Year	Ten-Year
FRS Investment Plan	**-15.1**	**3.1**	**4.5**	**6.5**
*Total Plan Aggregate Benchmark***	-13.8	3.2	4.4	6.3
FRS Investment Plan vs. Total Plan Aggregate Benchmark	(1.3)	(0.1)	0.1	0.2

Periods Ending 12/31/2021***

	Five-Year Average Return****	Five-Year Net Value Added	Expense Ratio
FRS Investment Plan	**11.3%**	**0.2%**	**0.27%*******
Peer Group	*11.4*	*0.2*	*0.25*
FRS Investment Plan vs. Peer Group	-0.1	0.0	0.00

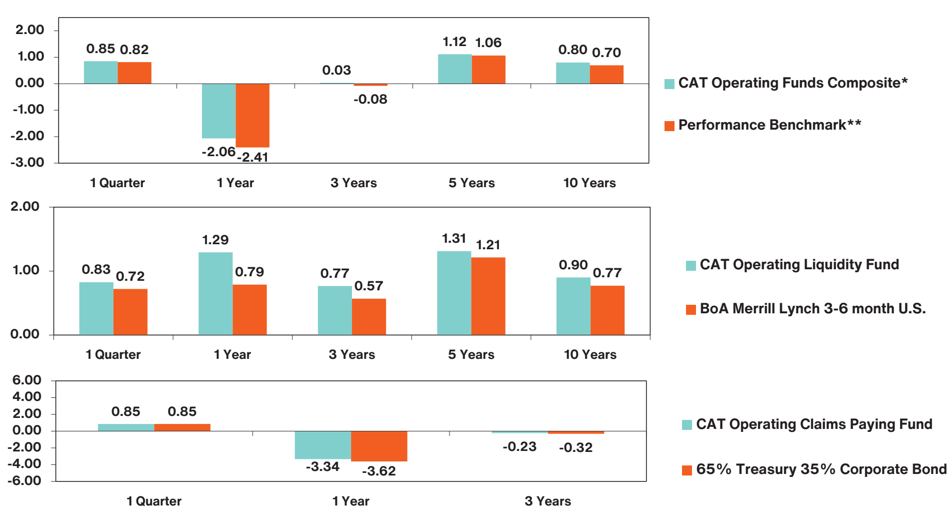
*Returns shown are net of fees.
**Aggregate benchmark returns are an average of the individual portfolio benchmark returns at their actual weights.
***Source: 2022 CEM Benchmarking Report. Peer group for the Five-Year Average Return and Value Added represents the U.S. Median plan return based on the CEM 2022 Survey that included 123 U.S. defined contribution plans with assets ranging from $129 million to $73.8 billion. Peer group for the Expense Ratio represents a custom peer group for FSBA of 18 DC plans including corporate and public plans with assets between $4.0 - $27.8 billion.
****Returns shown are gross of fees.
*****The total FRS Investment Plan expense ratio includes investment management fees, as well as administration, communication and education costs. These latter costs are not charged to FRS Investment Plan members; however, these and similar costs may be charged to members of plans within the peer group utilized above.

CAT Fund: Executive Summary

- Returns on an absolute basis are modest and negative near term given the rising rate environment and previously low interest rate environment.
- All CAT Funds are adequately diversified across issuers within the short-term bond market.
- The Investment Portfolio Guidelines appropriately constrain the CAT Funds to invest in short-term and high-quality bonds to minimize both interest rate and credit risk.
- Adequate liquidity exists to address the cash flow obligations of the CAT Funds.
- The Investment Portfolio Guidelines are revisited periodically to ensure that the structure and guidelines of the CAT Funds are appropriate, taking into consideration the CAT Funds' goals and objectives.
- Over both short and long-term periods, the relative performance of the CAT Operating Funds has been favorable as they have outperformed the Performance Benchmark over the trailing quarter, one-, three-, five- and ten-year time periods.

CAT Operating Funds Investment Results

Periods Ending 12/31/2022



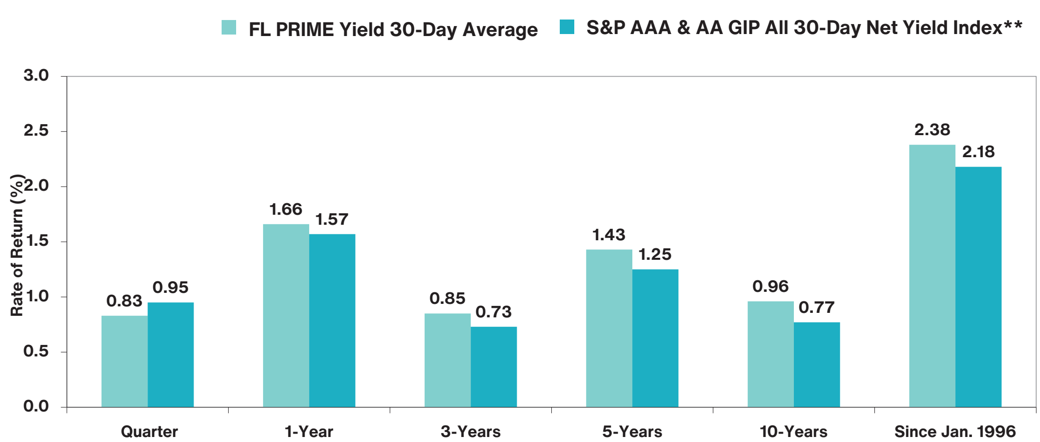
*CAT Operating Funds: Beginning March 2008, the returns for the CAT Operating Funds reflect marked-to-market returns. Prior to that time, cost-based returns are used. Beginning February 2018, the CAT Operating Funds were split into two different sub funds, the CAT Fund Operating Liquidity Fund and the CAT Fund Operating Claims Paying Fund. Performance for each sub fund is shown below.
**Performance Benchmark: Effective November 1, 2022, the CAT Fund Operating Liquidity Fund is benchmarked to the net-of-fees total return of the portfolio. Beginning January 1, 2021, the CAT Fund Operating Liquidity Fund was benchmarked to the Bloomberg U.S. Treasury Bills 3-6 Months & U.S. Treasury Bills 6-9 Months Custom Blend Index. This benchmark is comprised of 60% of 3-6 month U.S. Treasury Bills and 40% 6-9 month U.S. Treasury Bills. Beginning February 2018, the CAT Fund Operating Liquidity Fund was benchmarked to the B of A Merrill Lynch 3-6 Month U.S. Treasury Bill Index. Effective October 1, 2022, the CAT Operating Claims Paying Fund is benchmarked to the net-of-fees total return of the portfolio. Beginning January 1, 2021, the CAT Operating Claims Paying Fund was benchmarked to the Bloomberg U.S. Treasury 1-3 Years & Corporate AA+ ex 144A with Reg S Custom Blend Index. This benchmark is comprised of 65% 1-3 year U.S. Treasury and 35% of 1-3 year Corporate AA or better excluding 144A and Reg S securities. Beginning February 2018, the CAT Fund Operating Claims Paying Fund benchmark is a blend of 35% of the Bank of America Merrill Lynch 1-3 Year AA U.S. Corporate Bond Index and 65% of Bank of America Merrill Lynch 1-3 Year U.S. Treasury Index. Additional benchmark history can be found in the appendix.

Florida PRIME: Executive Summary

- The purpose of Florida PRIME is safety, liquidity, and competitive returns with minimal risk for participants.
- The Investment Policy Statement appropriately constrains Florida PRIME to invest in short-term and high quality bonds to minimize both interest rate and credit risk.
- Florida PRIME is adequately diversified across issuers within the short-term bond market, and adequate liquidity exists to address the cash flow obligations of Florida PRIME.
- Performance of Florida PRIME has been strong over short- and long-term time periods, outperforming its performance benchmark over the trailing one-, three-, five-, and ten-year time periods.
- As of December 31, 2022, the total market value of Florida PRIME was $24.5 billion.
- Aon Investments USA Inc., in conjunction with SBA staff, compiles an annual best practices report that includes a full review of the Investment Policy Statement, operational items, and investment structure for Florida PRIME.

Florida PRIME Investment Results

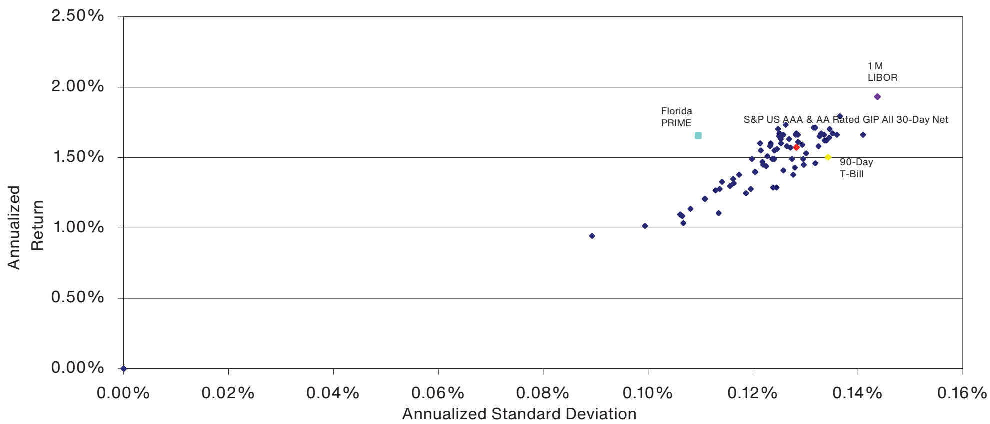
Periods Ending 12/31/2022



*Returns less than one year are not annualized.
**S&P AAA & AA GIP All 30-Day Net Yield Index for all time periods shown.

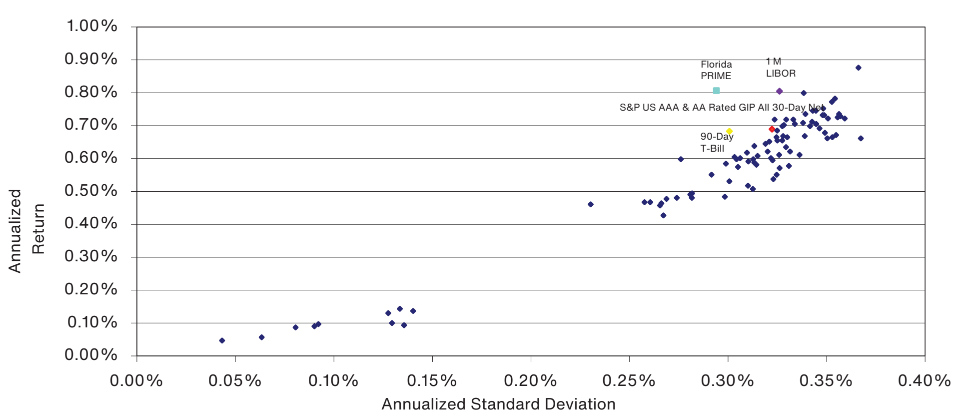
Florida PRIME Risk vs. Return

1 Years Ending 12/31/2022

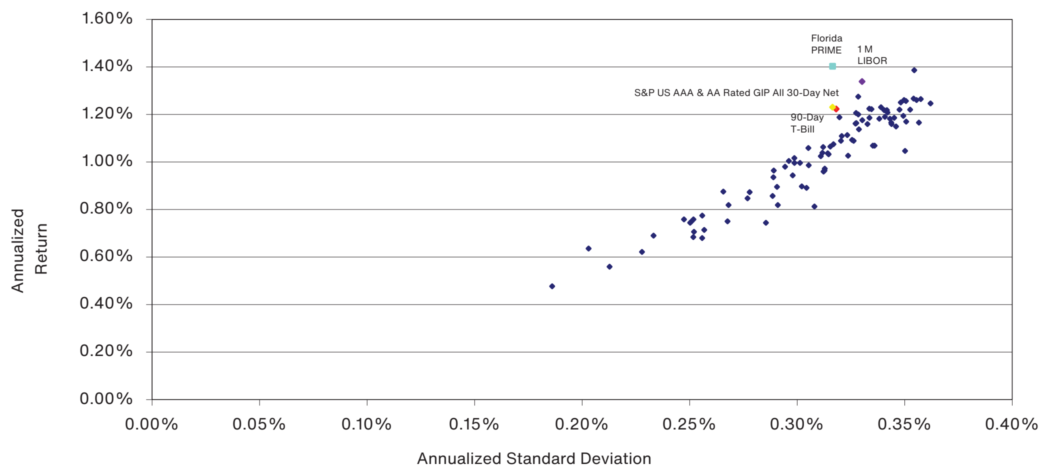


Florida PRIME Risk vs. Return

3 Years Ending 12/31/2022



Florida PRIME Risk vs. Return
5 Years Ending 12/31/2022



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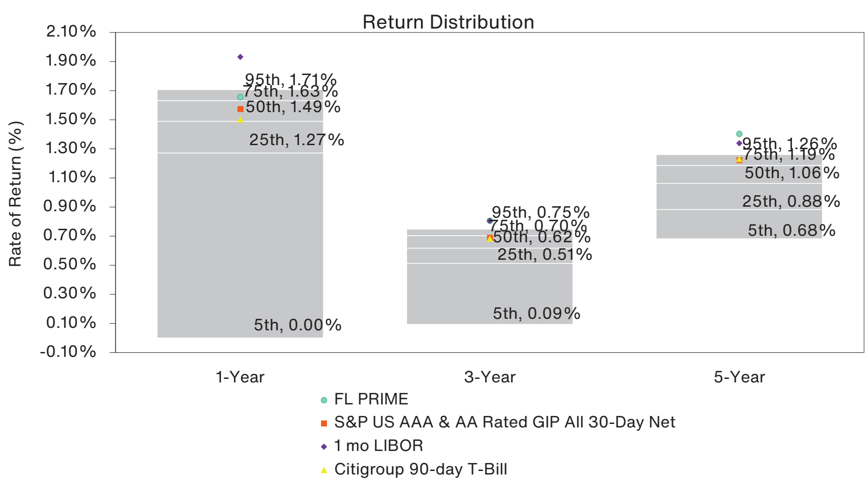
Return Distribution
Periods Ending 12/31/2022



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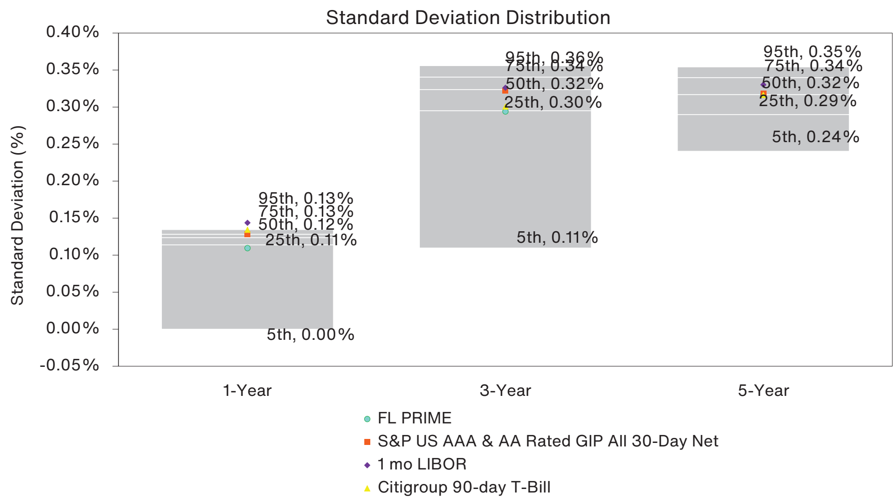
Standard Deviation Distribution

Periods Ending 12/31/2022



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Appendix

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Investment advice and consulting services provided by Aon Investments USA Inc.

FRS Investment Plan Costs

Investment Category	Investment Plan Fee*	Average Mutual Fund Fee**
Domestic Equity	0.20%	0.84%
International & Global Equity	0.30%	0.94%
Diversified Bonds	0.13%	0.45%
Target Date	0.14%	0.35%
Stable Value	0.19%	0.40%
Inflation Protected Securities	0.36%	0.34%

*Average fee of multiple products in category as of 12/31/2022.

**Source: Aon's annual mutual fund expense analysis as of 6/30/2022.

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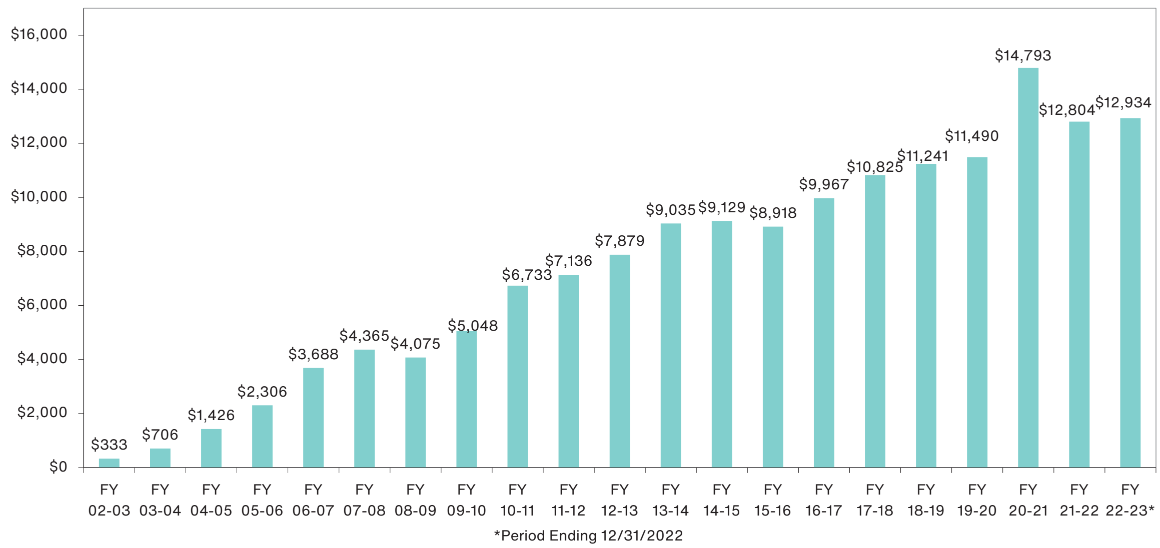
Investment advice and consulting services provided by Aon Investments USA Inc.

Investment Plan Fiscal Year End Assets Under Management



Source: Investment Plan Administrator

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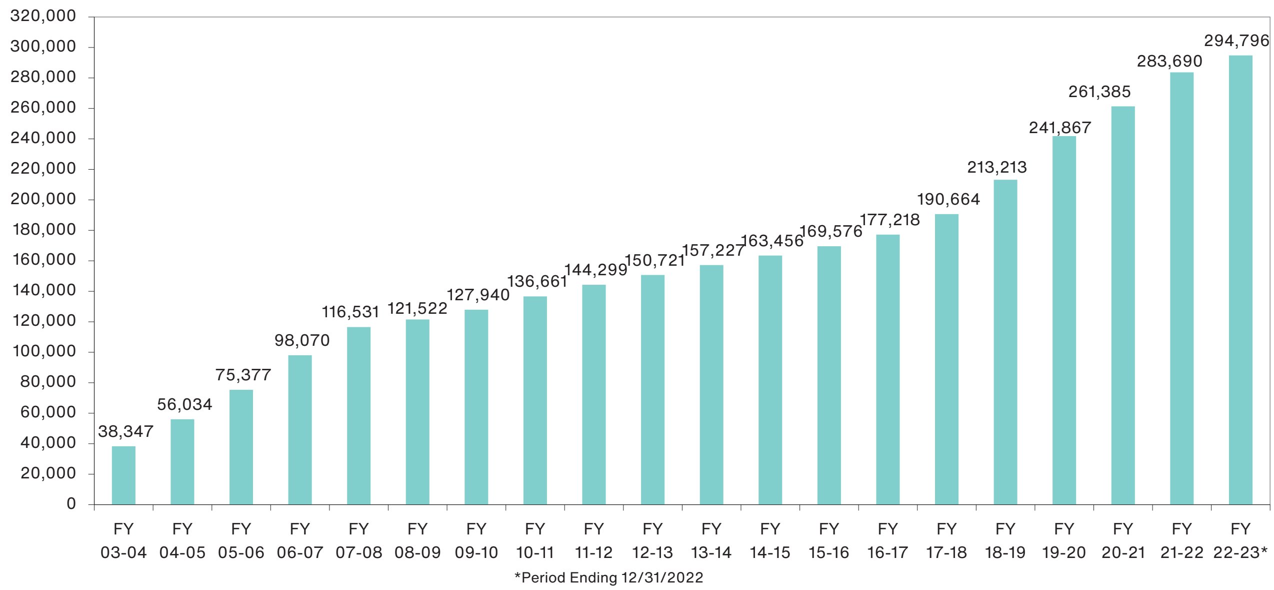
Investment Plan Membership



Source: Investment Plan Administrator

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Florida Hurricane Catastrophe Funds Background and Details

- The purpose of the Florida Hurricane Catastrophe Fund (FHCF) is to provide a stable, ongoing and timely source of reimbursement to insurers for a portion of their hurricane losses.

- The CAT Operating Funds, along CAT 2020 A Fund are internally managed portfolios.
  - CAT 2013 A Fund was liquidated during 4Q 2020
  - CAT 2016 A Fund was liquidated during 3Q 2021

- As of December 31, 2022, the total value of:
  - The CAT Operating Funds was $13.3 billion
  - The CAT 2020 A Fund was $3.3 billion

- History of the CAT Funds Benchmarks: *Beginning February 2018, the CAT Fund Operating Liquidity Fund was benchmarked to the B of A Merrill Lynch 3-6 Month U.S. Treasury Bill Index, and the CAT Fund Operating Claims Paying Fund benchmarked to a blend of 35% of the Bank of America Merrill Lynch 1-3 Year AA U.S. Corporate Bond Index and 65% of Bank of America Merrill Lynch 1-3 Year U.S. Treasury Index. Beginning January 2021, the CAT Fund Operating Liquidity Fund was benchmarked to Bloomberg U.S. Treasuries Bills 3-6 Months & U.S. Treasury Bills 6-9 Months Custom Blend Index. This benchmark is comprised of 60% off the 3-6 month U.S. Treasury Bills and 40% 6-9 month U.S. Treasury Bills., and the CAT Fund Operating Claims Paying Fund is benchmarked Bloomberg U.S. Treasury 1-3 Years & Corporate AA+ ex 144A Reg S Custom Blend Index. This benchmark is comprised of 65% 1-3 year Treasury and 35% of 1-3 year Corporate AA or better excluding 144A and Reg S Securities.*

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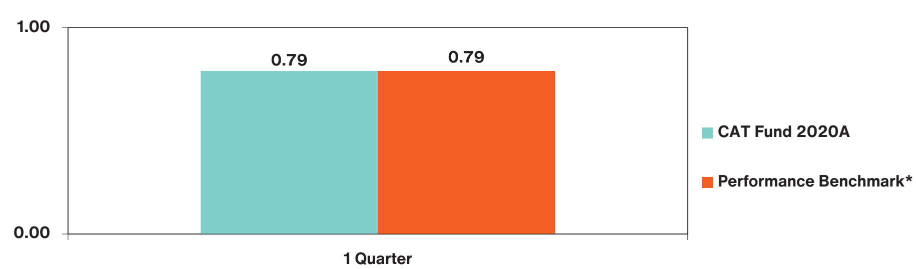
CAT 2020 A Funds Investment Results

Periods Ending 12/31/2022



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CAT Operating Funds Characteristics

Period Ending 12/31/2022

Maturity Analysis	
1 to 30 Days	23.34%
31 to 60 Days	1.34
61 to 90 Days	4.62
91 to 120 Days	3.34
121 to 150 Days	1.27
151 to 180 Days	1.46
181 to 270 Days	6.78
271 to 365 Days	9.72
366 to 455 Days	6.26
>= 456 Days	41.87
Total % of Portfolio:	100.00%

Bond Rating Analysis	
AAA	67.88%
AA	15.28
A	16.84
Baa	0.00
Other	0.00
Total % of Portfolio	100.00%

CAT 2020 A Fund Characteristics

Period Ending 12/31/2022

Maturity Analysis	
1 to 30 Days	10.14%
31 to 60 Days	4.45
61 to 90 Days	2.96
91 to 120 Days	6.36
121 to 150 Days	2.38
151 to 180 Days	4.39
181 to 270 Days	12.59
271 to 365 Days	18.00
366 to 455 Days	6.06
>= 456 Days	32.67
Total % of Portfolio:	100.00%

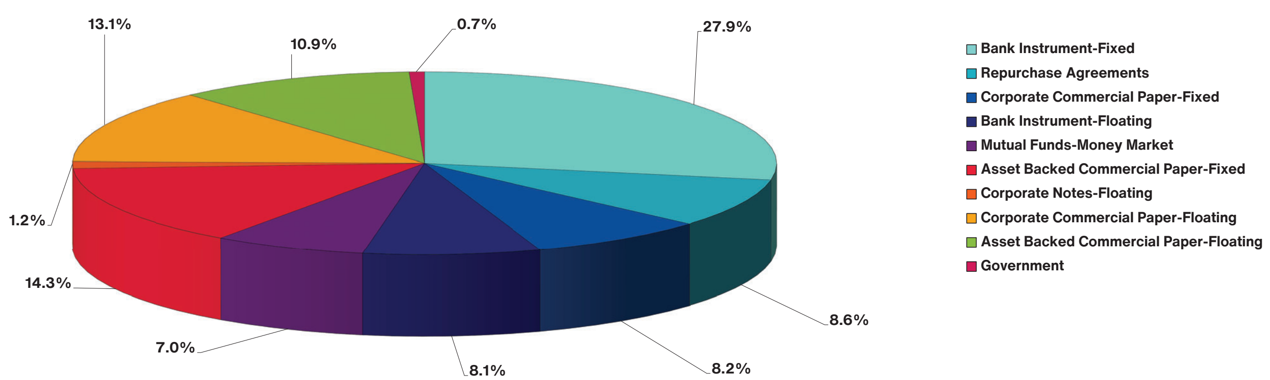
Bond Rating Analysis	
AAA	62.37%
AA	16.79
A	20.84
Baa	0.00
Other	0.00
Total % of Portfolio	100.00%

Florida PRIME Characteristics
Quarter Ending 12/31/2022

As of 12/31/2022	Fourth Quarter	Fiscal YTD*
Opening Balance	$17,431,660,848	$18,690,168,082
Participant Deposits	$16,123,568,726	$21,894,091,945
Gross Earnings	$188,873,205	$294,473,791
Participant Withdrawals	($9,224,038,796)	(16,357,194,711.00)
Fees	($1,487,459)	(2,962,582.00)
Closing Balance	$24,518,576,524	$24,518,576,524
Change	**$7,086,915,676**	**$5,828,408,442**

*Period July 2022 – December 2022

Florida PRIME Characteristics
Quarter Ending 12/31/2022



Florida PRIME Characteristics

Period Ending 12/31/2022

Effective Maturity Schedule	
1-7 Days	73.6%
8 - 30 Days	5.5%
31 - 90 Days	16.9%
91 - 180 Days	2.6%
181+ Days	1.4%
Total % of Portfolio:	**100.0%**

S & P Credit Quality Composition	
A-1+	60.7%
A-1	39.3%
Total % of Portfolio:	**100.0%**

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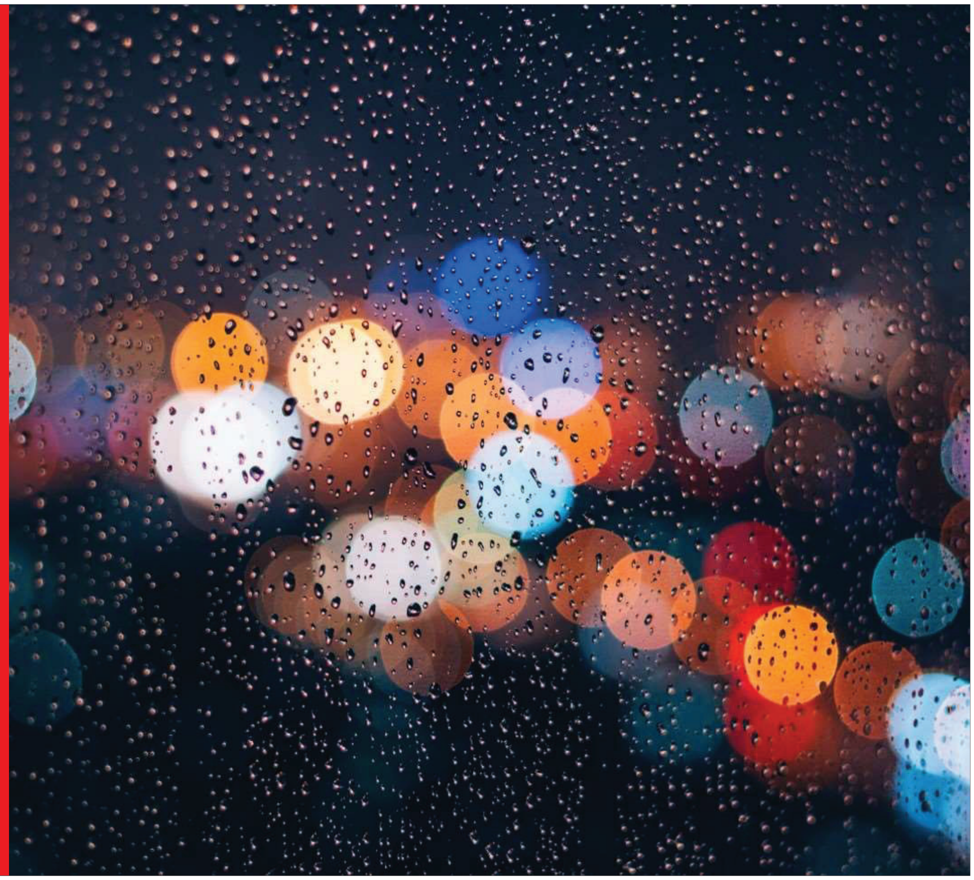
Aon Investments USA Inc.
200 E. Randolph Street
Suite 700
Chicago, IL 60601
ATTN: Aon Investments Compliance Officer

Quarterly Investment Review

FRS Pension Plan
Fourth Quarter 2022



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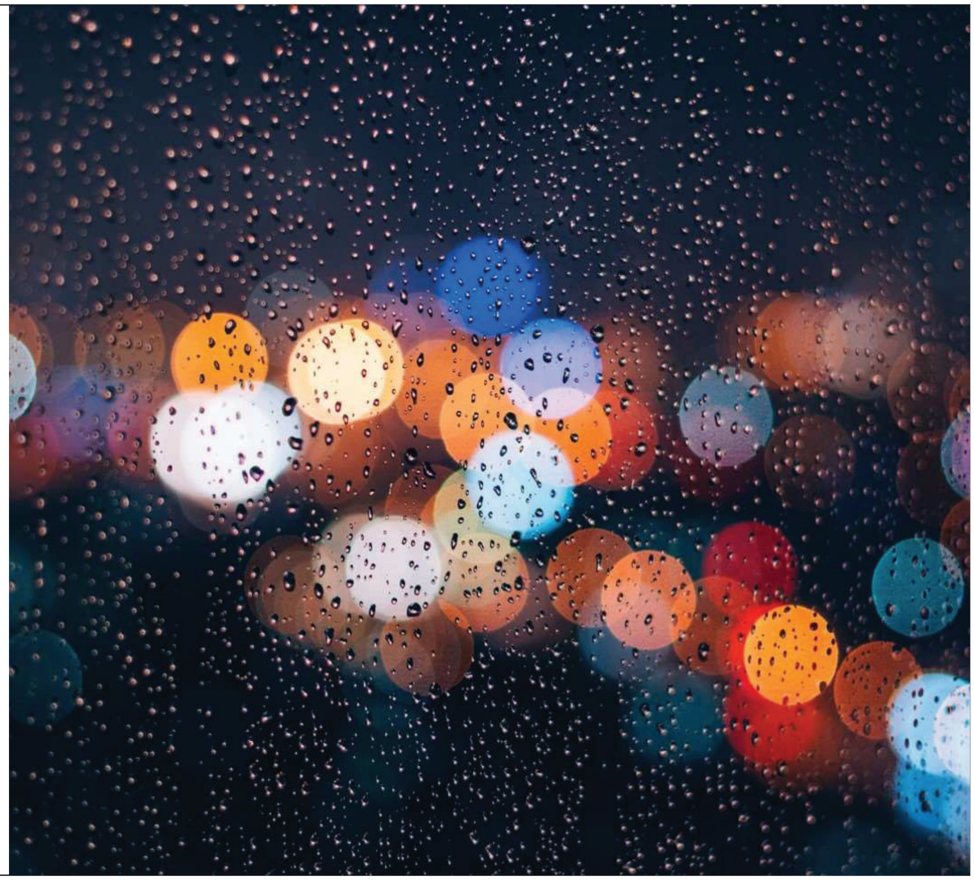
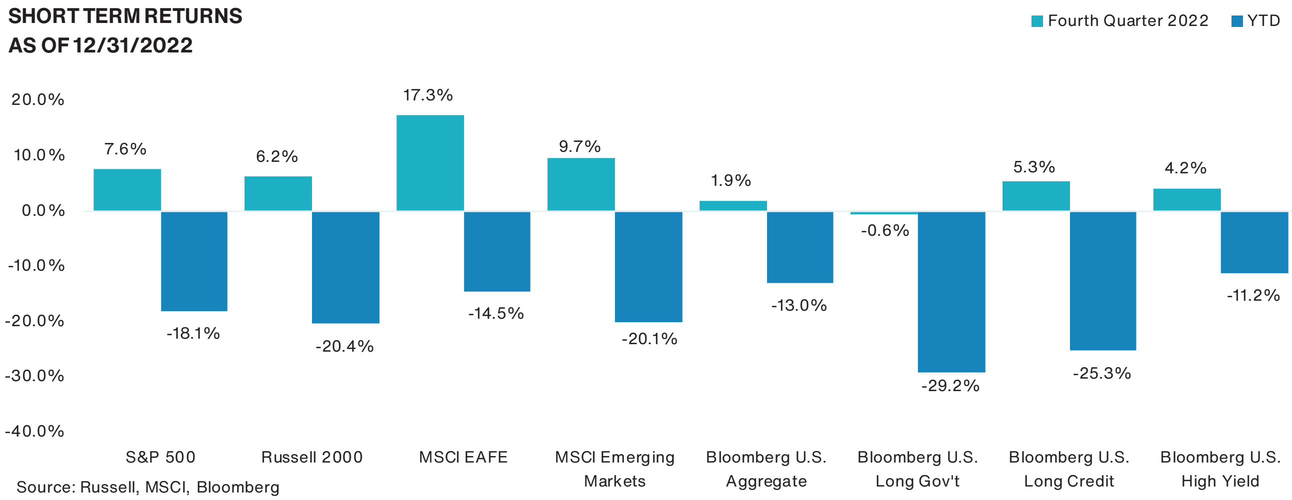
Market Environment



Market Highlights

SHORT TERM RETURNS
AS OF 12/31/2022



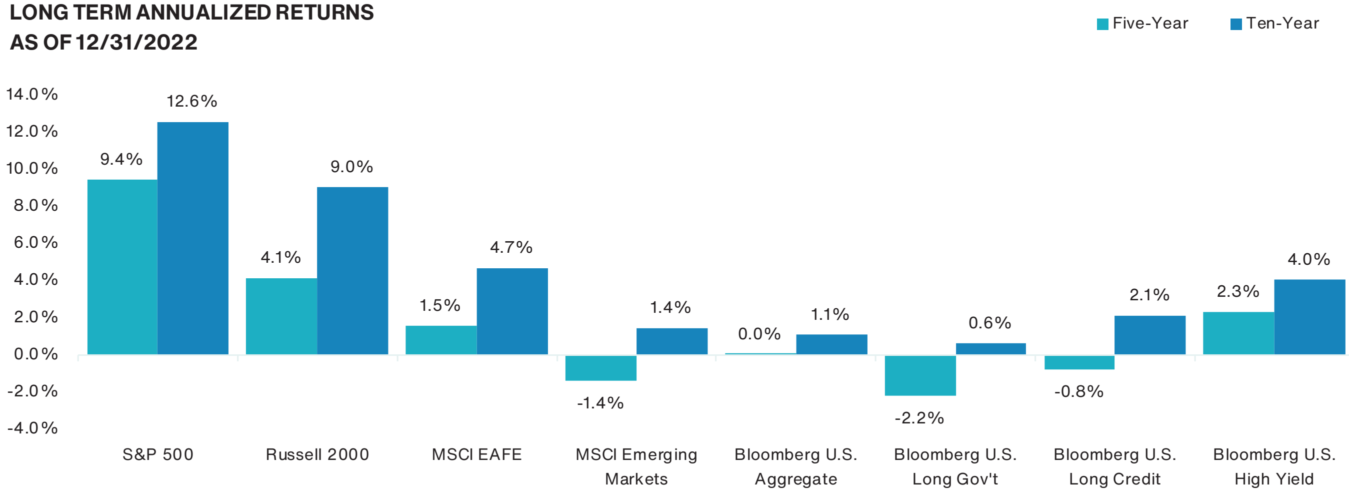
Source: Russell, MSCI, Bloomberg

MSCI Indices show net total returns throughout this report. All other indices show gross total returns.

Past performance is no guarantee of future results. Indices cannot be invested in directly. Unmanaged index returns assume reinvestment of any and all distributions and do not reflect fees and expenses. Please see appendix for index definitions and other general disclosures.

Market Highlights

LONG TERM ANNUALIZED RETURNS AS OF 12/31/2022



Source: Russell, MSCI, Bloomberg

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Market Highlights

Returns of the Major Capital Markets

Period Ending 12/31/2022

	Fourth Quarter	YTD	1-Year	3-Year[1]	5-Year[1]	10-Year[1]
Equity						
MSCI All Country World IMI	9.84%	-18.40%	-18.40%	3.89%	4.96%	7.94%
MSCI All Country World	9.76%	-18.36%	-18.36%	4.00%	5.23%	7.98%
Dow Jones U.S. Total Stock Market	7.18%	-19.53%	-19.53%	6.89%	8.65%	12.03%
Russell 3000	7.18%	-19.21%	-19.21%	7.07%	8.79%	12.13%
S&P 500	7.56%	-18.11%	-18.11%	7.66%	9.42%	12.56%
Russell 2000	6.23%	-20.44%	-20.44%	3.10%	4.13%	9.01%
MSCI All Country World ex-U.S. IMI	14.15%	-16.58%	-16.58%	0.20%	0.85%	3.98%
MSCI All Country World ex-U.S.	14.28%	-16.00%	-16.00%	0.07%	0.88%	3.80%
MSCI EAFE	17.34%	-14.45%	-14.45%	0.87%	1.54%	4.67%
MSCI EAFE (Local Currency)	8.72%	-7.00%	-7.00%	3.64%	3.81%	7.56%
MSCI Emerging Markets	9.70%	-20.09%	-20.09%	-2.69%	-1.40%	1.44%
Equity Factors						
MSCI World Minimum Volatility (USD)	10.09%	-9.28%	-9.28%	2.46%	5.62%	9.05%
MSCI World High Dividend Yield	14.60%	-3.93%	-3.93%	4.25%	5.62%	7.91%
MSCI World Quality	10.26%	-21.90%	-21.90%	6.52%	9.42%	11.73%
MSCI World Momentum	13.14%	-17.34%	-17.34%	6.94%	8.89%	11.98%
MSCI World Enhanced Value	16.36%	-9.21%	-9.21%	1.95%	1.92%	7.10%
MSCI World Equal Weighted	12.95%	-16.38%	-16.38%	2.05%	3.14%	7.43%
MSCI World Index Growth	4.77%	-29.05%	-29.05%	4.94%	7.73%	10.44%
MSCI USA Minimum Volatility (USD)	9.80%	-9.19%	-9.19%	5.14%	8.59%	11.88%
MSCI USA High Dividend Yield	14.19%	-3.75%	-3.75%	6.07%	7.38%	11.46%
MSCI USA Quality	9.28%	-22.67%	-22.67%	6.65%	10.44%	13.57%
MSCI USA Momentum	12.16%	-17.39%	-17.39%	6.52%	8.78%	14.07%
MSCI USA Enhanced Value	12.40%	-13.99%	-13.99%	3.50%	4.71%	10.90%
MSCI USA Equal Weighted	9.71%	-16.99%	-16.99%	6.35%	7.54%	11.41%
MSCI USA Growth	0.59%	-31.97%	-31.97%	7.10%	10.63%	13.69%

Returns of the Major Capital Markets

Period Ending 12/31/2022

	Fourth Quarter	YTD	1-Year	3-Year[1]	5-Year[1]	10-Year[1]
Fixed Income						
Bloomberg Global Aggregate	4.55%	-16.25%	-16.25%	-4.48%	-1.66%	-0.44%
Bloomberg U.S. Aggregate	1.87%	-13.01%	-13.01%	-2.71%	0.02%	1.06%
Bloomberg U.S. Long Gov't	-0.59%	-29.19%	-29.19%	-7.39%	-2.19%	0.61%
Bloomberg U.S. Long Credit	5.30%	-25.29%	-25.29%	-5.78%	-0.77%	2.13%
Bloomberg U.S. Long Gov't/Credit	2.61%	-27.09%	-27.09%	-6.20%	-1.21%	1.57%
Bloomberg U.S. TIPS	2.04%	-11.85%	-11.85%	1.21%	2.11%	1.12%
Bloomberg U.S. High Yield	4.17%	-11.19%	-11.19%	0.05%	2.31%	4.03%
Bloomberg Global Treasury ex U.S.	6.85%	-19.55%	-19.55%	-6.81%	-3.37%	-1.90%
JP Morgan EMBI Global (Emerging Market	7.44%	-16.45%	-16.45%	-4.49%	-1.00%	1.35%
Commodities						
Bloomberg Commodity Index	2.22%	16.09%	16.09%	12.65%	6.44%	-1.28%
Goldman Sachs Commodity Index	3.44%	25.99%	25.99%	10.49%	6.46%	-3.30%
Hedge Funds						
HFRI Fund-Weighted Composite[2]	2.26%	-4.20%	-4.20%	5.68%	4.42%	4.68%
HFRI Fund of Funds[2]	1.79%	-5.25%	-5.25%	3.71%	3.02%	3.51%
Real Estate						
NAREIT U.S. Equity REITS	5.24%	-24.37%	-24.37%	-0.11%	3.68%	6.53%
NCREIF NFI - ODCE	-4.96%	7.47%	7.47%	9.93%	8.68%	10.10%
FTSE Global Core Infrastructure Index	8.66%	-5.79%	-5.79%	3.32%	6.65%	8.54%
Private Equity						
Burgiss Private iQ Global Private Equity[3]			6.18%	21.00%	18.52%	15.82%

MSCI Indices show net total returns throughout this report. All other indices show gross total returns.

[1] Periods are annualized.

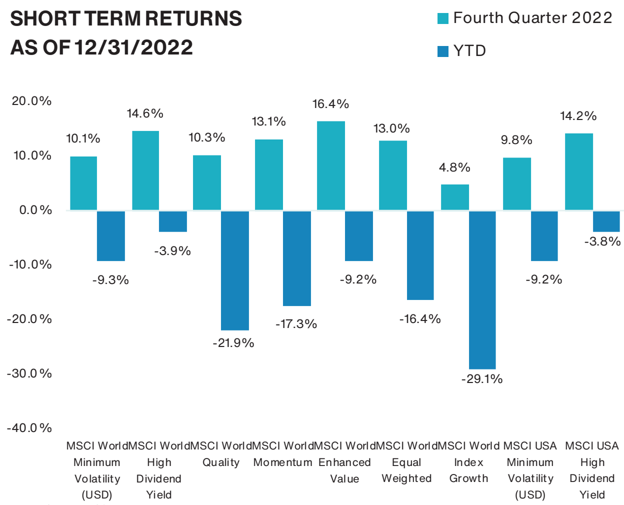
[2] Latest 5 months of HFR data are estimated by HFR and may change in the future.

[3] Burgiss Private iQ Global Private Equity data is as at June 30, 2022

Past performance is no guarantee of future results. Indices cannot be invested in directly. Unmanaged index returns assume reinvestment of any and all distributions and do not reflect fees and expenses. Please see appendix for index definitions and other general disclosures.

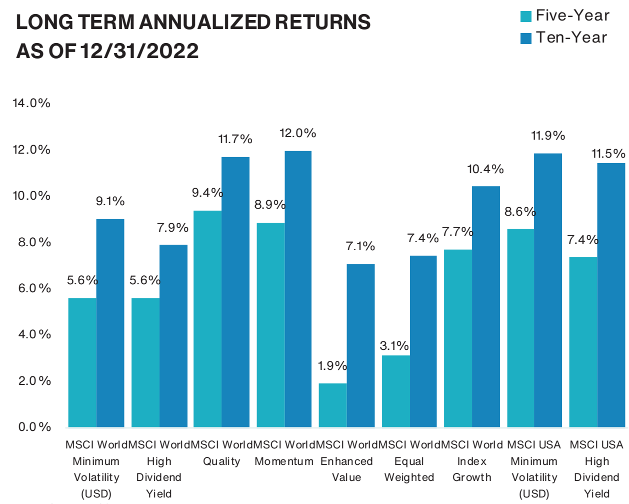
Factor Indices

SHORT TERM RETURNS AS OF 12/31/2022



Source: MSCI
MSCI Indices show net total returns throughout this report. All other indices show gross total returns..

LONG TERM ANNUALIZED RETURNS AS OF 12/31/2022



Source: MSCI
MSCI Indices show net total returns throughout this report. All other indices show gross total returns..

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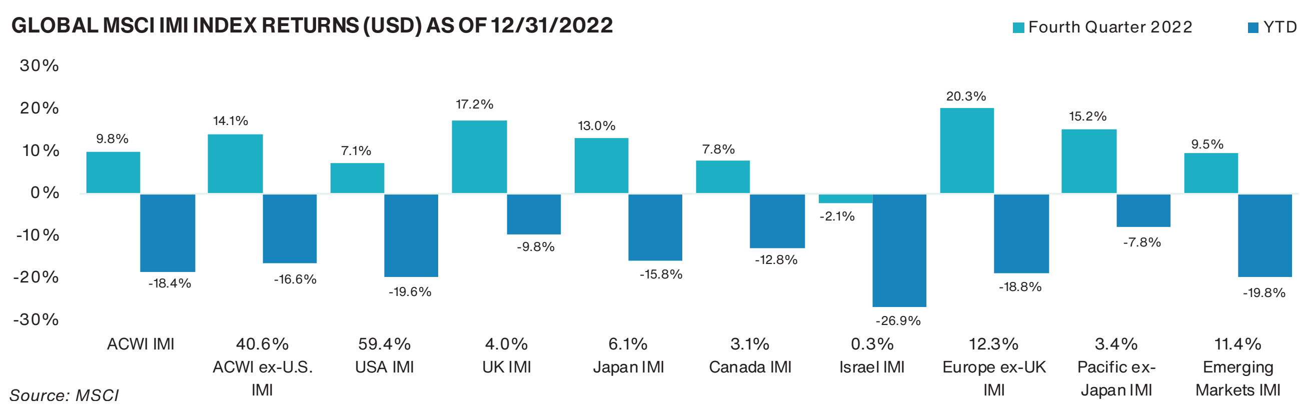
Global Equity Markets

GLOBAL MSCI IMI INDEX RETURNS (USD) AS OF 12/31/2022



Source: MSCI

- In Q4 2022, equity markets rebounded as high-interest rate concerns abated. Volatility fell throughout the quarter as the CBOE Volatility Index (VIX) fell to 21.7 in December from 31.6 in the previous quarter, staying well above its 20-year average of 19.4. Yields trended higher with major central banks indicating continued support for aggressive monetary policy to control rising inflation. The MSCI All Country World Investable Market Index (ACWI IMI) returned 9.8% for the quarter but was down 18.4% on a year-to-date basis.
- Across international markets, generally all the regions were strong over the quarter. All regions apart from Israel posted a positive return.
- Europe ex-UK equities were the best regional performer with a return of 20.3% in US dollar terms due to sharp euro appreciation against the dollar. Economically sensitive sectors including energy, financials, industrials, and consumer discretionary outperformed.

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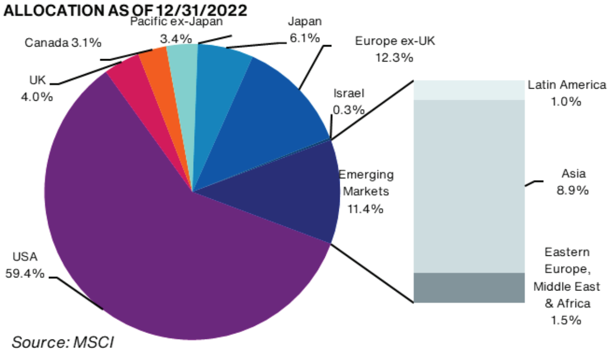
Global Equity Markets

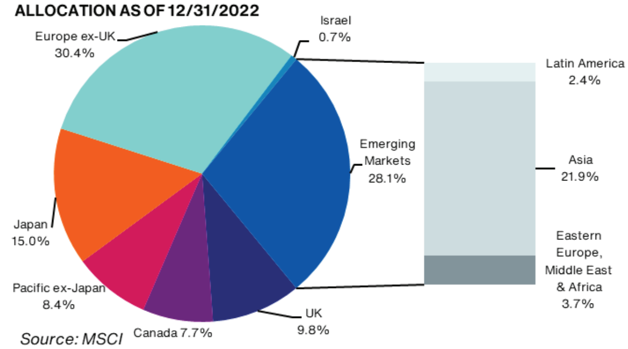
Below is the country/region breakdown of the global and international equity markets as measured by the MSCI All Country World IMI Index and the MSCI All Country World ex-U.S. IMI Index, respectively.

MSCI ALL COUNTRY WORLD IMI INDEX GEOGRAPHIC ALLOCATION AS OF 12/31/2022



Source: MSCI

MSCI ALL COUNTRY WORLD EX-U.S. IMI INDEX GEOGRAPHIC ALLOCATION AS OF 12/31/2022

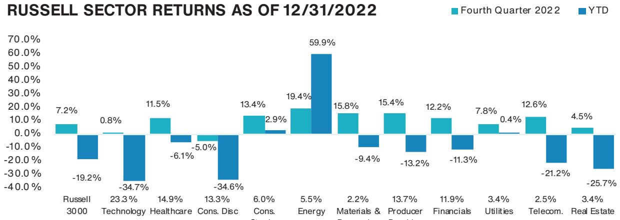


Source: MSCI

U.S. Equity Markets

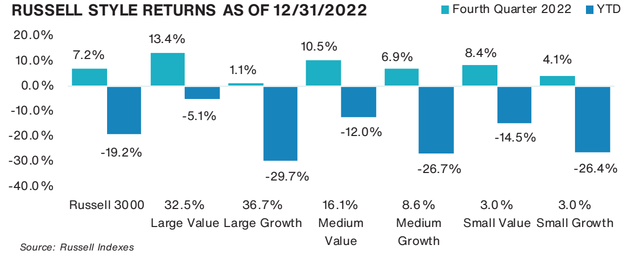
- U.S. equities had a strong quarter with the S&P 500 index rising by 7.6%.
- In the US mid-term elections, the Democrats retained control over the Senate with a 51 seat majority whilst the Republicans won back control of the House of Representatives. The US Congress passed a $1.7tn annual spending bill to fund the US government until September 2023 and avoid a government shutdown. The bill includes $45bn in new military and economic aid to Ukraine, nearly $773bn in domestic funding, and more than $850bn for the US military
- The U.S. economy rebounded in the third quarter after it contracted in the first half of 2022. Annualized gross domestic product rose by 2.9% over Q3 2022, following the 0.6% contraction rate in the previous quarter. A narrowing trade deficit contributed to the U.S. economy's expansion in the third quarter, as softening consumer demand lowered imports while exports rose, particularly in the oil sector.
- The Russell 3000 Index rose 7.2% during the fourth quarter but was down 19.2% on a year-to-date basis. Except for Consumer Discretionary (-5.0%), all the sectors generated positive returns. Energy (19.4%) and Materials & Processing (15.8%) were the best performers.
- Large-cap stocks outperformed in value and Medium-cap stocks outperformed in growth.
- On a style basis, value outperformed growth across market capitalizations over the quarter and on a year-to-date basis.

RUSSELL SECTOR RETURNS AS OF 12/31/2022



Source: Russell Indexes

RUSSELL STYLE RETURNS AS OF 12/31/2022



Source: Russell Indexes

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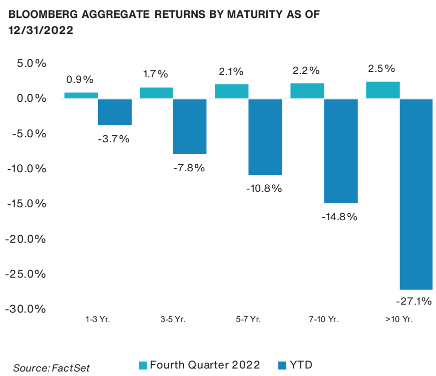
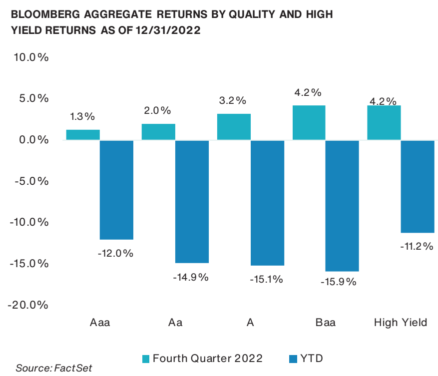
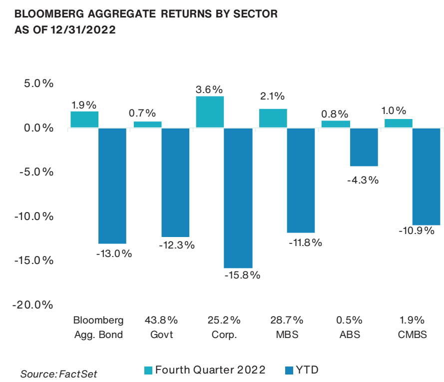
U.S. Fixed Income Markets







- The U.S. Federal Reserve (Fed) increased its benchmark interest rate by 125bps to a range of 4.25%-4.5% over the quarter. Fed chair Jerome Powell reiterated that monetary policy needs to be restrictive enough to bring inflation under control. According to the median estimate on the Fed dot plot, officials expect the policy rate to reach 5.1% by the end of 2023, up from the 4.6% forecasted in September.
- The Bloomberg U.S. Aggregate Bond Index was up 1.9% over the quarter but was down 13.0% on a year-to-date basis.
- Across durations, all maturities finished the quarter in positive territory.
- Within investment-grade bonds, lower-credit quality generally outperformed higher-quality issues, with Baa bonds rising by 4.2%. High-yield bonds also rose by 4.2%.

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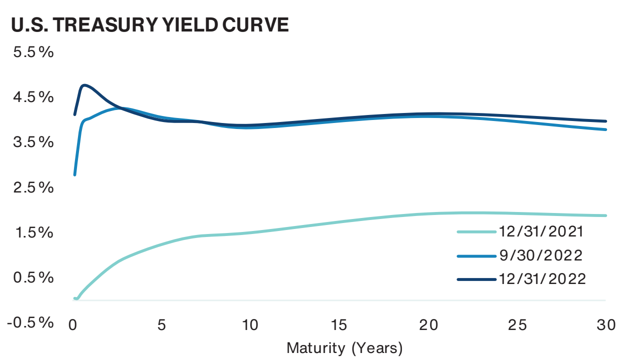
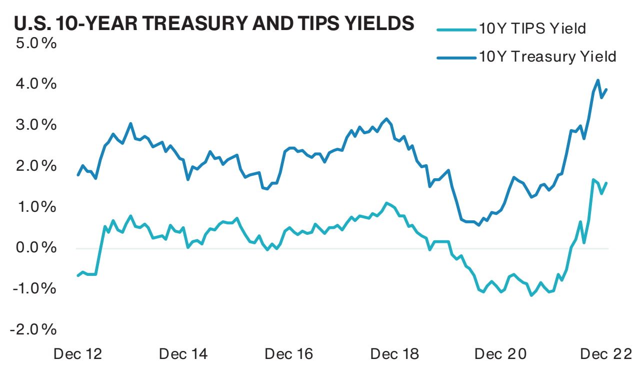
U.S. Fixed Income Markets



Source: U.S. Department of Treasury

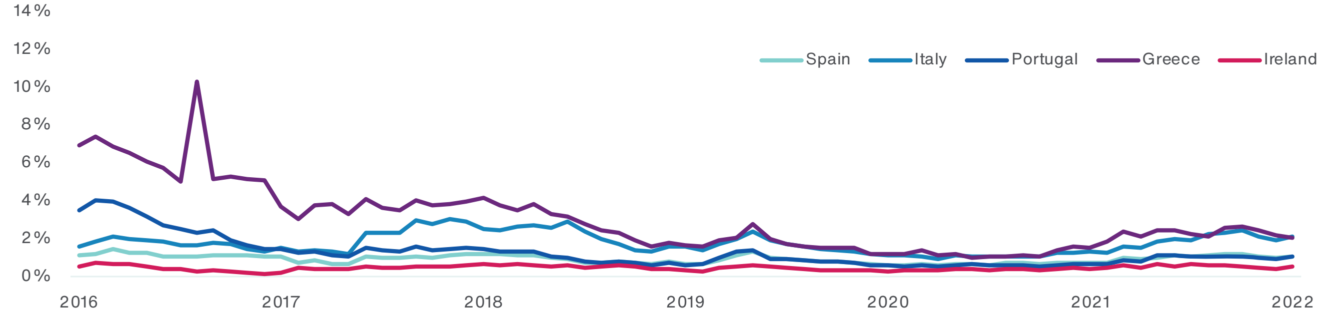


Source: U.S. Department of Treasury

- U.S. Treasury yields saw notable increases at shorter maturities, fell marginally at medium maturities but rose slightly at the longer end of the curve. The 10-year Treasury yield was up 5bps to 3.88%, and the 30-year Treasury yield was up 18bps to 3.97% over the quarter.
- Inflation slowed down, driven by a fall in energy prices. The U.S. annual consumer price index (CPI) rose 7.1% year-on-year in November, down from the 7.7% recorded in October and less than economists' expectations of 7.3%.
- The 10-year TIPS yield fell by 10bps over the quarter to 1.58%.

European Fixed Income Markets

EUROZONE PERIPHERAL BOND SPREADS
(10-YEAR SPREADS OVER GERMAN BUNDS)



- European government bond spreads over 10-year German bunds generally narrowed across the Euro Area. The European Central Bank (ECB) raised its benchmark interest rates by 125bps to 2% over the quarter, the highest level in 14 years. The ECB president, Christine Lagarde, indicated further 0.5% rate increases in the next two meetings as the ECB announced plans to start shrinking the €5tn of bonds it purchased over the last eight years from March 2023.
- German and Portuguese government bond yields rose sharply, up 41bps and 40bps to 2.53% and 3.57% respectively over the quarter.
- Greek government bond yields fell by 20bps to 4.59% over the quarter.
- Eurozone annual inflation eased more than expected to 10.0% in November.

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Credit Spreads

Spread (bps)	12/31/2022	9/30/2022	6/30/2022	Quarterly Change (bps)	YTD Change (bps)
U.S. Aggregate	51	62	36	-11	15
Long Gov't	2	1	0	1	2
Long Credit	157	196	130	-39	27
Long Gov't/Credit	87	107	74	-20	13
MBS	51	69	31	-18	20
CMBS	120	105	68	15	52
ABS	76	53	38	23	38
Corporate	130	159	92	-29	38
High Yield	469	552	283	-83	186
Global Emerging Markets	332	403	285	-71	47

Source: FactSet, Bloomberg

- Credit markets rose amid risk-taking sentiment during the quarter, with spreads generally narrowing.
- High Yield and Global Emerging Markets spreads narrowed by 83bps and 71bps respectively while ABS and CMBS spreads widened by 23bps and 15bps, respectively.

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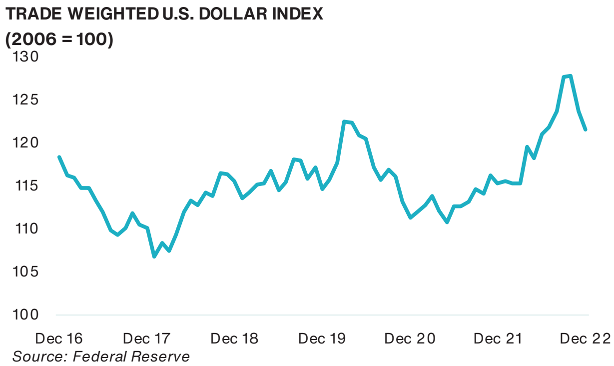
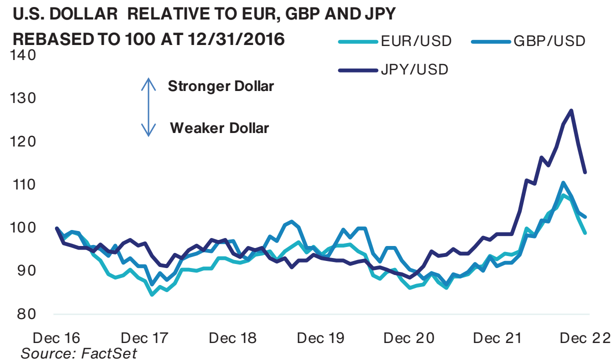
Currency



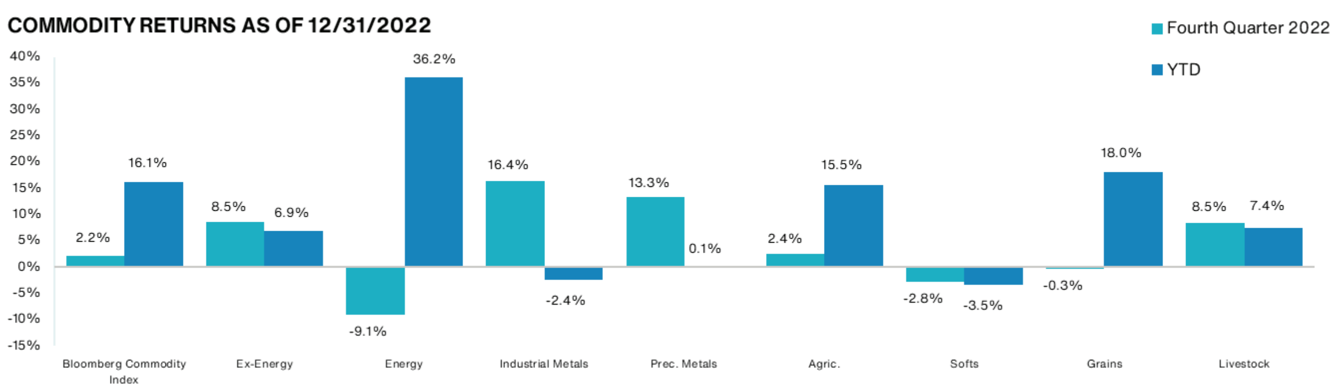
Source: Federal Reserve



Source: FactSet

- The U.S. Dollar weakened against all major currencies over the quarter as the combination of weakening US growth and falling inflation led to expectations that the Fed would cut policy rates this year faster than previously anticipated. On a trade-weighted basis, the U.S. dollar depreciated by 4.8%.
- Sterling appreciated by 7.2% against the U.S. dollar. The Bank of England (BoE) raised its benchmark interest rate by 125bps to 3.5% over the quarter, its highest level since 2008. The central bank expects inflation could touch 10.9% in Q4 2022. The BoE became the first major central bank to actively start to unwind quantitative easing as it sold £750mn of government bonds. The BoE plans to trim its balance sheet by £80bn over the year.
- The U.S. dollar depreciated by 8.2% against the Euro and by 8.8% against the yen. The Bank of Japan (BoJ) unexpectedly changed its yield curve control policy by increasing the acceptable band of its 10-year government bond yields from plus or minus 0.25% to 0.5% around its target rate of zero. The BoJ made a series of government bond purchases to maintain the target band as yields rose across the curve following the announcement.

Commodities



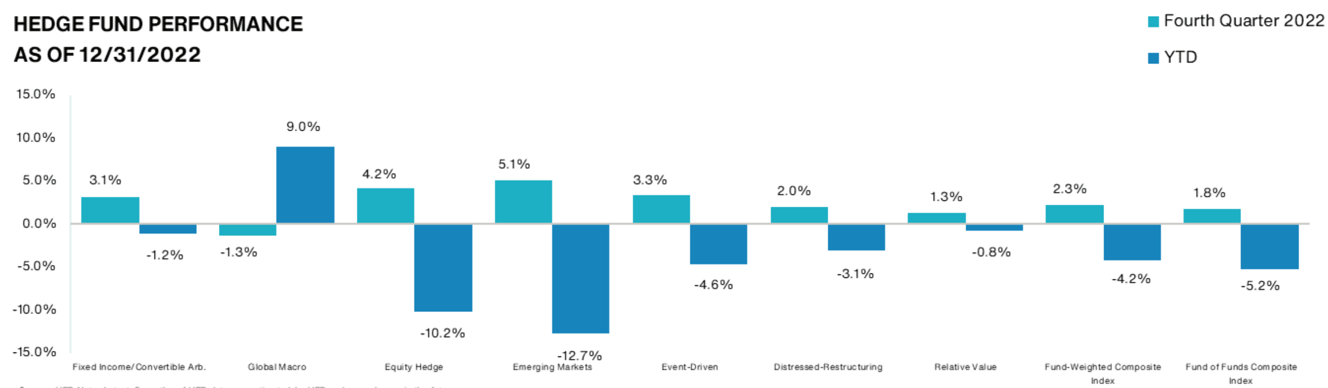
Source: Bloomberg Note: Softs and Grains are part of the wider Agriculture sector

- Commodity prices rose over the quarter with the Bloomberg Commodity Index rising by 2.2% for quarter.
- The energy sector fell 9.1% over the quarter but has risen by 36.2% on a year-to-date basis. The price of WTI crude oil was up by 1.0% to U.S.$80/BBL.
- Industrial Metals rose the most over the quarter at 16.4%.
- Meanwhile, OPEC+ agreed to cut 2m barrels a day in oil production in an attempt to keep oil prices from falling due to weaker global demand. This cut is equivalent to 2% of global supply and threatens to further increase inflationary pressures across the globe.

Past performance is no guarantee of future results. Indices cannot be invested in directly. Unmanaged index returns assume reinvestment of any and all distributions and do not reflect fees and expenses. Please see appendix for index definitions and other general disclosures.

Hedge Funds Market Overview

HEDGE FUND PERFORMANCE AS OF 12/31/2022



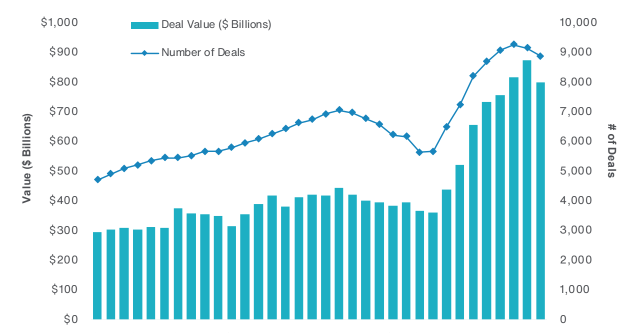
Source: HFR Note: Latest 5 months of HFR data are estimated by HFR and may change in the future.

- Hedge fund performance was generally positive over the quarter.
- The HFRI Fund-Weighted Composite and HFRI Fund of Funds Composite Index produced returns of 2.3% and 1.8% over the quarter, respectively.
- Over the quarter, Emerging Markets was the best performer with a return of 5.1%.
- Global Macro was the worst performer and the only strategy with a negative return (-1.3%) over the quarter.
- On a year-to-date basis, Global Macro has outperformed all other strategies whilst Emerging Markets have performed the worst.

Past performance is no guarantee of future results. Indices cannot be invested in directly. Unmanaged index returns assume reinvestment of any and all distributions and do not reflect fees and expenses. Please see appendix for index definitions and other general disclosures.

Private Equity Market Overview – 3Q 2022

LTM Global Private Equity-Backed Buyout Deal Volume

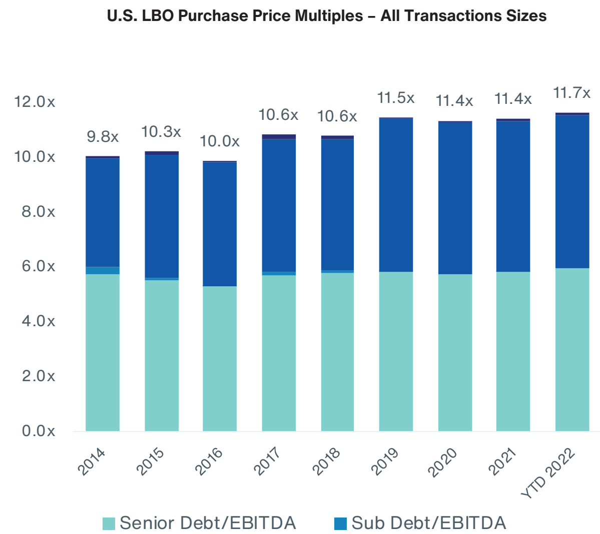


Source: Preqin

- **Fundraising:** During 3Q 2022, $231.6 billion was raised by 485 funds, which was down 22.3% by number of funds raised and down by 18.7% by capital raised compared to 2Q 2022. This represented an increase of 6.8% on a capital basis compared to 3Q 2021. Dry powder stood at $3.0 trillion at the end of the quarter, an increase of 1.3% and 43.3% compared to 2Q 2022 and the five-year average, respectively.[1]
- **Buyout:** Global private equity-backed buyout deals totaled $93.6 billion in 3Q 2022, which was a decrease on a capital basis of 64.8% compared to 2Q 2022 and a decrease of 31.2% compared to the five-year quarterly average.[1] During the quarter, the average purchase price multiple for all U.S. LBOs was 11.7x EBITDA, up slightly from 2Q 2022's average of 11.5x and up from the five-year average (11.1x). Large-cap purchase price multiples stood at 11.7x during the quarter, up compared to full-year 2021's level of 11.2x. The LTM average purchase price multiple across European transactions greater than €1B averaged 10.5x EBITDA at the end of 3Q 2022, down from 11.3x at the end of 2Q 2022. Purchase prices for transactions of €500M million or more averaged 10.2x EBITDA on an LTM basis, lower than the 11.2x seen at the end of 2Q 2022.2 Globally, exit value totaled $67.8 billion on 298 deals during the quarter, lower than the $125.2 billion across 348 deals during 2Q 2022.[1]
- **Venture:** During the quarter, an estimated 3,076 U.S. venture-backed transactions totaling $43.0 billion were completed, which was a decrease on a capital value and deal count basis over the prior quarter's total of $71.9 billion across 4,055 deals. This was also a decrease of 14.2% compared to the five-year quarterly average of $50.2 billion. Total U.S. venture-backed exit value totaled approximately $14.0 billion across an estimated 302 completed transactions in 3Q 2022, down substantially from $192.6 billion across 475 exits in 3Q 2021.[3]
- **Mezzanine:** 12 funds closed on $28.7 billion during the quarter. This was a significant increase from the prior quarter's total of $3.8 billion raised by 7 funds and also a significant increase from the $3.8 billion raised by 15 funds in 3Q 2021. Estimated dry powder was $70.5 billion at the end of 3Q 2022, up from $50.6 billion at the end of 2Q 2022.[1]

Sources: 1 Preqin 2 Standard & Poor's 3 PitchBook/NVCA Venture Monitor 4 Fitch Ratings
Notes: FY=Fiscal year ended 12/31; YTD=Year to date; LTM=Last 12 months (aka trailing 12 months); PPM=Purchase Price Multiples: Total Purchase Price ÷ EBITDA.

Private Equity Market Overview – 3Q 2022



- **Distressed Debt:** The YTD U.S. high-yield default rate was 1.2% as of October 2022. Fitch predicted the TTM default rate may rise to 1.5%-1.75% by year-end 2022. The high-yield default rate is projected to trend higher through 2023.[4] During the quarter, $16.6 billion was raised by 15 funds, down significantly from the $29.4 billion raised by 17 funds during 2Q 2022. Dry powder was estimated at $153.3 billion at the end of 3Q 2022, which was down 4.4% from 2Q 2022. This remained above the five-year annual average level of $129.4 billion.[1]
- **Secondaries:** 5 funds raised $5.5 billion during the quarter, down from the $13.8 billion raised by 17 funds in 2Q 2022. This was 50.6% lower than the five-year quarterly average of $11.2 billion. Secondary dry powder was estimated at $127.8 billion at the end of the quarter.[1]
- **Infrastructure:** $33.8 billion of capital was raised by 34 funds in 3Q 2022 compared to $40.1 billion of capital raised by 59 partnerships in 2Q 2022. At the end of the quarter, dry powder stood at $298.8 billion, down from 2Q 2022's total of $319.5 billion. Infrastructure managers completed 1999 deals for an aggregate deal value of $304.4 billion through 3Q 2022 compared to 2,489 deals totaling $530.6 billion in 2021.[1]
- **Natural Resources:** Through 3Q 2022, an estimated 19 funds closed on $3.8 billion compared to 29 funds totaling $13.0 billion in 2021. Energy and utilities industry managers completed 59 deals totaling $12.3 billion in 3Q 2022, compared to $11.6 billion across 53 deals in 2Q 2022.[1]

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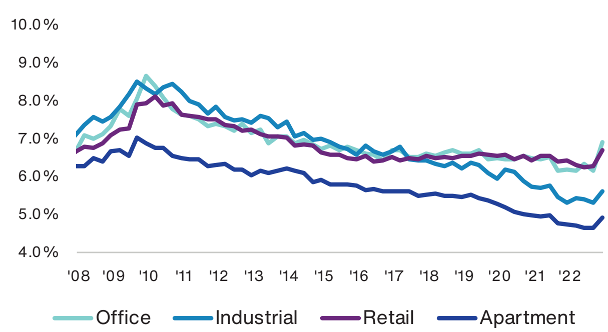
Sources: 1 Preqin 2 Standard & Poor's 3 PitchBook/NVCA Venture Monitor 4 Fitch Ratings

U.S. Commercial Real Estate Markets



- While capital markets have created significant near-term headwinds for nearly every asset class, we believe real estate fundamentals have remained generally promising, but also highly bifurcated. Multifamily properties continue to experience near record-high occupancy and rents and may be a net beneficiary of the eroding affordability of homeownership in this high interest rate environment. Industrial supply has outpaced demand for the first time since the Third Quarter of 2020, but increased financing costs and elevated construction costs are anticipated to stifle new development. Meanwhile, demand for industrial has remained healthy as companies continue to invest in direct-to-customer distribution.
- The retail and office sectors are facing significant headwinds over the near term. Retail real estate demand has seen modest recovery from occupiers, but the sector faces declining consumer confidence and purchasing power. Additionally, work-from-home trends and a cooling labor market are impacting office space needs. Weakening demand and increasing sublease inventory have pushed occupancy rates down across the sector—although demand for high-quality assets in well-located markets has been more resilient than commodity product.
- Townsend has identified high conviction investment themes that are predicated on secular growth trends and strong underlying real estate market fundamentals. These investment themes have commonalities such as anticipated tenant demand growth, natural barriers to supply, and operating complexity that are anticipated to persist medium to long-term.

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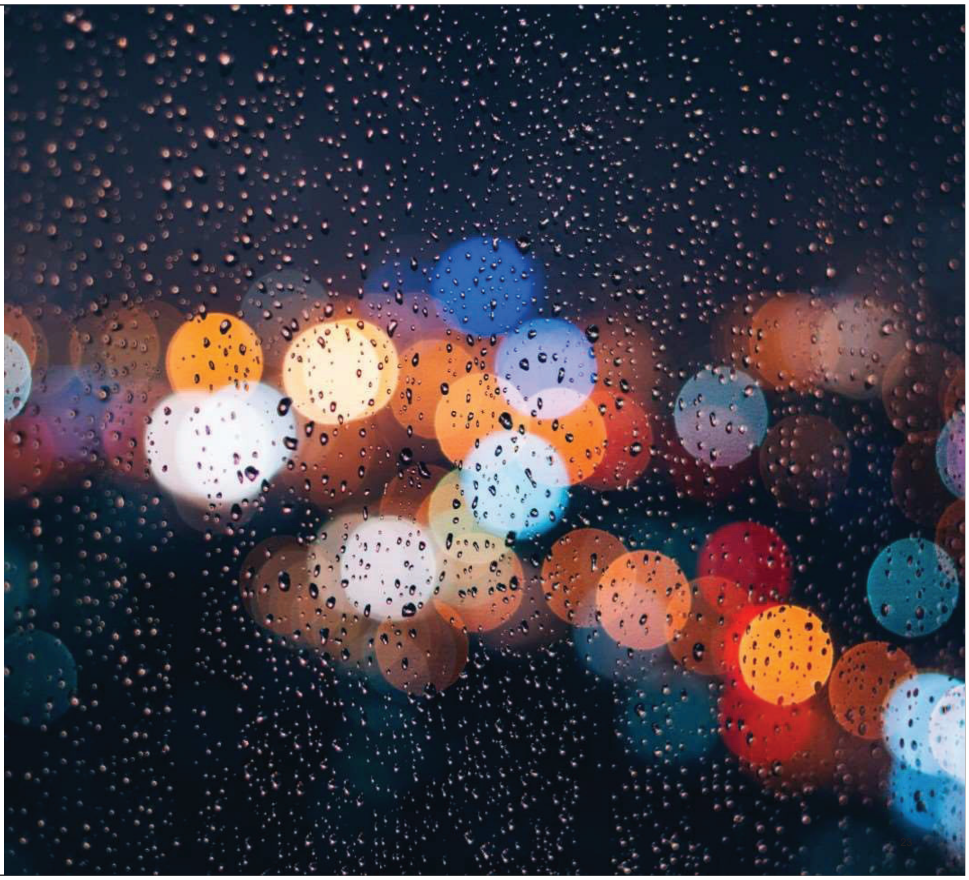
Total Fund



Highlights

Executive Summary

- The Total Fund outperformed the Performance Benchmark over the trailing one-, three-, five-, and ten-year periods.
- Performance relative to peers is also competitive over short- and long-term time periods.
- The Pension Plan is well-diversified across six broad asset classes, and each asset class is also well-diversified.
- Public market asset class investments do not significantly deviate from their broad market based benchmarks, e.g., sectors, market capitalizations, global regions, credit quality, duration, and security types.
- Private market asset classes are well-diversified by vintage year, geography, property type, sectors, investment vehicle/asset type, or investment strategy.
- Asset allocation is monitored on a daily basis to ensure the actual asset allocation of the plan remains close to the long-term policy targets set forth in the Investment Policy Statement.
- Aon Investments and SBA staff revisit the plan design annually through informal and formal asset allocation and asset liability reviews.
- Adequate liquidity exists within the asset allocation to pay the monthly obligations of the Pension Plan consistently and on a timely basis.

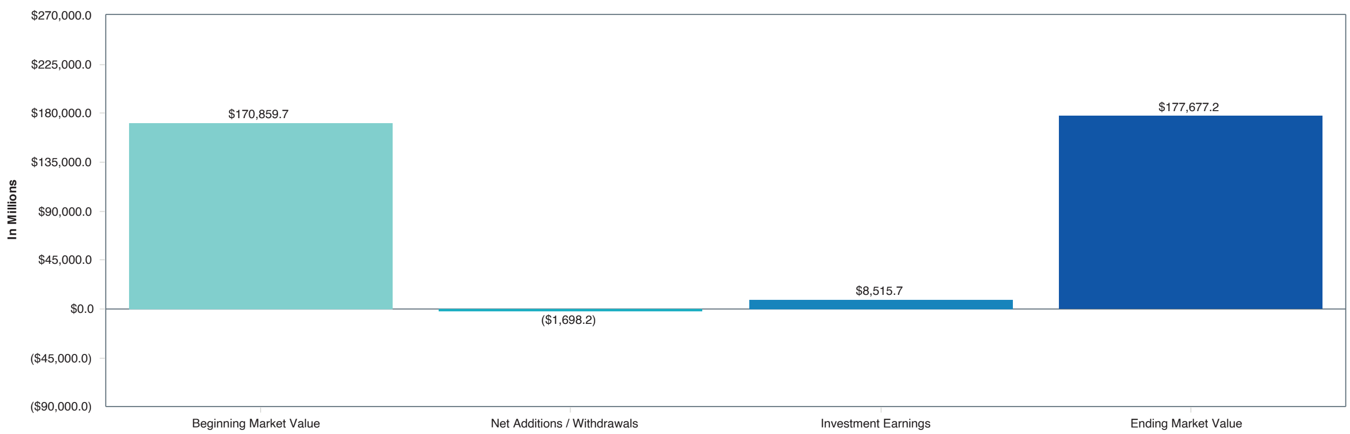
Performance Highlights

- The Total Fund outperformed the Performance Benchmark over the trailing one-, three-, five-, and ten-year periods.

Asset Allocation

- The Fund assets total $177.7 billion as of December 31, 2022, which represents a $6.8 billion increase since last quarter.
- Actual allocations for all asset classes were within their respective policy ranges and in line with the current policy at quarter-end.

Total Plan Asset Summary
As of December 31, 2022



Summary of Cash Flows	1 Quarter	Fiscal YTD*
Total Fund		
Beginning Market Value	170,859,676,055	179,954,710,565
+ Additions / Withdrawals	-1,698,171,883	-3,856,003,077
+ Investment Earnings	8,515,711,245	1,578,507,929
= Ending Market Value	**177,677,215,416**	**177,677,215,416**

*Period July 2022 - Present

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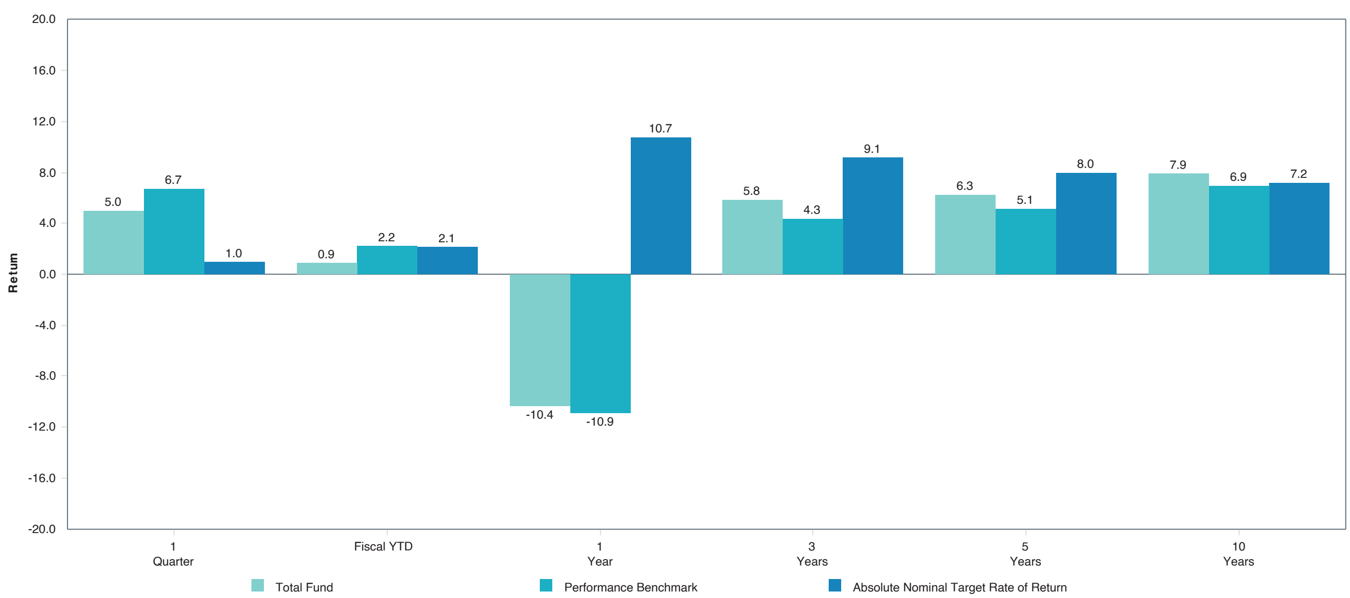
Total Plan Performance Summary
As of December 31, 2022

Return Summary



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Asset Allocation & Performance

As of December 31, 2022

	Allocation			Performance %					
	Market Value $	%	Policy %	1 Quarter	Fiscal YTD	1 Year	3 Years	5 Years	10 Years
Total Fund	**177,677,215,416**	**100.0**	**100.0**	**5.0 (57)**	**0.9 (50)**	**-10.4 (40)**	**5.8 (17)**	**6.3 (15)**	**7.9 (6)**
Performance Benchmark				*6.7 (10)*	*2.2 (4)*	*-10.9 (43)*	*4.3 (48)*	*5.1 (46)*	*6.9 (45)*
Absolute Nominal Target Rate of Return				*1.0 (100)*	*2.1 (5)*	*10.7 (1)*	*9.1 (1)*	*8.0 (1)*	*7.2 (37)*
Global Equity*	**86,696,397,584**	**48.8**	**49.1**	**10.0**	**2.8**	**-18.7**	**4.2**	**5.3**	**8.5**
Asset Class Target				*9.8*	*2.5*	*-18.4*	*3.9*	*5.0*	*8.0*
Domestic Equities	**43,039,782,285**	**24.2**		**7.3**	**2.6**	**-18.9**	**7.1**	**8.8**	**12.1**
Asset Class Target				*7.2*	*2.4*	*-19.2*	*7.1*	*8.8*	*12.1*
Foreign Equities	**30,336,213,728**	**17.1**		**13.8**	**3.0**	**-18.4**	**0.5**	**1.2**	**4.7**
Asset Class Target				*14.2*	*3.0*	*-16.6*	*0.2*	*0.9*	*4.0*
Global Equities	**11,171,961,230**	**6.3**		**11.4**	**3.7**	**-16.9**	**3.4**	**5.2**	**8.4**
Benchmark				*9.8*	*2.7*	*-18.2*	*4.5*	*5.9*	*8.6*
Fixed Income	**29,462,721,414**	**16.6**	**17.3**	**1.6**	**-2.0**	**-9.5**	**-1.5**	**0.6**	**1.1**
Asset Class Target				*1.7*	*-2.2*	*-9.5*	*-1.9*	*0.3*	*0.9*
Private Equity	**17,301,832,181**	**9.7**	**9.6**	**-1.2**	**-6.4**	**-1.8**	**23.5**	**20.5**	**17.7**
Asset Class Target				*11.7*	*3.3*	*-15.4*	*7.0*	*8.0*	*11.9*
Real Estate	**21,602,680,717**	**12.2**	**11.9**	**-0.1**	**3.3**	**12.8**	**10.6**	**9.1**	**10.6**
Asset Class Target				*1.0*	*4.1*	*15.9*	*10.1*	*8.7*	*9.5*
Strategic Investments	**20,374,262,657**	**11.5**	**11.2**	**1.3**	**1.3**	**4.3**	**7.4**	**6.8**	**7.8**
Short-Term Target				*3.0*	*3.7*	*4.1*	*7.1*	*6.5*	*6.3*
Cash	**2,239,320,864**	**1.3**	**1.0**	**0.9**	**1.4**	**1.6**	**0.7**	**1.3**	**0.8**
Bank of America Merrill Lynch 3-Month US Treasury Index				*0.8*	*1.3*	*1.5*	*0.7*	*1.3*	*0.8*

Benchmark and universe descriptions can be found in the Appendix.
* Global Equity became an asset class in July 2010. The historical return series prior to July 2010 was derived from the underlying Domestic Equities, Foreign Equities, and Global Equities components.

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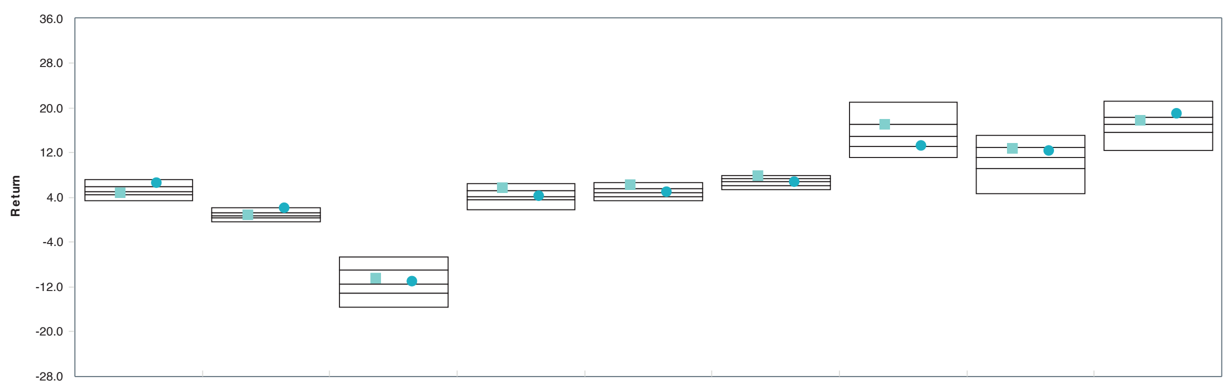
Plan Sponsor Peer Group Analysis

As of December 31, 2022



	1 Quarter	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	2021	2020	2019
Total Fund	**5.0 (57)**	**0.9 (50)**	**-10.4 (40)**	**5.8 (17)**	**6.3 (15)**	**7.9 (6)**	**17.2 (26)**	**12.9 (26)**	**17.8 (32)**
Performance Benchmark	6.7 (10)	2.2 (4)	-10.9 (43)	4.3 (48)	5.1 (46)	6.9 (45)	13.3 (74)	12.4 (33)	19.1 (18)
5th Percentile	7.3	2.1	-6.6	6.5	6.7	8.0	21.0	15.2	21.2
1st Quartile	6.0	1.3	-8.9	5.2	5.7	7.5	17.2	12.9	18.4
Median	5.1	0.8	-11.4	4.2	4.9	6.8	15.0	11.3	17.1
3rd Quartile	4.5	0.4	-13.0	3.6	4.2	6.2	13.2	9.2	15.6
95th Percentile	3.5	-0.3	-15.5	1.9	3.5	5.4	11.2	4.8	12.5
Population	71	71	67	62	61	58	133	158	159

Parentheses contain percentile rankings.
Universe: All Public Plans > $1B-Total Fund

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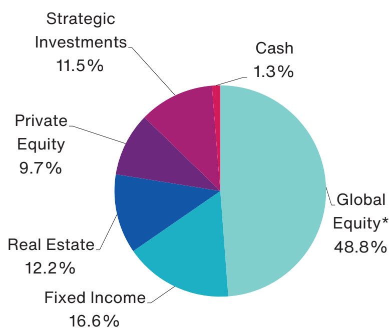
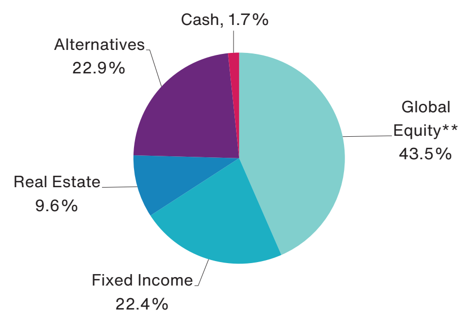
Universe Asset Allocation Comparison[1]

As of December 31, 2022

Total Fund



BNY Mellon Public Funds > $1B Net Universe



*Global Equity Allocation: 24.2% Domestic Equities; 17.1% Foreign Equities; 6.3% Global Equities; 1.2% Global Equity Liquidity Account. Percentages are of the Total FRS Fund.

**Global Equity Allocation: 27.3% Domestic Equities; 16.2% Foreign Equities.

[1]Allocations may not sum too 100.0% due to rounding.

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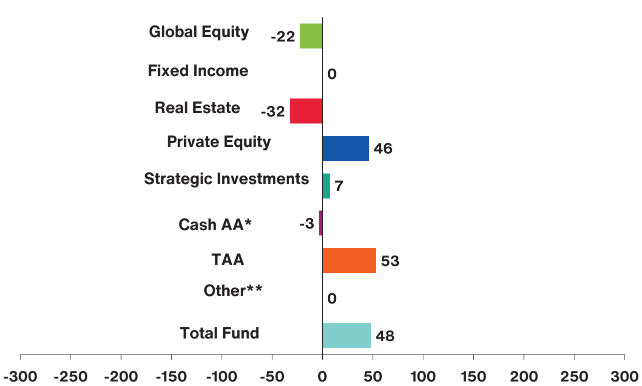
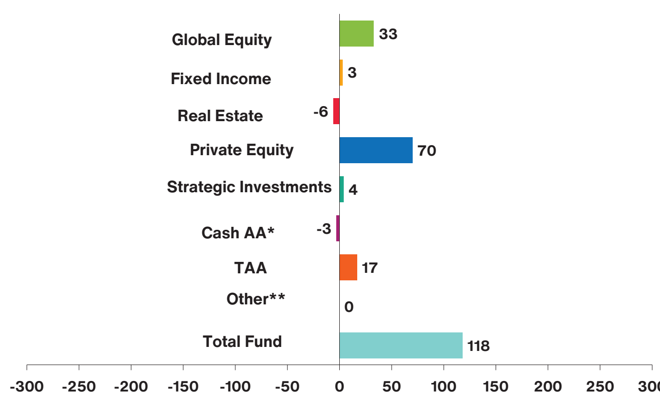
Attribution

As of December 31, 2022





*Cash AA includes Cash and Central Custody, Securities Lending Account income from 12/2009 to 3/2013 and unrealized gains and losses on securities lending collateral beginning June 2013, TF STIPFRS NAV Adjustment Account, and the Cash Expense Account.
**Other includes legacy accounts and unexplained differences due to methodology.

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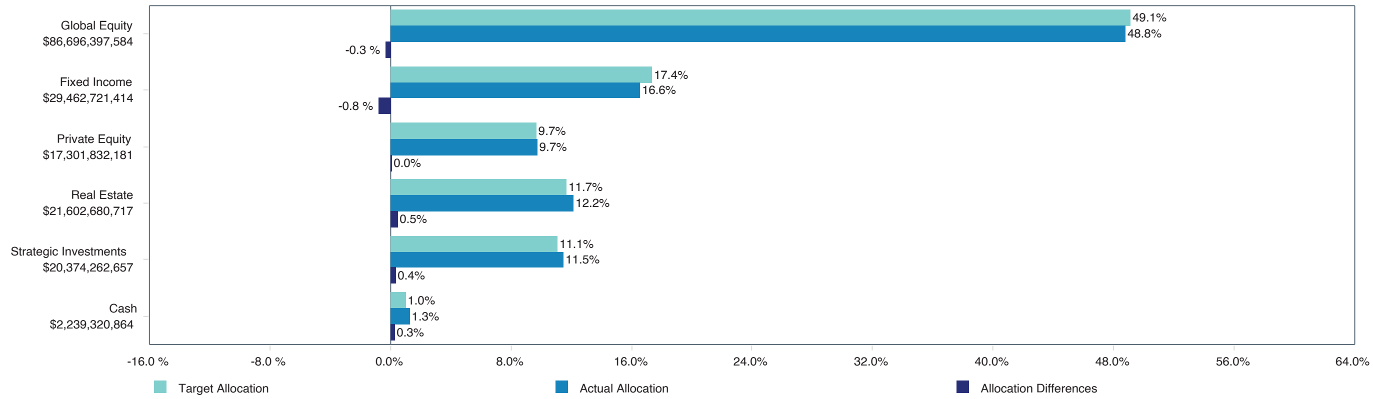
Investment advice and consulting services provided by Aon Investments USA Inc.

Asset Allocation Compliance

As of December 31, 2022

	Market Value $	Current Allocation %	Target Allocation %	Minimum Allocation %	Maximum Allocation %
Total Fund	**177,677,215,416**	**100.0**	**100.0**		
Global Equity	86,696,397,584	48.8	49.1	45.0	70.0
Fixed Income	29,462,721,414	16.6	17.4	10.0	26.0
Private Equity	17,301,832,181	9.7	9.7	2.0	12.0
Real Estate	21,602,680,717	12.2	11.7	4.0	16.0
Strategic Investments	20,374,262,657	11.5	11.1	0.0	16.0
Cash	2,239,320,864	1.3	1.0	0.3	5.0



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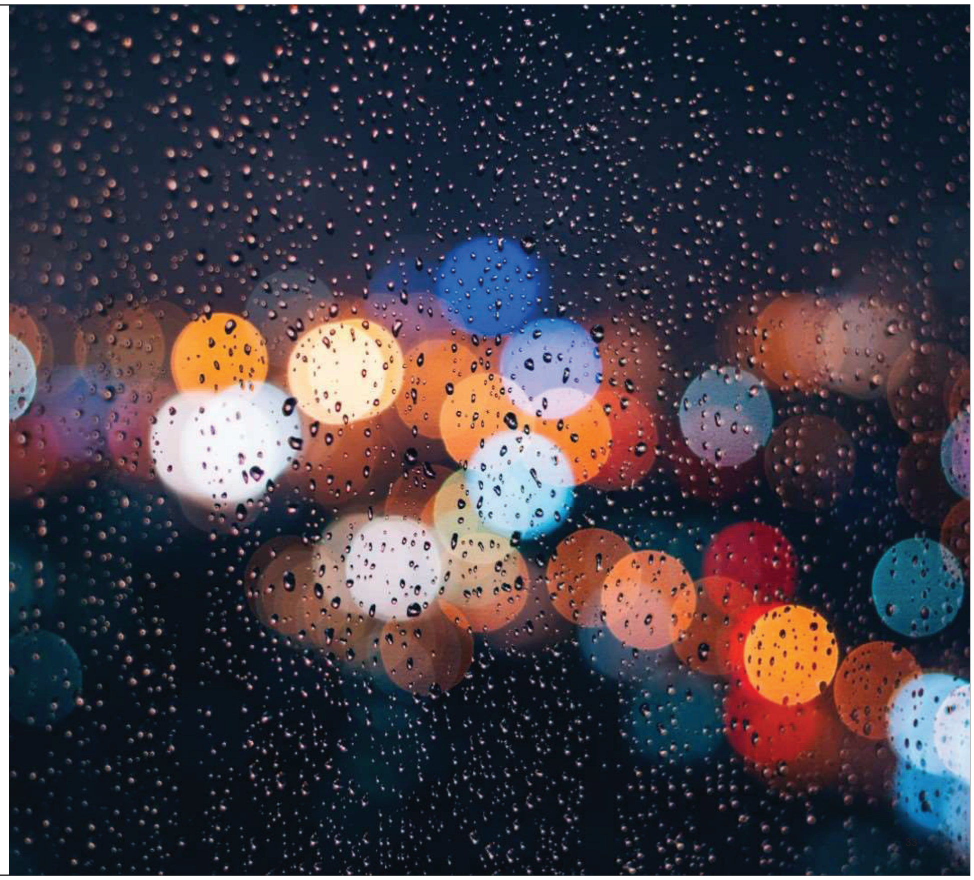
Global Equity



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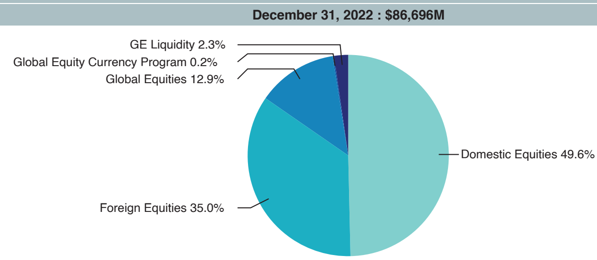
Global Equity* Portfolio Overview

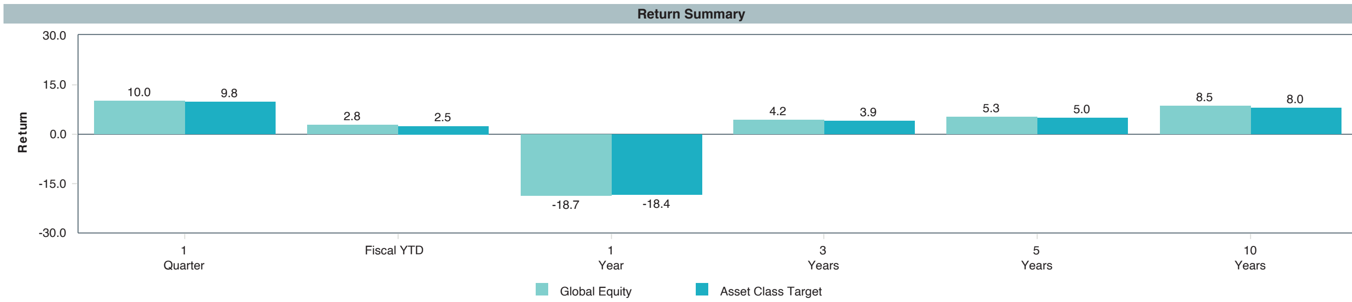
As of December 31, 2022

Current Allocation

December 31, 2022 : $86,696M



Return Summary



* Global Equity became an asset class in July 2010. The historical return series prior to July 2010 was derived from the underlying Domestic Equities, Foreign Equities, and Global Equities components.

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Domestic Equities

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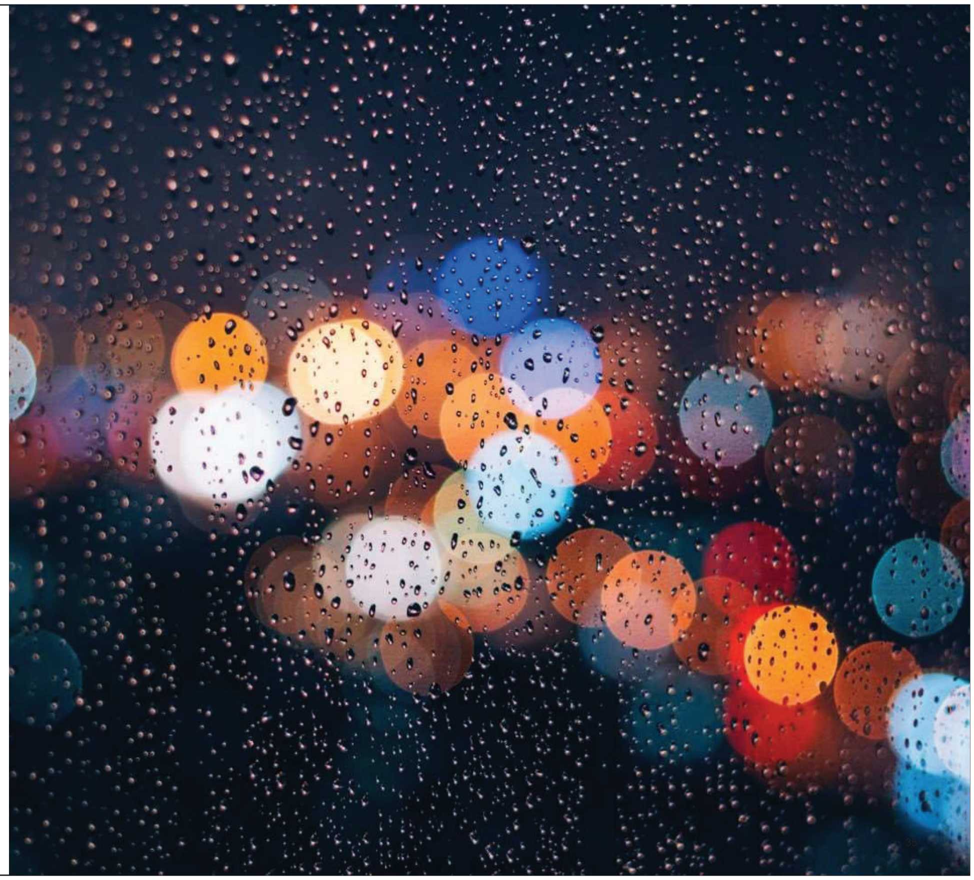
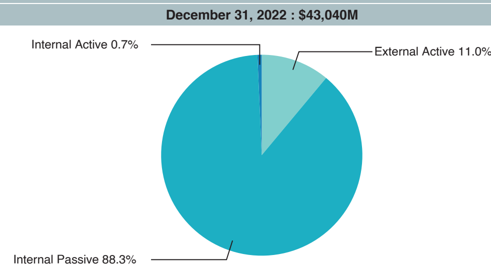


Domestic Equities Portfolio Overview

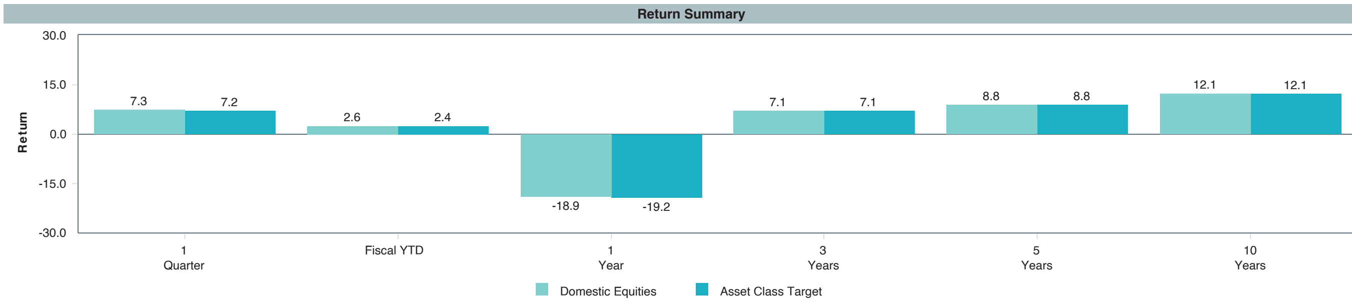
As of December 31, 2022

Current Allocation

December 31, 2022 : $43,040M



Return Summary



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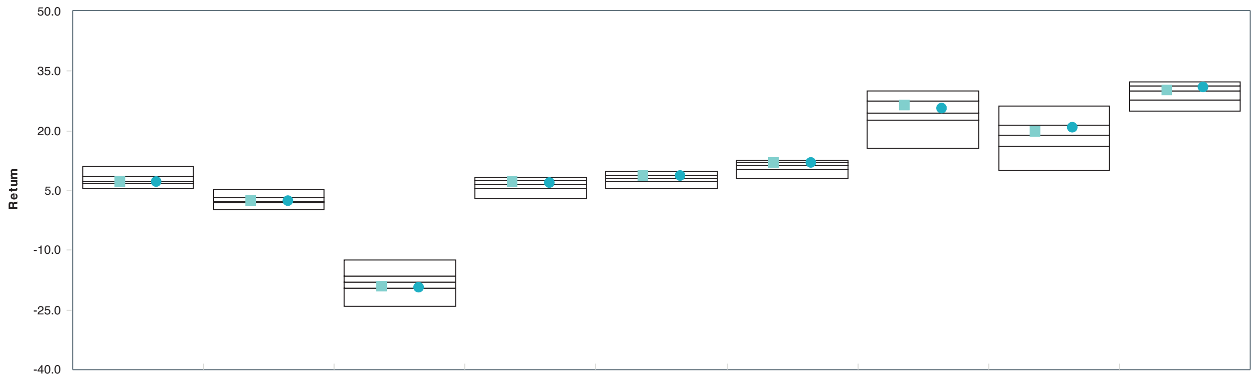
As of December 31, 2022



	1 Quarter	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	2021	2020	2019
Domestic Equities	**7.3 (60)**	**2.6 (45)**	**-18.9 (61)**	**7.1 (33)**	**8.8 (24)**	**12.1 (18)**	**26.6 (30)**	**19.9 (40)**	**30.4 (38)**
Asset Class Target	7.2 (65)	2.4 (50)	-19.2 (65)	7.1 (35)	8.8 (23)	12.1 (18)	25.7 (38)	20.9 (29)	31.0 (28)
5th Percentile	11.1	5.4	-12.6	8.3	9.7	12.6	30.0	26.4	32.2
1st Quartile	8.7	3.2	-16.4	7.6	8.7	12.0	27.5	21.5	31.2
Median	7.4	2.3	-17.9	6.5	8.1	11.4	24.3	18.9	30.1
3rd Quartile	6.9	2.0	-19.6	5.4	7.2	10.4	22.6	16.1	27.7
95th Percentile	5.4	0.3	-24.1	2.9	5.4	8.0	15.7	10.0	25.0
Population	54	53	52	46	44	34	56	55	52

Parentheses contain percentile rankings.

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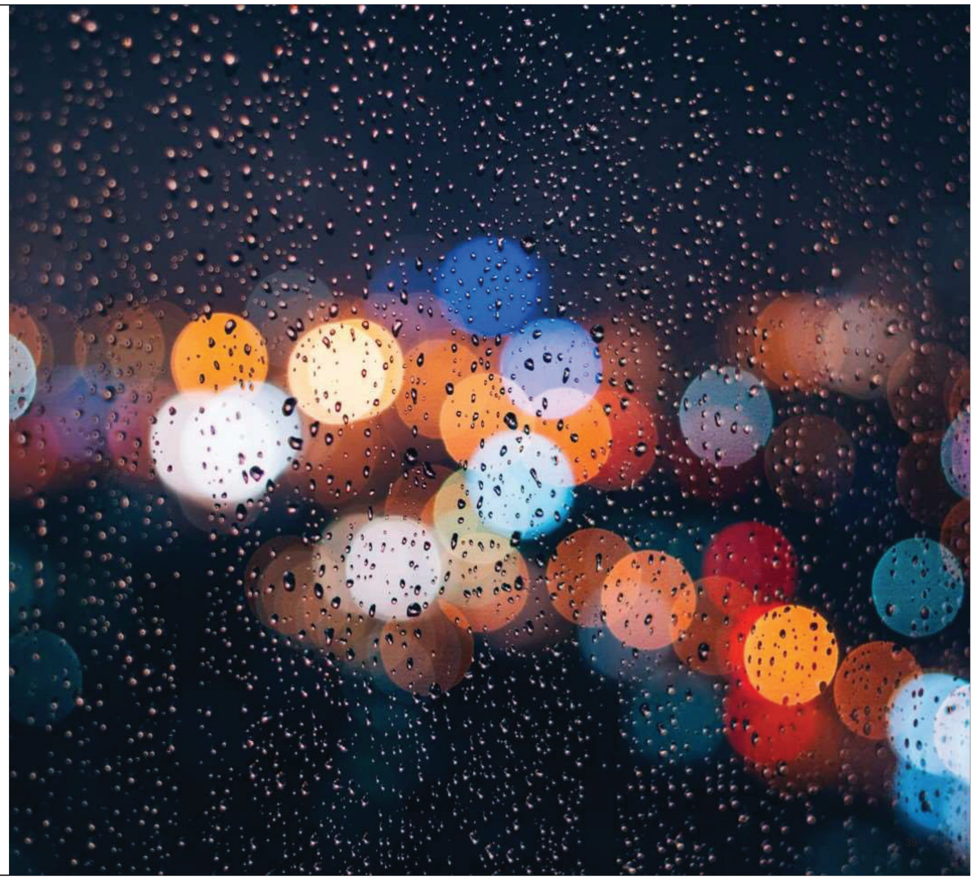
Foreign Equities

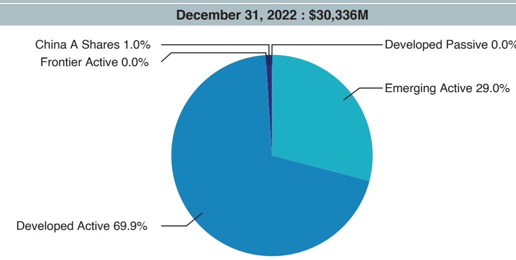


Foreign Equities Portfolio Overview

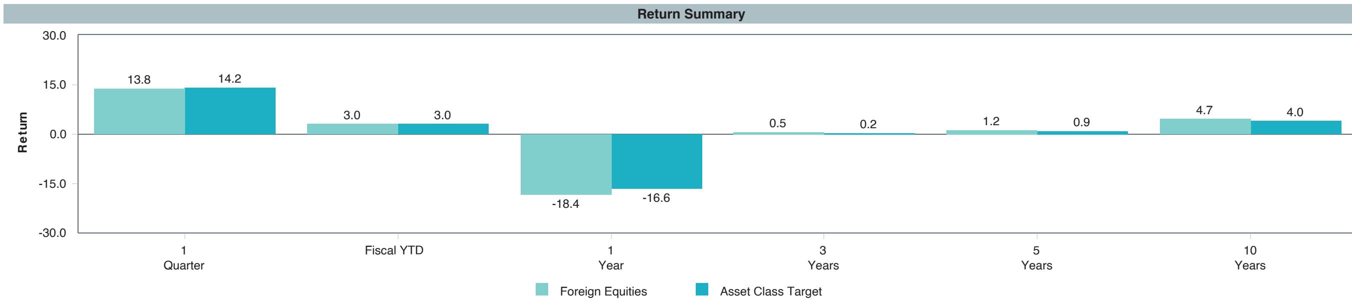
As of December 31, 2022

Current Allocation

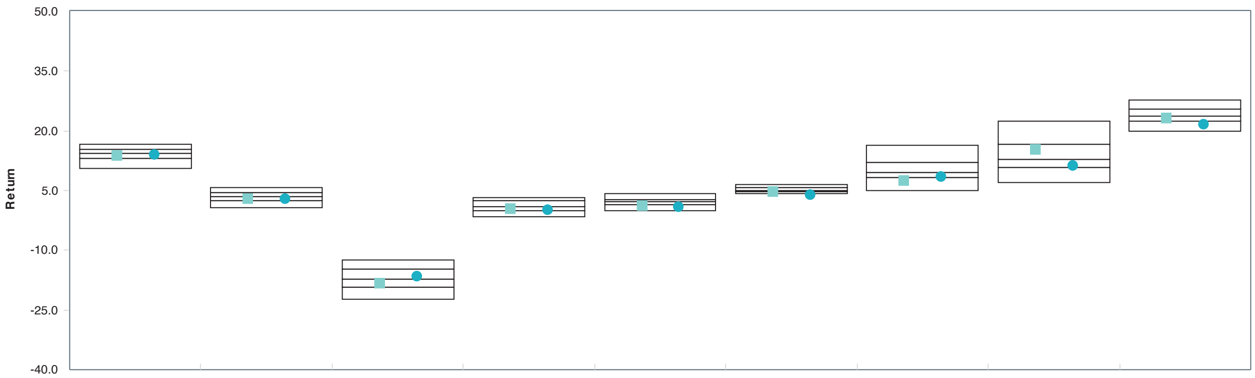
December 31, 2022 : $30,336M



Return Summary



As of December 31, 2022



	1 Quarter	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	2021	2020	2019
Foreign Equities	**13.8 (64)**	**3.0 (65)**	**-18.4 (66)**	**0.5 (64)**	**1.2 (82)**	**4.7 (75)**	**7.6 (80)**	**15.4 (34)**	**23.1 (63)**
Asset Class Target	14.2 (56)	3.0 (63)	-16.6 (41)	0.2 (71)	0.9 (85)	4.0 (99)	8.4 (71)	11.3 (64)	21.7 (84)
5th Percentile	16.7	5.9	-12.4	3.2	4.2	6.4	16.5	22.4	27.9
1st Quartile	15.3	4.4	-14.6	2.4	2.8	5.7	12.2	16.8	25.5
Median	14.4	3.5	-17.3	1.0	2.2	5.1	9.6	12.8	23.7
3rd Quartile	13.2	2.5	-19.2	0.0	1.3	4.7	8.3	10.7	22.4
95th Percentile	10.7	0.7	-22.2	-1.5	-0.1	4.2	4.9	7.1	20.0
Population	54	54	54	50	49	38	56	58	53

Parentheses contain percentile rankings.

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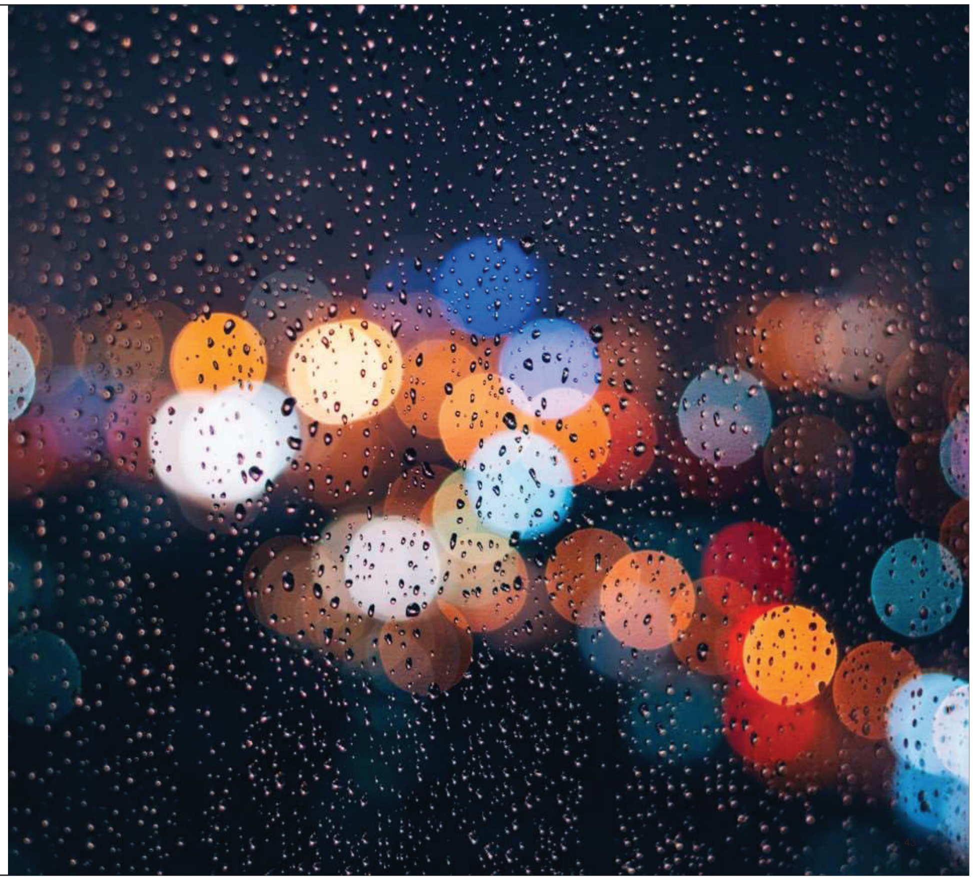
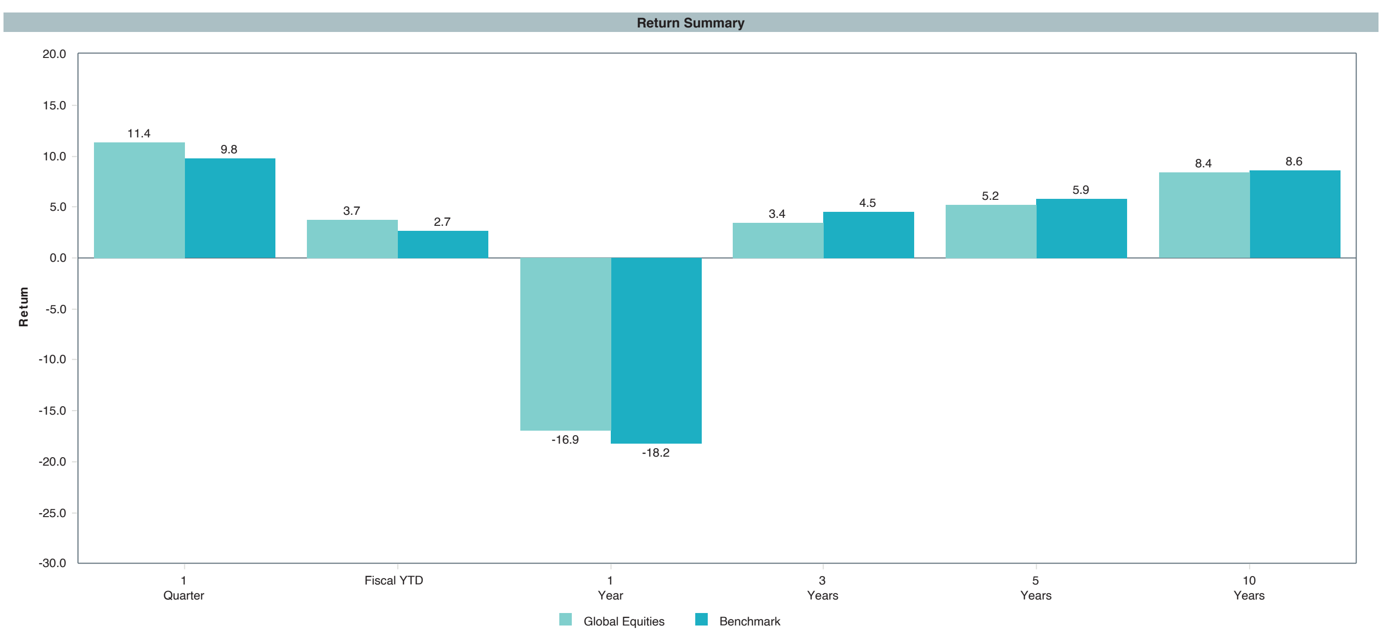
Global Equities



Global Equities Performance Summary

As of December 31, 2022



Fixed Income

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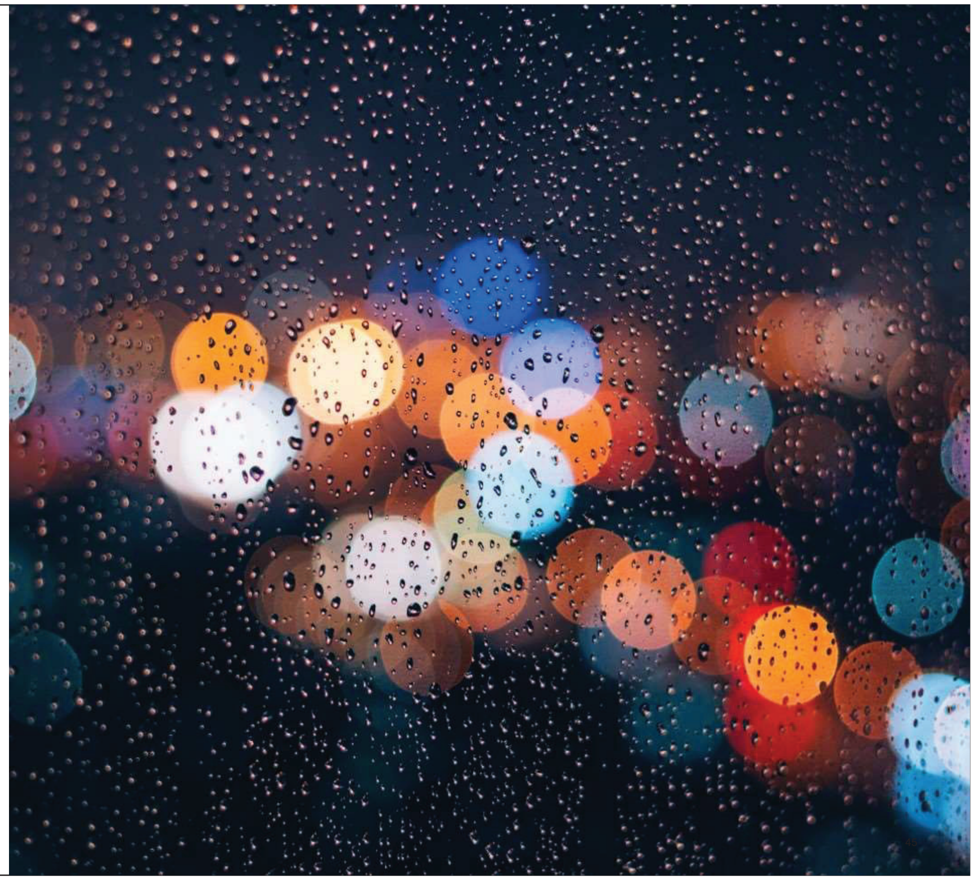
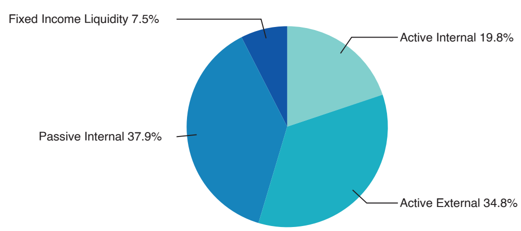


Fixed Income Portfolio Overview

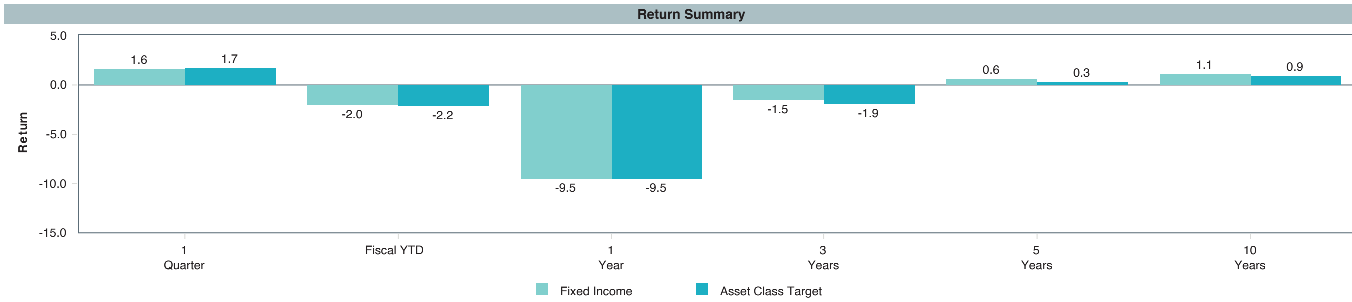
As of December 31, 2022

Current Allocation

December 31, 2022 : $29,463M



Return Summary



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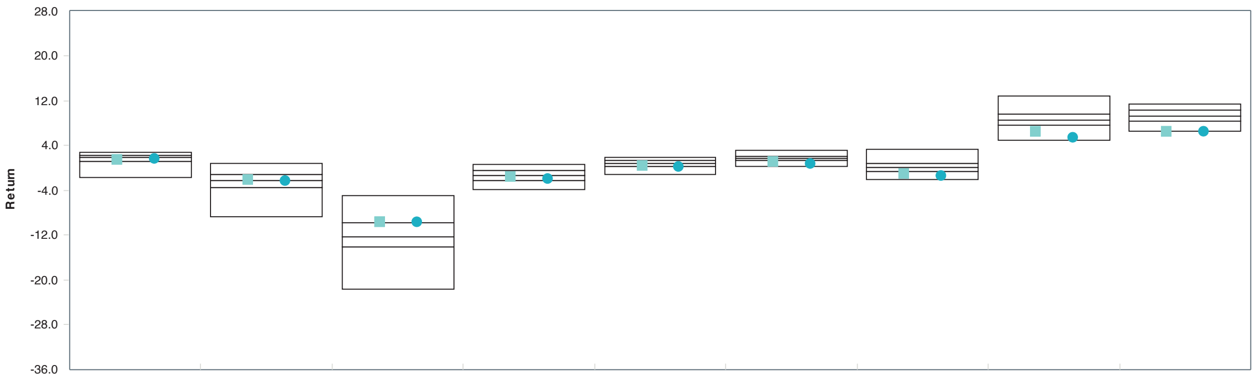
As of December 31, 2022



	1 Quarter	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	2021	2020	2019
Fixed Income	**1.6 (63)**	**-2.0 (44)**	**-9.5 (25)**	**-1.5 (56)**	**0.6 (66)**	**1.1 (90)**	**-1.0 (86)**	**6.6 (87)**	**6.7 (95)**
Asset Class Target	1.7 (59)	-2.2 (46)	-9.5 (25)	-1.9 (68)	0.3 (80)	0.9 (91)	-1.3 (91)	5.6 (90)	6.7 (95)
5th Percentile	2.8	0.8	-4.9	0.6	2.0	3.1	3.3	12.9	11.4
1st Quartile	2.3	-1.1	-9.8	-0.4	1.3	2.0	0.8	9.7	10.3
Median	1.9	-2.3	-12.3	-1.4	0.9	1.7	0.1	8.6	9.3
3rd Quartile	1.2	-3.4	-14.1	-2.2	0.4	1.4	-0.6	7.7	8.4
95th Percentile	-1.6	-8.7	-21.7	-3.9	-1.0	0.3	-2.0	4.9	6.5
Population	57	57	57	49	47	39	58	59	53

Parentheses contain percentile rankings.

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Private Equity

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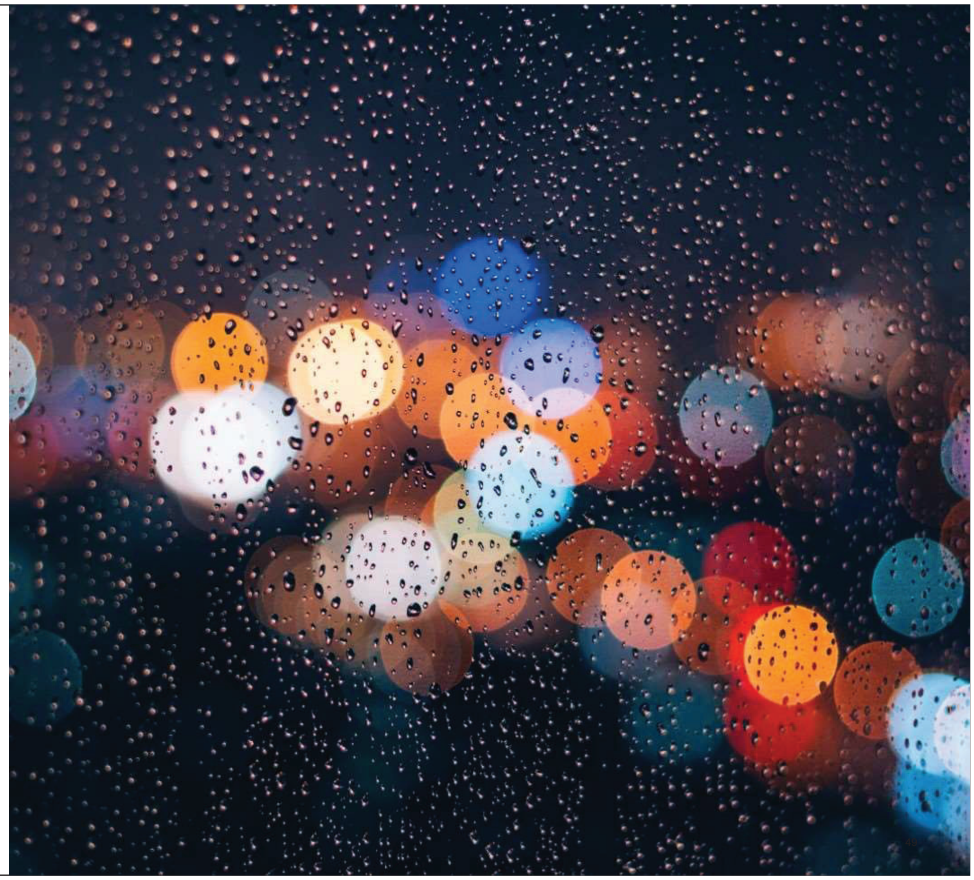
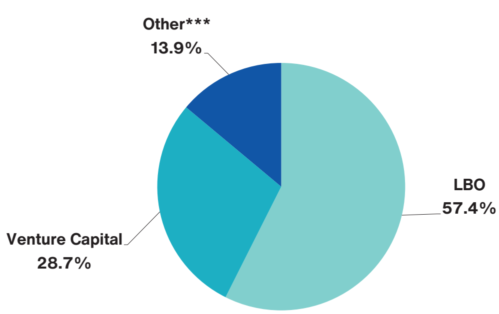


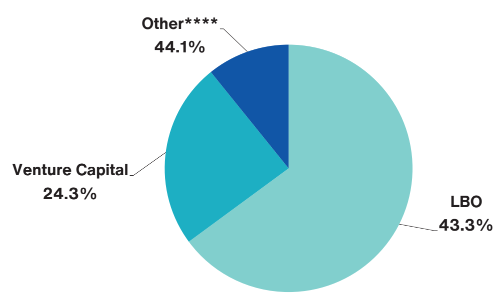
Private Equity Asset Allocation Overview

As of December 31, 2022

FRS Private Equity by Market Value*



Preqin Private Equity Strategies by Market Value**



*Allocation data is as of December 31, 2022.
**Allocation data is as of June 30, 2019, from the Preqin database.
***Other for the FRS Private Equity consists of Growth Capital, Secondary, PE Cash, and PE Transition.
****Other for the Preqin data consists of Distressed PE, Growth, Mezzanine, and other Private Equity/Special Situations.
Preqin universe is comprised of 10,000 private equity funds representing $4.8 trillion.

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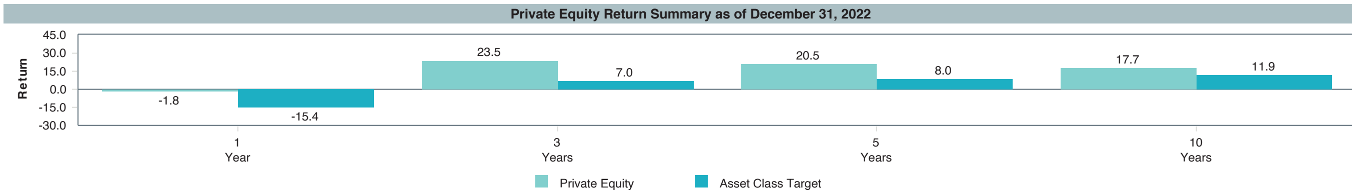
Investment advice and consulting services provided by Aon Investments USA Inc.

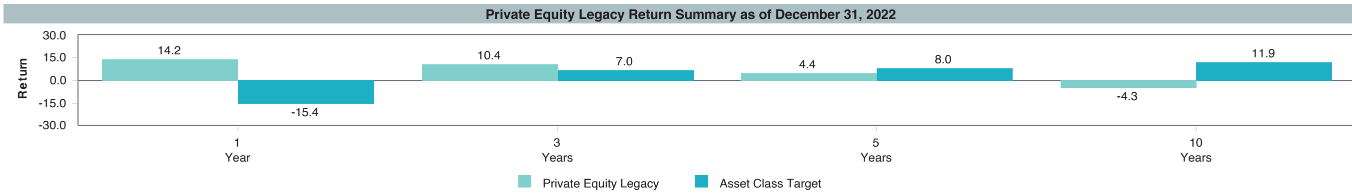
Private Equity Time-Weighted Investment Results

As of December 31, 2022

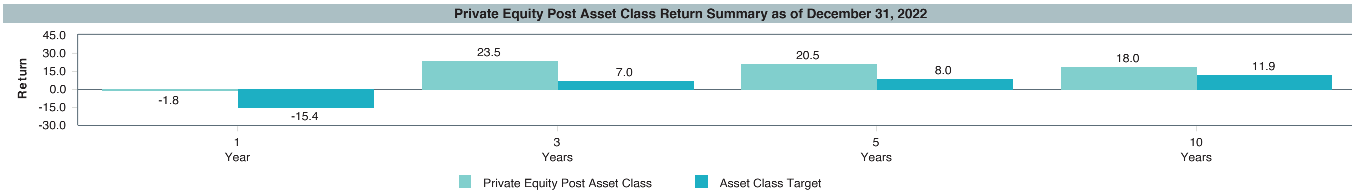
Private Equity Return Summary as of December 31, 2022



Private Equity Legacy Return Summary as of December 31, 2022



Private Equity Post Asset Class Return Summary as of December 31, 2022



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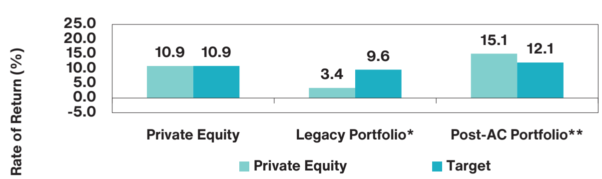
Dollar-Weighted Investment Results

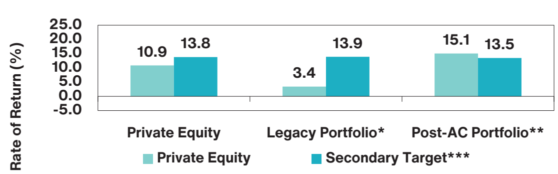
As of December 31, 2022

Since Inception



As of December 31, 2022

Since Inception



*The Inception Date for the Legacy Portfolio is January 1989.
**The Inception Date for the Post-AC Portfolio is September 2000.
***The Secondary Target is a blend of the Cambridge Associates Private Equity Index and the Cambridge Associates Venture Capital Index based on actual ABAL weights. Secondary Target data is on a quarterly lag.

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Real Estate

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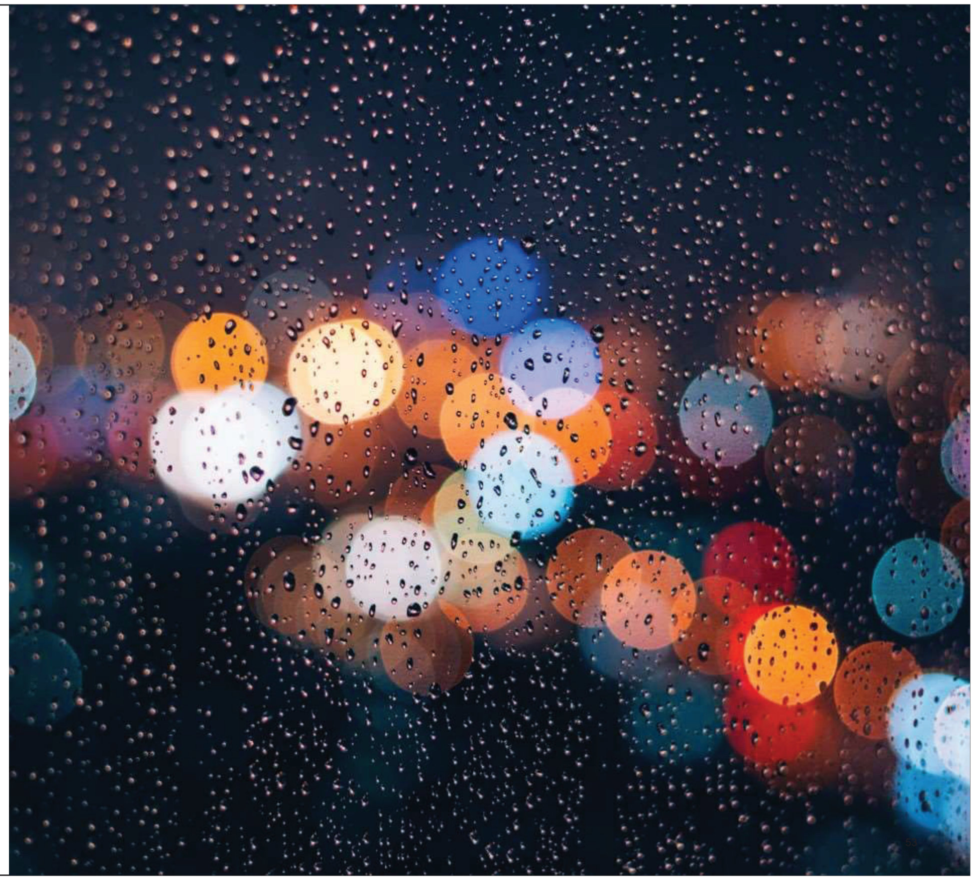
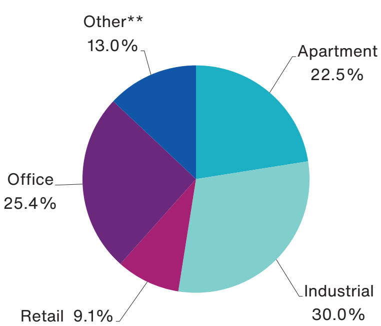


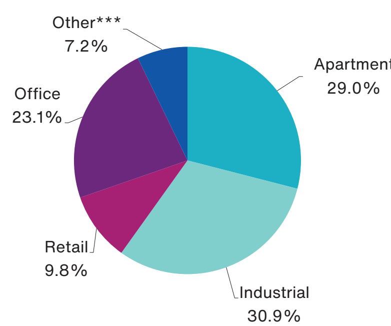
Real Estate Asset Allocation Overview

As of December 31, 2022

FRS*



NFI-ODCE Index*



*Property Allocation data is as of September 30, 2022. The FRS chart includes only the FRS private real estate assets. Property type information for the REIT portfolios is not included.
**Other for the FRS consists of Hotel, Land, Preferred Equity, Agriculture, Self-Storage and Senior Housing.
***Other for the NFI-ODCE Index consists of Hotel, Senior Living, Healthcare, Mixed Use, Single Family Residential, Parking, Timber/Agriculture, Land and Infrastructure.

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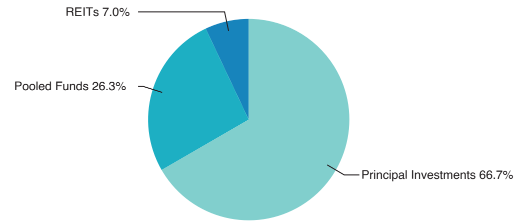
Real Estate Portfolio Overview

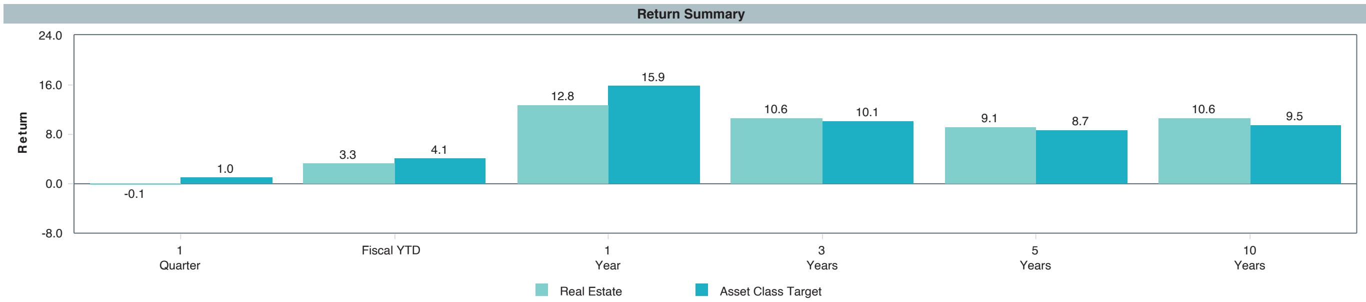
As of December 31, 2022

Current Allocation

December 31, 2022 : $21,603M



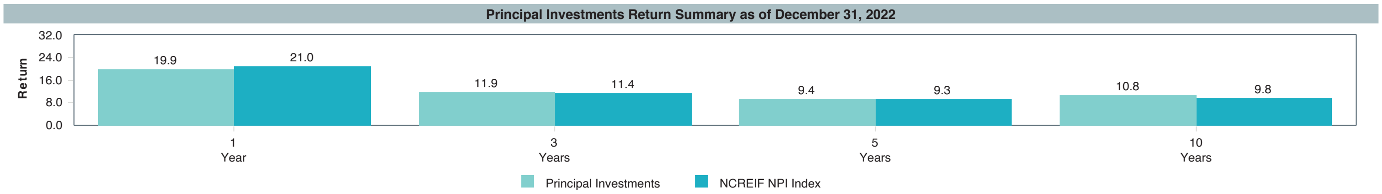
Return Summary



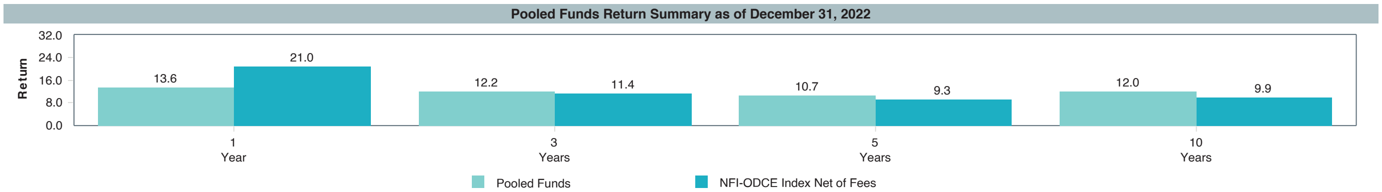
Real Estate

As of December 31, 2022

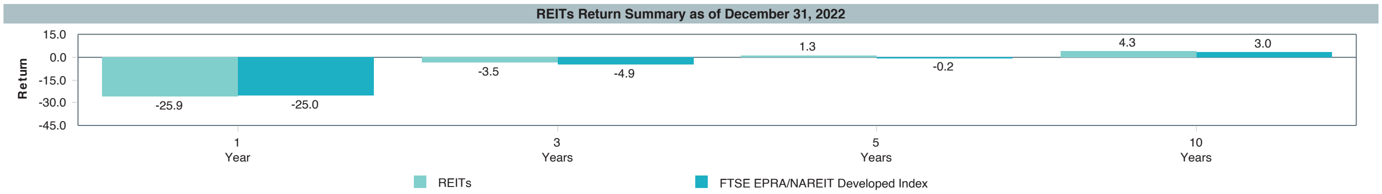
Principal Investments Return Summary as of December 31, 2022



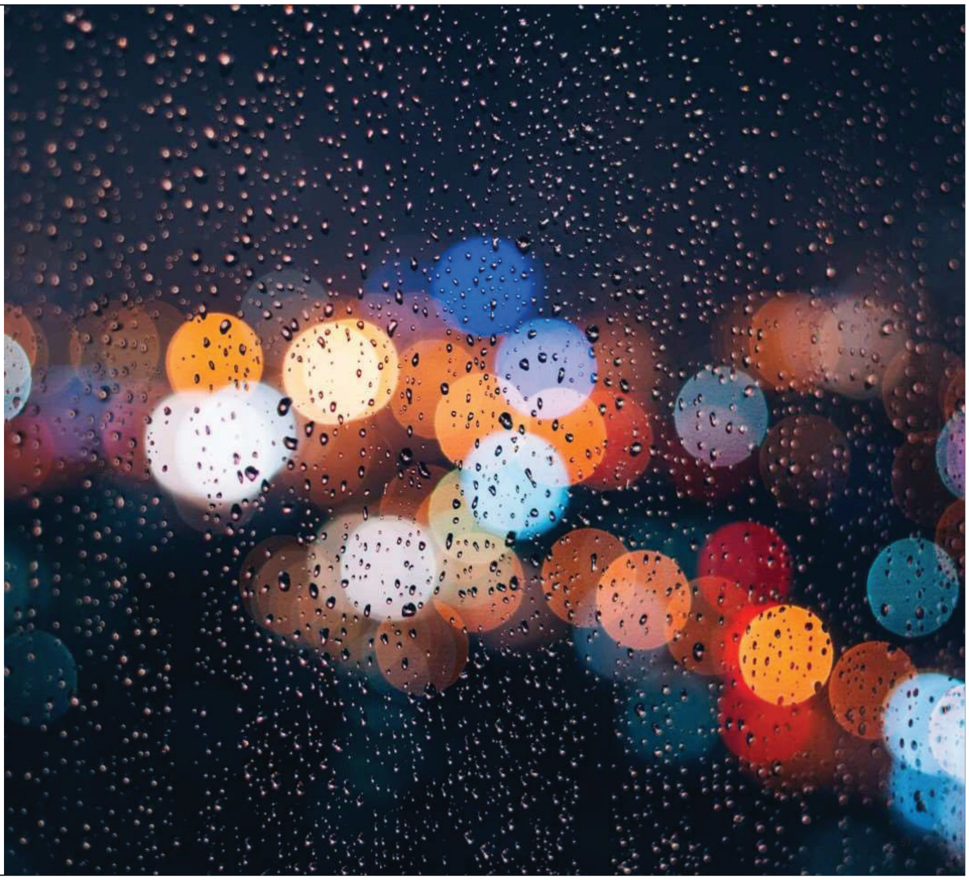
Pooled Funds Return Summary as of December 31, 2022



REITs Return Summary as of December 31, 2022



Strategic Investments

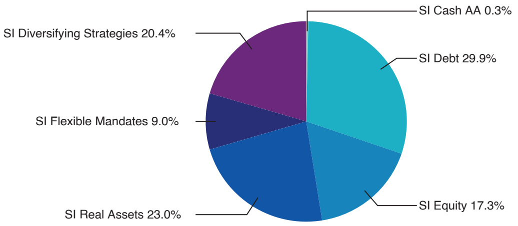


Strategic Investments Portfolio Overview

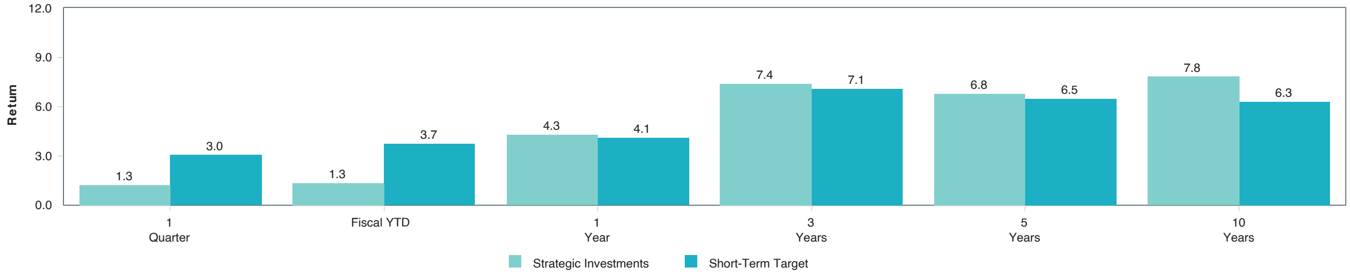
As of December 31, 2022

Current Allocation

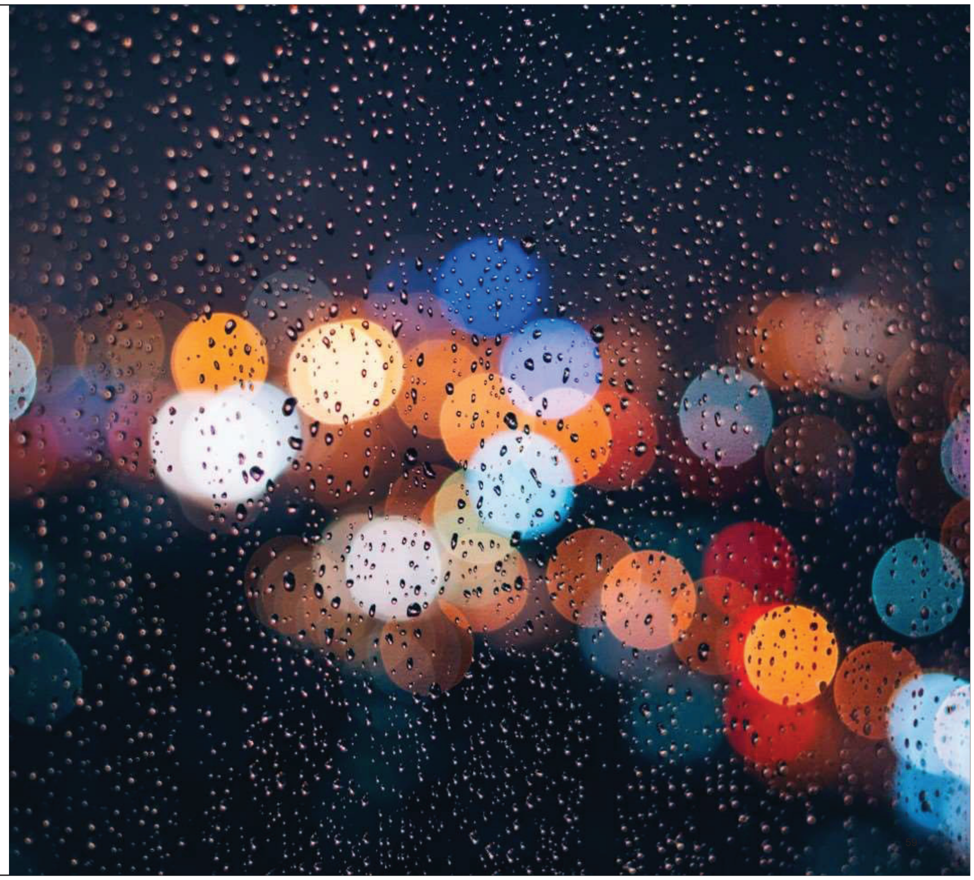
December 31, 2022 : $20,374M



Return Summary

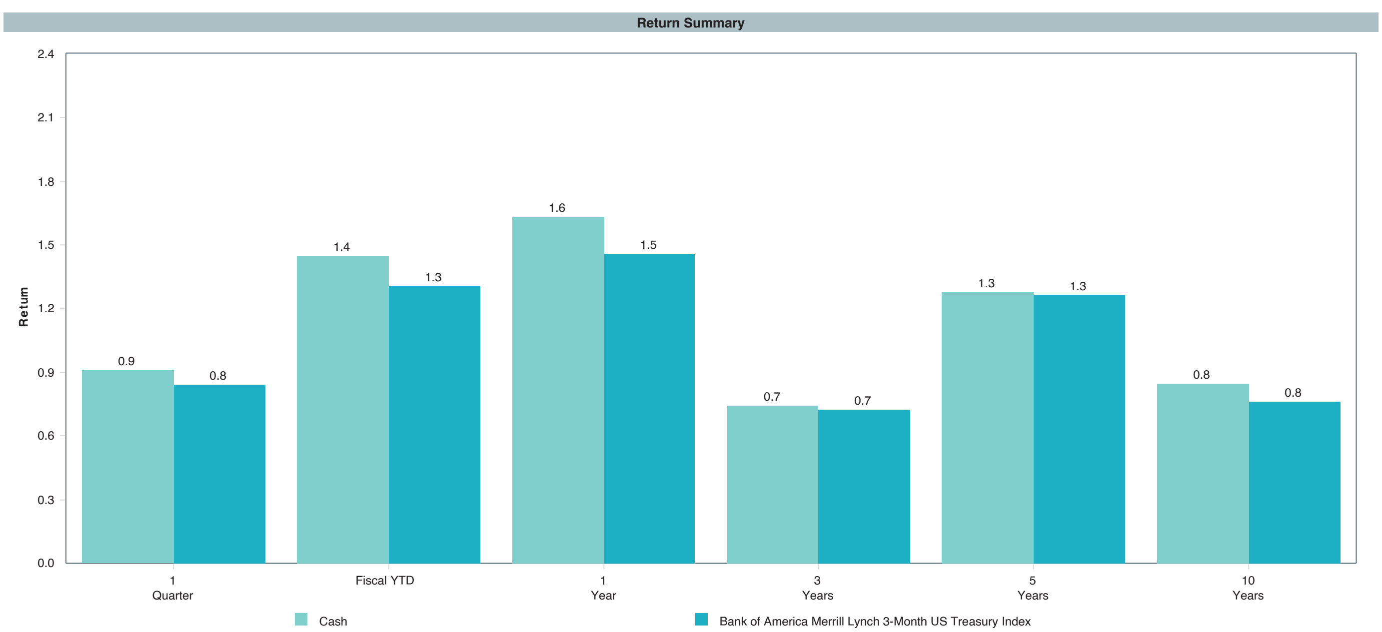


Cash

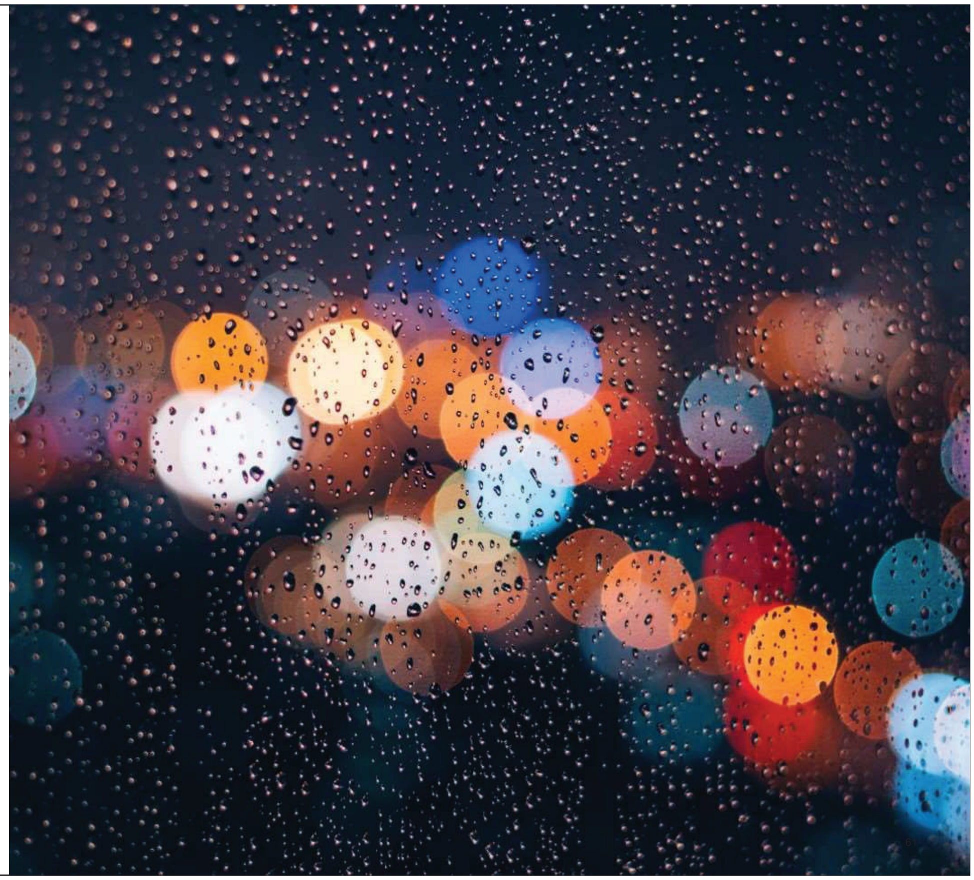


Cash Performance Summary

As of December 31, 2022



Appendix



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Appendix

Total FRS Assets

Performance Benchmark- A combination of the Global Equity Target, the Barclays Capital U.S. Intermediate Aggregate Index, the Private Equity Target Index, the Real Estate Investments Target Index, the Strategic Investments Target Benchmark, and the Bank of America Merrill Lynch 3-Month US Treasury Index. The short-term target policy allocations to the Strategic Investments, Real Estate and Private Equity asset classes are floating and based on the actual average monthly balance of the Global Equity asset class. Please refer to section VII. Performance Measurement in the FRS Defined Benefit Plan Investment Policy Statement for more details on the calculation of the Performance Benchmark. Prior to October 1, 2013, the Performance benchmark was a combination of the Global Equity Target, the Barclays Aggregate Bond Index, the Private Equity Target Index, the Real Estate Investments Target Index, the Strategic Investments Target Benchmark, and the iMoneyNet First Tier Institutional Money Market Funds Net Index. The short-term target policy allocations to the Strategic Investments, Real Estate and Private Equity asset classes are floating and based on the actual average monthly balance of the Global Equity asset class. Prior to July 2010, the Performance Benchmark was a combination of the Russell 3000 Index, the Foreign Equity Target Index, the Strategic Investments Target Benchmark, the Barclays Aggregate Bond Index, the Real Estate Investments Target Index, the Private Equity Target Index, the Barclays U.S. High Yield Ba/B 2% Issuer Capped Index and the iMoneyNet First Tier Institutional Money Market Funds Gross Index. During this time, the short-term target policy allocations to Strategic Investments, Real Estate and Private Equity asset classes were floating and based on the actual average monthly balance of the Strategic Investments, Real Estate and Private Equity asset classes. The target weights shown for Real Estate and Private Equity were the allocations that the asset classes were centered around. The actual target weight floated around this target month to month based on changes in asset values.

Total Global Equity

Performance Benchmark- A custom version of the MSCI All Country World Investable Market Index (MSCI IMI), in dollar terms, net of withholding taxes on non-resident institutional investors, adjusted to reflect securities and other investments prohibited by Florida law or that would be prohibited by Florida law if acquired as of the date of measurement of such Index notwithstanding that the securities or investments were actually acquired before such date. Prior to July 2010, the asset class benchmark is a weighted average of the underlying Domestic Equities, Foreign Equities and Global Equities historical benchmarks.

Total Domestic Equities

Performance Benchmark- The Russell 3000 Index. Prior to July 1, 2002, the benchmark was the Wilshire 2500 Stock Index. Prior to January 1, 2001, the benchmark was the Wilshire 2500 Stock Index ex-Tobacco. Prior to May 1, 1997, the benchmark was the Wilshire 2500 Stock Index. Prior to September 1, 1994, the benchmark was the S&P 500 Stock Index.

Total Foreign Equities

Performance Benchmark- A custom version of the MSCI ACWI ex-U.S. Investable Market Index adjusted to exclude companies divested under the PFIA. Prior to April 1, 2008, it was the MSCI All Country World Index ex-U.S. Investable Market Index. Prior to September 24, 2007, the target was the MSCI All Country World ex-U.S. Free Index. Prior to November 1, 1999, the benchmark was 85% MSCI Europe, Australasia and Far East (EAFE) Foreign Stock Index and 15% IFCI Emerging Markets Index with a half weight in Malaysia. Prior to March 31, 1995, the benchmark was the EAFE Index.

Total Global Equities

Performance Benchmark- Aggregated based on each underlying manager's individual benchmark. The calculation accounts for the actual weight and the benchmark return. The benchmarks used for the underlying managers include both the MSCI FSB All Country World ex-Sudan ex-Iran Net Index and MSCI FSB All Country World ex-Sudan ex-Iran Net Investable Market Index (IMI).

Total Fixed Income

Performance Benchmark- The Barclays Capital U.S. Intermediate Aggregate Index. Prior to October 1, 2013, it was the Barclays U.S. Aggregate Bond Index. Prior to June 1, 2007, it was the Fixed Income Management Aggregate (FIMA). Prior to July 1, 1999, the benchmark was the Florida High Yield Extended Duration Index. Prior to July 31, 1997, the benchmark was the Florida Extended Duration Index. Prior to July 1, 1989, the Salomon Brothers Broad Investment-Grade Bond Index was the benchmark. For calendar year 1985, the performance benchmark was 70% Shearson Lehman Extended Duration and 30% Salomon Brothers Mortgage Index.

Total Private Equity

Performance Benchmark- The MSCI All Country World Investable Market Index (ACWI IMI), adjusted to reflect the provisions of the Protecting Florida's Investments Act, plus a fixed premium return of 300 basis points per annum.

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Appendix

Prior to July 1, 2014, the benchmark was the domestic equities target index return (Russell 3000 Index) plus a fixed premium return of 300 basis points per annum. Prior to July 1, 2010, it was the domestic equities target index return plus a fixed premium return of 450 basis points per annum. Prior to November 1, 1999, Private Equities was part of the Domestic Equities asset class and its benchmark was the domestic equities target index return plus 750 basis points.

Total Real Estate

Performance Benchmark- The core portion of the asset class is benchmarked to an average of the National Council of Real Estate Investment Fiduciaries (NCREIF) Fund Index- Open-ended Diversified Core Equity, net of fees, weighted at 76.5%, and the non-core portion of the asset class is benchmarked to an average of the National Council of Real Estate Investment Fiduciaries (NCREIF) Fund Index- Open-ended Diversified Core Equity, net of fees, weighted at 13.5%, plus a fixed return premium of 150 basis points per annum, and the FTSE EPRA/NAREIT Developed Index, in dollar terms, net of withholding taxes on non-resident institutional investors, weighted at 10%. Prior to July 1, 2014, the benchmark was a combination of 90% NCREIF ODCE Index, net of fees, and 10% FTSE EPRA/NAREIT Developed Index, net of fees. Prior to July 1, 2010, it was a combination of 90% NCREIF ODCE Index, gross of fees, and 10% Dow Jones U.S. Select RESI. Prior to June 1, 2007, it was the Consumer Price Index plus 450 basis points annually. Prior to July 1, 2003, the benchmark was the Dow Jones U.S. Select Real Estate Securities Index Un-Levered. Prior to November 1, 1999, the benchmark was the Russell-NCREIF Property Index.

Total Strategic Investments

Performance Benchmark- Long-term, 4.0% plus the contemporaneous rate of inflation or CPI. Short-term, a weighted aggregation of individual portfolio level benchmarks. Prior to July 1, 2018, a Performance Benchmark-Long-term, 4.5% plus the contemporaneous rate of inflation or CPI. Short-term, a weighted aggregation of individual portfolio level benchmark.

Total Cash

Performance Benchmark- Bloomberg Barclays U.S. Treasury Bill: 1-3 month index. Prior to October 1, 2020, it was the Bank of America Merrill Lynch 3-Month US Treasury Index. Prior to July 1, 2018 it was the iMoneyNet First Tier Institutional Money Market Funds Net Index. Prior to July 1, 2010, it was the iMoneyNet First Tier Institutional Money Market Funds Gross Index. Prior to June 1, 2007, it was the return of the Merrill Lynch 90-Day (Auction Average) Treasury Bill Yield Index.

Appendix

Description of Benchmarks

Bloomberg Barclays U.S. Treasury Bill: 1-3 month Index- Consists of U.S. Treasury Bills that have a remaining maturity of greater than or equal to 1 month and less than 3 months

Barclays Capital U.S. Intermediate Aggregate Bond Index- A market value-weighted index consisting of U.S. Treasury securities, corporate bonds and mortgage-related and asset-backed securities with one to ten years to maturity and an outstanding par value of $250 million or greater.

Consumer Price Index (CPI)- The CPI, an index consisting of a fixed basket of goods bought by the typical consumer and used to measure consumer inflation.

FTSE EPRA/NAREIT Developed Index- An index designed to represent general trends in eligible real estate equities worldwide. Relevant real estate activities are defined as the ownership, disposure and development of income-producing real estate. This index covers the four primary core asset classes (Industrial, Retail, Office, and Apartment).

MSCI All Country World Investable Market Index- A free float-adjusted market capitalization-weighted index that is designed to measure the equity market performance of developed and emerging markets. This investable market index contains constituents from the large, mid, and small cap size segments and targets a coverage range around 99% of free-float adjusted market capitalization.

NCREIF ODCE Property Index- The NCREIF ODCE is a capitalization-weighted, gross of fee, time-weighted return index. The index is a summation of open-end funds, which NCREIF defines as infinite-life vehicles consisting of multiple investors who have the ability to enter or exit the fund on a periodic basis, subject to contribution and/or redemption requests.

Russell 3000 Index- A capitalization-weighted stock index consisting of the 3,000 largest publicly traded U.S. stocks by capitalization. This represents most publicly traded, liquid U.S. stocks.

Appendix

Description of Universes

Total Fund- A universe comprised of 150 total fund portfolio returns, net of fees, of public defined benefit plans calculated and provided by BNY Mellon Performance & Risk Analytics and Investment Metrics. Aggregate assets in the universe comprised $2.0 trillion as of quarter-end and the average market value was $13.2 billion.

Domestic Equity- A universe comprised of 52 total domestic equity portfolio returns, net of fees, of public defined benefit plans calculated and provided by BNY Mellon Performance & Risk Analytics. Aggregate assets in the universe comprised $1.0 trillion as of quarter-end and the average market value was $18.5 billion.

Foreign Equity- A universe comprised of 55 total international equity portfolio returns, net of fees, of public defined benefit plans calculated and provided by BNY Mellon Performance & Risk Analytics. Aggregate assets in the universe comprised $1.0 trillion as of quarter-end and the average market value was $18.5 billion.

Fixed Income- A universe comprised of 55 total fixed income portfolio returns, net of fees, of public defined benefit plans calculated and provided by BNY Mellon Performance & Risk Analytics. Aggregate assets in the universe comprised $1.1 trillion as of quarter-end and the average market value was $19.5 billion.

Real Estate- A universe comprised of 42 total real estate portfolio returns, net of fees, of public defined benefit plans calculated and provided by BNY Mellon Performance & Risk Analytics. Aggregate assets in the universe comprised $1.0 trillion as of quarter-end and the average market value was $24.1 billion.

Private Equity- An appropriate universe for private equity is unavailable.

Strategic Investments- An appropriate universe for strategic investments is unavailable.

Appendix

Explanation of Exhibits

Quarterly and Cumulative Excess Performance- The vertical axis, excess return, is a measure of fund performance less the return of the primary benchmark. The horizontal axis represents the time series. The quarterly bars represent the underlying funds' relative performance for the quarter.

Ratio of Cumulative Wealth Graph- An illustration of a portfolio's cumulative, un-annualized performance relative to that of its benchmark. An upward-sloping line indicates superior fund performance versus its benchmark. Conversely, a downward-sloping line indicates underperformance by the fund. A flat line is indicative of benchmark-like performance.

Performance Comparison - Plan Sponsor Peer Group Analysis- An illustration of the distribution of returns for a particular asset class. The component's return is indicated by the circle and its performance benchmark by the triangle. The top and bottom borders represent the 5th and 95th percentiles, respectively. The solid line indicates the median while the dotted lines represent the 25th and 75th percentiles.

Notes

- The rates of return contained in this report are shown on an after-fees basis unless otherwise noted. They are geometric and time-weighted. Returns for periods longer than one year are annualized.
- Universe percentiles are based upon an ordering system in which 1 is the best ranking and 100 is the worst ranking.
- Due to rounding throughout the report, percentage totals displayed may not sum to 100%. Additionally, individual fund totals in dollar terms may not sum to the plan total.

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Disclaimer

Past performance is not necessarily indicative of future results.

Unless otherwise noted, performance returns presented reflect the respective fund's performance as indicated. Returns may be presented on a before-fees basis (gross) or after-fees basis (net). After-fee performance is net of each respective sub-advisors' investment management fees and include the reinvestment of dividends and interest as indicated on the notes page within this report or on the asset allocation and performance summary pages. Actual returns may be reduced by Aon Investments' investment advisory fees or other trust payable expenses you may incur as a client. Aon Investments' advisory fees are described in Form ADV Part 2A. Portfolio performance, characteristics and volatility also may differ from the benchmark(s) shown.

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200 East Randolph Street
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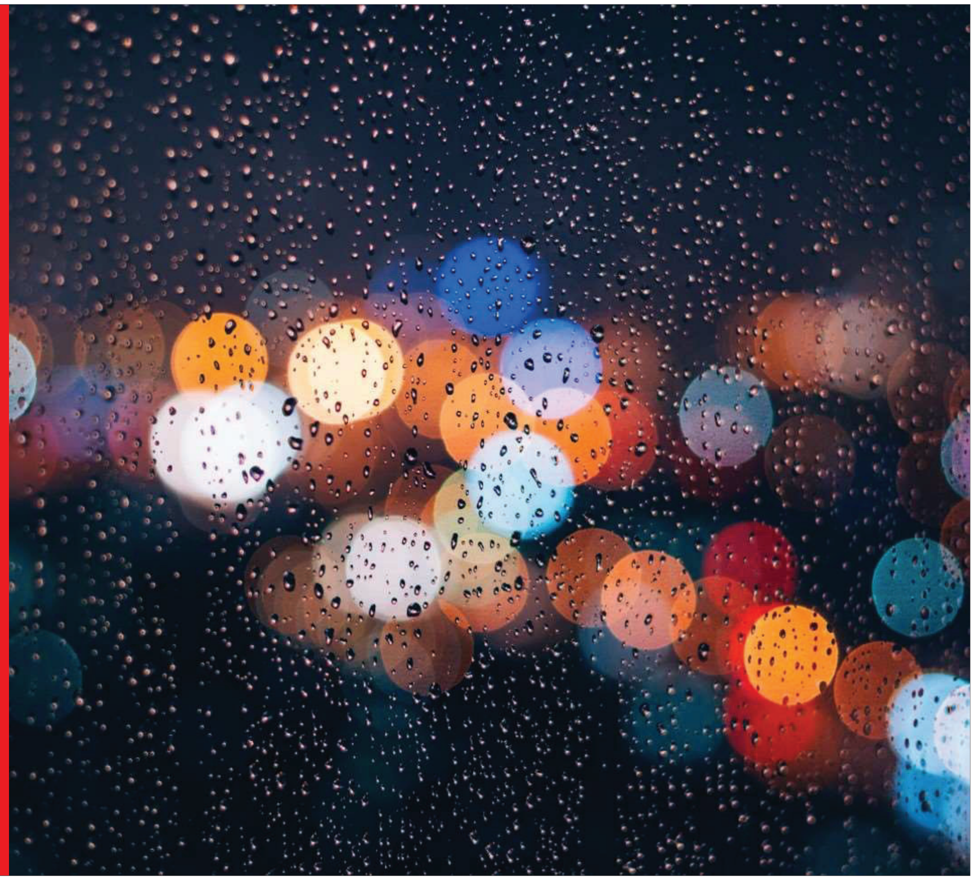
Quarterly Investment Review

FRS Investment Plan | Fourth Quarter 2022



Investment advice and consulting services provided by Aon Investments USA Inc.

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FRS Investment Plan

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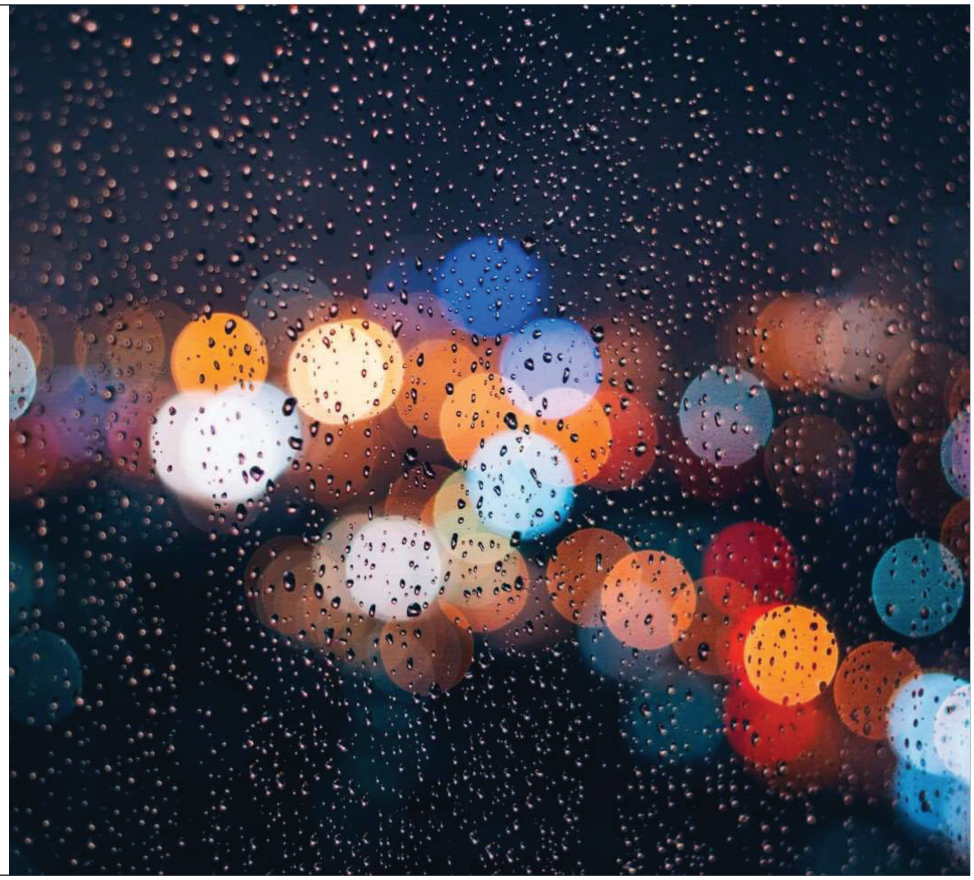

Asset Allocation & Performance

As of December 31, 2022

	Allocation		Performance %				
	Market Value $	%	1 Quarter	1 Year	3 Years	5 Years	10 Years
FRS Investment Plan	**12,933,569,552**	**100.0**	**6.1**	**-15.1**	**3.1**	**4.5**	**6.5**
Total Plan Aggregate Benchmark			*6.4*	*-13.8*	*3.2*	*4.4*	*6.3*
Retirement Date	**6,277,061,911**	**48.5**					
FRS Retirement Fund	**598,986,083**	**4.6**	**4.7 (32)**	**-11.8 (36)**	**2.1 (1)**	**3.3 (5)**	**3.8 (56)**
Retirement Custom Index			*5.3 (10)*	*-10.7 (12)*	*2.1 (1)*	*3.3 (6)*	*3.8 (59)*
FRS 2020 Retirement Date Fund	**464,864,837**	**3.6**	**5.0 (78)**	**-12.1 (7)**	**2.4 (3)**	**3.6 (18)**	**5.1 (92)**
2020 Retirement Custom Index			*5.9 (26)*	*-11.1 (4)*	*2.5 (3)*	*3.6 (17)*	*5.0 (96)*
FRS 2025 Retirement Date Fund	**840,573,760**	**6.5**	**5.5 (72)**	**-13.0 (14)**	**2.7 (5)**	**4.0 (18)**	**5.9 (61)**
2025 Retirement Custom Index			*6.7 (13)*	*-11.9 (6)*	*2.9 (2)*	*4.0 (16)*	*5.8 (64)*
FRS 2030 Retirement Date Fund	**843,376,428**	**6.5**	**6.2 (77)**	**-13.7 (15)**	**2.9 (14)**	**4.2 (34)**	**6.7 (47)**
2030 Retirement Custom Index			*7.4 (10)*	*-12.7 (7)*	*3.2 (3)*	*4.3 (26)*	*6.6 (56)*
FRS 2035 Retirement Date Fund	**826,340,233**	**6.4**	**6.9 (85)**	**-14.5 (8)**	**3.1 (36)**	**4.4 (57)**	**7.4 (47)**
2035 Retirement Custom Index			*8.0 (27)*	*-13.6 (3)*	*3.4 (17)*	*4.5 (47)*	*7.2 (50)*
FRS 2040 Retirement Date Fund	**767,231,715**	**5.9**	**7.6 (88)**	**-15.2 (9)**	**3.3 (49)**	**4.5 (72)**	**7.6 (47)**
2040 Retirement Custom Index			*8.6 (40)*	*-14.4 (5)*	*3.5 (39)*	*4.6 (71)*	*7.5 (82)*
FRS 2045 Retirement Date Fund	**776,587,758**	**6.0**	**8.2 (86)**	**-15.8 (12)**	**3.4 (71)**	**4.6 (82)**	**7.7 (92)**
2045 Retirement Custom Index			*9.1 (39)*	*-15.0 (9)*	*3.7 (50)*	*4.8 (74)*	*7.6 (93)*
FRS 2050 Retirement Date Fund	**527,854,488**	**4.1**	**8.5 (88)**	**-16.0 (11)**	**3.6 (63)**	**4.8 (79)**	**7.8 (81)**
2050 Retirement Custom Index			*9.4 (37)*	*-15.1 (4)*	*3.9 (43)*	*4.9 (75)*	*7.7 (84)*

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Asset Allocation & Performance

As of December 31, 2022

	Allocation		Performance %				
	Market Value $	%	1 Quarter	1 Year	3 Years	5 Years	10 Years
FRS 2055 Retirement Date Fund	**375,268,958**	**2.9**	**8.8 (81)**	**-16.0 (12)**	**3.8 (54)**	**4.9 (78)**	**7.8 (93)**
2055 Retirement Custom Index			*9.5 (37)*	*-15.1 (2)*	*3.9 (44)*	*4.9 (76)*	*7.7 (98)*
FRS 2060 Retirement Date Fund	**255,977,653**	**2.0**	**8.8 (79)**	**-16.0 (7)**	**3.8 (57)**	**5.0 (-)**	**-**
2060 Retirement Custom Index			*9.5 (38)*	*-15.1 (1)*	*3.9 (37)*	*4.9 (-)*	-
Stable Value	**1,386,615,127**	**10.7**					
FRS Stable Value Fund	**1,386,615,127**	**10.7**	**0.5 (69)**	**1.8 (54)**	**-**	**-**	**-**
ICE BofA US Treasuries 1-3 Year Index			*0.7 (14)*	*-3.7 (94)*	-	-	-
Real Assets	**189,656,515**	**1.5**					
FRS Inflation Sensitive Fund	**189,656,515**	**1.5**	**3.8**	**-7.7**	**2.7**	**2.9**	**1.4**
FRS Custom Multi-Assets Index			*4.7*	*-5.9*	*2.4*	*2.8*	*1.5*
Fixed Income	**511,645,580**	**4.0**	**2.2 (20)**	**-12.4 (16)**	**-1.9 (22)**	**0.7 (14)**	**1.6 (10)**
Total Bond Index			*2.2 (19)*	*-11.9 (13)*	*-2.1 (26)*	*0.5 (22)*	*1.4 (31)*
FRS U.S. Bond Enhanced Index Fund	**202,671,229**	**1.6**	**1.8 (46)**	**-13.1 (34)**	**-2.7 (59)**	**0.0 (57)**	**1.1 (57)**
Blmbg. U.S. Aggregate			*1.9 (40)*	*-13.0 (30)*	*-2.7 (59)*	*0.0 (57)*	*1.1 (64)*
FRS Core Plus Bond Fund	**308,974,351**	**2.4**	**2.3 (30)**	**-13.2 (46)**	**-2.0 (34)**	**0.8 (26)**	**2.0 (15)**
FRS Custom Core-Plus Fixed Income Index			*2.4 (24)*	*-12.5 (22)*	*-2.1 (49)*	*0.6 (38)*	*1.8 (32)*

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Asset Allocation & Performance

As of December 31, 2022

	Allocation		Performance %				
	Market Value $	%	1 Quarter	1 Year	3 Years	5 Years	10 Years
Domestic Equity	**2,911,380,077**	**22.5**	**7.3 (65)**	**-20.4 (69)**	**6.0 (62)**	**7.7 (48)**	**11.7 (28)**
Total U.S. Equities Index			*7.2 (66)*	*-19.1 (62)*	*6.6 (52)*	*8.1 (42)*	*11.6 (30)*
FRS U.S. Stock Market Index Fund	**1,325,414,041**	**10.2**	**7.2 (67)**	**-19.2 (63)**	**7.1 (41)**	**8.8 (26)**	**12.2 (17)**
Russell 3000 Index			*7.2 (67)*	*-19.2 (63)*	*7.1 (42)*	*8.8 (27)*	*12.1 (18)*
FRS U.S. Stock Fund	**1,585,966,036**	**12.3**	**7.3 (65)**	**-22.4 (76)**	**-**	**-**	**-**
Russell 3000 Index			*7.2 (67)*	*-19.2 (63)*	-	-	-
International/Global Equity	**655,079,780**	**5.1**	**13.7 (54)**	**-18.2 (54)**	**1.1 (36)**	**2.0 (25)**	**5.5 (20)**
Total Foreign and Global Equities Index			*13.6 (55)*	*-16.8 (46)*	*0.7 (41)*	*1.4 (36)*	*4.8 (30)*
FRS Foreign Stock Index Fund	**245,140,439**	**1.9**	**14.5 (49)**	**-16.6 (45)**	**0.3 (46)**	**1.1 (42)**	**4.6 (37)**
MSCI All Country World ex-U.S. IMI Index			*14.1 (51)*	*-16.6 (45)*	*0.2 (49)*	*0.8 (46)*	*4.4 (42)*
FRS Foreign Stock Fund	**142,847,599**	**1.1**	**13.8 (53)**	**-22.7 (73)**	**-0.2 (53)**	**1.5 (34)**	**5.3 (21)**
MSCI AC World ex USA Index (Net)			*14.3 (50)*	*-16.0 (42)*	*0.1 (50)*	*0.9 (45)*	*3.8 (54)*
FRS Global Stock Fund	**267,091,742**	**2.1**	**8.5 (69)**	**-25.6 (69)**	**5.5 (27)**	**7.7 (14)**	**10.3 (10)**
MSCI AC World Index (Net)			*9.8 (58)*	*-18.4 (49)*	*4.0 (47)*	*5.2 (42)*	*8.0 (44)*
FRS Self-Dir Brokerage Acct	**1,002,130,562**	**7.7**					

The returns for the Retirement Date Funds, Inflation Sensitive Fund, and Core Plus Bond Fund use prehire data for all months prior to 7/1/2014, actual live data is used thereafter.
Note: The SDBA opened for members on 1/2/2014. No performance calculations will be made for the SDBA.

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Asset Allocation & Performance

As of December 31, 2022

	Performance %									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
FRS Investment Plan	-15.1	14.1	13.1	20.5	-5.7	16.4	8.0	-0.9	4.9	15.2
Total Plan Aggregate Benchmark	-13.8	14.2	11.7	20.0	-5.8	15.5	8.5	-1.3	4.9	14.6
Retirement Date										
FRS Retirement Fund	-11.8 (36)	9.6 (1)	10.2 (38)	14.8 (36)	-3.7 (69)	10.8 (24)	6.2 (18)	-2.6 (100)	4.4 (69)	3.5 (88)
Retirement Custom Index	-10.7 (12)	8.9 (9)	9.6 (61)	14.5 (40)	-3.8 (69)	10.4 (41)	6.2 (18)	-1.8 (87)	3.6 (85)	3.4 (88)
FRS 2020 Retirement Date Fund	-12.1 (7)	10.5 (10)	10.5 (69)	16.3 (67)	-4.4 (51)	14.0 (29)	7.4 (22)	-2.1 (100)	4.4 (100)	9.6 (98)
2020 Retirement Custom Index	-11.1 (4)	10.0 (22)	10.2 (72)	16.0 (73)	-4.5 (53)	13.3 (49)	7.1 (25)	-1.6 (85)	3.9 (100)	9.7 (98)
FRS 2025 Retirement Date Fund	-13.0 (14)	11.7 (14)	11.4 (72)	18.2 (75)	-5.2 (51)	16.1 (25)	8.0 (22)	-1.7 (79)	4.5 (100)	13.7 (77)
2025 Retirement Custom Index	-11.9 (6)	11.3 (24)	11.2 (74)	17.8 (82)	-5.3 (56)	15.5 (39)	7.6 (26)	-1.5 (72)	4.2 (100)	13.8 (76)
FRS 2030 Retirement Date Fund	-13.7 (15)	12.8 (29)	12.0 (76)	19.8 (80)	-6.0 (46)	18.0 (27)	8.5 (20)	-1.3 (60)	4.5 (96)	18.1 (64)
2030 Retirement Custom Index	-12.7 (7)	12.4 (40)	12.0 (76)	19.4 (82)	-6.0 (47)	17.3 (46)	8.0 (28)	-1.5 (63)	4.4 (96)	18.2 (64)
FRS 2035 Retirement Date Fund	-14.5 (8)	13.8 (66)	12.6 (85)	21.1 (81)	-6.7 (45)	19.8 (21)	9.1 (16)	-1.4 (54)	4.4 (100)	22.0 (58)
2035 Retirement Custom Index	-13.6 (3)	13.4 (72)	12.7 (84)	20.8 (87)	-6.8 (46)	18.9 (48)	8.3 (37)	-1.7 (62)	4.3 (100)	22.0 (58)
FRS 2040 Retirement Date Fund	-15.2 (9)	14.6 (80)	13.3 (77)	22.5 (77)	-7.5 (51)	20.9 (24)	9.2 (14)	-1.4 (49)	4.4 (96)	22.3 (58)
2040 Retirement Custom Index	-14.4 (5)	14.3 (85)	13.4 (75)	22.1 (82)	-7.5 (51)	20.4 (42)	8.6 (45)	-1.7 (65)	4.3 (96)	22.4 (58)
FRS 2045 Retirement Date Fund	-15.8 (12)	15.4 (90)	13.8 (77)	23.4 (81)	-8.0 (57)	21.5 (24)	9.4 (25)	-1.5 (52)	4.4 (100)	22.3 (70)
2045 Retirement Custom Index	-15.0 (9)	15.1 (91)	13.9 (75)	23.0 (87)	-8.0 (57)	21.2 (41)	8.9 (38)	-1.7 (64)	4.3 (100)	22.4 (70)
FRS 2050 Retirement Date Fund	-16.0 (11)	16.1 (88)	14.0 (75)	24.0 (82)	-8.4 (66)	21.6 (26)	9.5 (24)	-1.5 (61)	4.4 (95)	22.3 (66)
2050 Retirement Custom Index	-15.1 (4)	15.8 (94)	14.1 (72)	23.6 (83)	-8.4 (66)	21.3 (49)	8.9 (42)	-1.7 (66)	4.3 (96)	22.4 (66)
FRS 2055 Retirement Date Fund	-16.0 (12)	16.4 (86)	14.3 (69)	24.1 (88)	-8.4 (60)	21.5 (40)	9.3 (35)	-1.4 (53)	4.4 (100)	22.3 (86)
2055 Retirement Custom Index	-15.1 (2)	16.0 (92)	14.1 (79)	23.7 (90)	-8.4 (60)	21.3 (56)	8.9 (39)	-1.7 (64)	4.3 (100)	22.4 (85)

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Asset Allocation & Performance

As of December 31, 2022

	Performance %									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
FRS 2060 Retirement Date Fund	-16.0 (7)	16.4 (80)	14.5 (78)	24.2 (-)	-8.3 (-)	-	-	-	-	-
2060 Retirement Custom Index	-15.1 (1)	16.0 (89)	14.1 (81)	23.7 (-)	-8.4 (-)	-	-	-	-	-
Stable Value										
FRS Stable Value Fund	1.8 (54)	-	-	-	-	-	-	-	-	-
ICE BofA US Treasuries 1-3 Year Index	-3.7 (94)	-	-	-	-	-	-	-	-	-
Real Assets										
FRS Inflation Sensitive Fund	-7.7	12.8	4.0	13.0	-5.5	8.1	6.0	-7.9	3.2	-9.1
FRS Custom Multi-Assets Index	-5.9	11.5	2.3	13.0	-5.5	8.1	6.2	-5.0	1.8	-8.9
Fixed Income	-12.4 (16)	-0.3 (15)	8.0 (54)	9.8 (22)	-0.1 (36)	4.4 (22)	4.7 (12)	0.3 (59)	4.7 (77)	-1.1 (24)
Total Bond Index	-11.9 (13)	-0.7 (27)	7.2 (83)	9.2 (47)	-0.1 (30)	3.9 (42)	4.3 (18)	0.1 (72)	4.9 (76)	-1.2 (25)
FRS U.S. Bond Enhanced Index Fund	-13.1 (34)	-1.7 (68)	7.8 (62)	8.7 (61)	0.0 (23)	3.6 (58)	2.7 (66)	0.7 (26)	6.2 (29)	-2.0 (63)
Blmbg. U.S. Aggregate	-13.0 (30)	-1.5 (62)	7.5 (71)	8.7 (61)	0.0 (24)	3.5 (63)	2.6 (66)	0.5 (37)	6.0 (39)	-2.0 (66)
FRS Core Plus Bond Fund	-13.2 (46)	-0.1 (23)	8.6 (55)	11.0 (18)	-0.5 (40)	5.3 (28)	5.7 (15)	0.1 (47)	4.6 (73)	0.8 (14)
FRS Custom Core-Plus Fixed Income Index	-12.5 (22)	-0.3 (32)	7.6 (75)	10.0 (41)	-0.4 (36)	4.2 (69)	4.9 (33)	0.2 (43)	5.1 (50)	0.8 (14)
Domestic Equity	-20.4 (69)	24.6 (57)	20.0 (35)	30.1 (38)	-6.5 (49)	20.8 (49)	13.7 (30)	0.7 (32)	11.5 (47)	35.2 (43)
Total U.S. Equities Index	-19.1 (62)	25.9 (44)	18.9 (38)	30.0 (38)	-6.5 (49)	19.6 (57)	14.9 (23)	-0.5 (42)	11.1 (51)	34.0 (52)
FRS U.S. Stock Market Index Fund	-19.2 (63)	25.7 (46)	21.0 (31)	31.1 (28)	-5.2 (36)	21.2 (43)	12.9 (35)	0.6 (32)	12.6 (31)	33.6 (56)
Russell 3000 Index	-19.2 (63)	25.7 (46)	20.9 (31)	31.0 (28)	-5.2 (36)	21.1 (46)	12.7 (37)	0.5 (33)	12.6 (33)	33.6 (56)
FRS U.S. Stock Fund	-22.4 (76)	22.9 (65)	-	-	-	-	-	-	-	-
Russell 3000 Index	-19.2 (63)	25.7 (46)	-	-	-	-	-	-	-	-

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Asset Allocation & Performance

As of December 31, 2022

	Performance %									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
International/Global Equity	**-18.2 (54)**	**9.5 (49)**	**15.2 (40)**	**23.7 (38)**	**-13.5 (32)**	**28.6 (49)**	**4.5 (44)**	**-2.6 (47)**	**-3.2 (43)**	**21.6 (36)**
Total Foreign and Global Equities Index	*-16.8 (46)*	*9.8 (47)*	*11.7 (51)*	*22.3 (47)*	*-14.0 (39)*	*27.3 (58)*	*4.9 (41)*	*-4.4 (54)*	*-3.0 (42)*	*20.6 (41)*
FRS Foreign Stock Index Fund	**-16.6 (45)**	**8.6 (53)**	**11.5 (51)**	**22.3 (47)**	**-14.7 (45)**	**28.3 (51)**	**5.3 (38)**	**-4.4 (54)**	**-4.5 (57)**	**20.5 (42)**
MSCI All Country World ex-U.S. IMI Index	*-16.6 (45)*	*8.5 (53)*	*11.1 (53)*	*21.6 (53)*	*-14.8 (47)*	*27.8 (54)*	*4.4 (44)*	*-4.6 (55)*	*-4.2 (53)*	*21.0 (39)*
FRS Foreign Stock Fund	**-22.7 (73)**	**2.8 (71)**	**25.3 (17)**	**27.4 (21)**	**-14.9 (49)**	**31.2 (40)**	**1.0 (68)**	**-0.5 (36)**	**-2.3 (35)**	**20.6 (41)**
MSCI AC World ex USA Index (Net)	*-16.0 (42)*	*7.8 (56)*	*10.7 (55)*	*21.5 (54)*	*-14.2 (41)*	*27.2 (59)*	*4.5 (43)*	*-5.7 (59)*	*-3.9 (48)*	*15.3 (56)*
FRS Global Stock Fund	**-25.6 (69)**	**18.1 (45)**	**33.8 (23)**	**30.5 (25)**	**-5.6 (21)**	**29.3 (18)**	**2.2 (84)**	**5.6 (12)**	**3.7 (53)**	**27.1 (43)**
MSCI AC World Index (Net)	*-18.4 (49)*	*18.5 (40)*	*16.3 (45)*	*26.6 (47)*	*-9.4 (52)*	*24.0 (41)*	*7.9 (47)*	*-2.4 (57)*	*4.2 (47)*	*22.8 (66)*

The returns for the Retirement Date Funds, Inflation Sensitive Fund, and Core Plus Bond Fund use prehire data for all months prior to 7/1/2014, actual live data is used thereafter.

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Asset Allocation - FRS Investment Plan

As of December 31, 2022

Asset Allocation as of 12/31/2022

	U.S. Equity	Non-U.S. Equity	U.S. Fixed Income	Real Assets	Stable Value	Brokerage	Total	% of Total
FRS Retirement Fund	88,050,954	80,863,121	196,467,435	233,604,572			598,986,083	4.6%
FRS 2020 Retirement Date Fund	87,394,589	80,886,482	135,740,532	160,843,233			464,864,837	3.6%
FRS 2025 Retirement Date Fund	209,302,866	193,331,965	223,592,620	214,346,309			840,573,760	6.5%
FRS 2030 Retirement Date Fund	253,856,305	233,615,270	195,663,331	160,241,521			843,376,428	6.5%
FRS 2035 Retirement Date Fund	285,087,380	262,776,194	162,789,026	115,687,633			826,340,233	6.4%
FRS 2040 Retirement Date Fund	296,151,442	273,134,490	121,222,611	76,723,171			767,231,715	5.9%
FRS 2045 Retirement Date Fund	323,060,507	298,209,699	90,860,768	64,456,784			776,587,758	6.0%
FRS 2050 Retirement Date Fund	229,088,848	211,141,795	42,228,359	45,395,486			527,854,488	4.1%
FRS 2055 Retirement Date Fund	163,992,535	151,233,390	27,394,634	32,648,399			375,268,958	2.9%
FRS 2060 Retirement Date Fund	111,862,234	103,158,994	18,686,369	22,270,056			255,977,653	2.0%
Total Retirement Date Funds	**$ 2,047,847,661**	**$ 1,888,351,401**	**$ 1,214,645,685**	**$ 1,126,217,165**	**$ -**	**$ -**	**$ 6,277,061,911**	**48.5%**
FRS Stable Value Fund					1,386,615,127		1,386,615,127	10.7%
Total Stable Value	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,386,615,127**	**$ -**	**$ 1,386,615,127**	**10.7%**
FRS Inflation Sensitive Fund				189,656,515	-		189,656,515	1.5%
Total Real Assets	**$ -**	**$ -**	**$ -**	**$ 189,656,515**	**$ -**	**$ -**	**$ 189,656,515**	**1.5%**
FRS U.S. Bond Enhanced Index Fund			202,671,229				202,671,229	1.6%
FRS Core Plus Bond Fund			308,974,351				308,974,351	2.4%
Total Fixed Income	**$ -**	**$ -**	**$ 511,645,580**	**$ -**	**$ -**	**$ -**	**$ 511,645,580**	**4.0%**
FRS U.S. Stock Market Index Fund	1,325,414,041						1,325,414,041	10.2%
FRS U.S. Stock Fund	1,585,966,036						1,585,966,036	12.3%
Total Domestic Equity	**$ 2,911,380,077**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 2,911,380,077**	**22.5%**
FRS Foreign Stock Index Fund		245,140,439					245,140,439	1.9%
FRS Global Stock Fund		267,091,742					267,091,742	2.1%
FRS Foreign Stock Fund		142,847,599					142,847,599	1.1%
Total International/Global Equity	**$ -**	**$ 655,079,780**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 655,079,780**	**5.1%**
FRS Self-Dir Brokerage Acct						1,002,130,562	1,002,130,562	7.7%
Total Self-Dir Brokerage Acct						**$ 1,002,130,562**	**$ 1,002,130,562**	**7.7%**
Total Portfolio	**$ 4,959,227,738**	**$ 2,543,431,181**	**$ 1,726,291,265**	**$ 1,315,873,679**	**$ 1,386,615,127**	**$ 1,002,130,562**	**$ 12,933,569,552**	**100.0%**
Percent of Total	**38.3%**	**19.7%**	**13.3%**	**10.2%**	**10.7%**	**7.7%**	**100.0%**	

The returns for the Retirement Date Funds, Inflation Adjusted Multi-Assets Fund and Core Plus Bond Fund use pre hire data for all months prior to 7/1/2014, actual live data is used thereafter.

Note: The SDBA opened for members on 1/2/14. No performance calculations will be made for the SDBA.

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Multi Time Period Statistics
As of December 31, 2022

	3 Years Return	3 Years Standard Deviation	3 Years Sharpe Ratio	3 Years Tracking Error	3 Years Information Ratio	3 Years Up Market Capture	3 Years Down Market Capture
FRS Investment Plan	**3.06**	**14.95**	**0.23**	**0.78**	**-0.11**	**102.61**	**103.67**
FRS Retirement Fund	2.14	10.43	0.18	0.63	0.01	101.89	102.22
FRS 2020 Retirement Date Fund	2.40	11.27	0.20	0.69	-0.22	98.98	99.85
FRS 2025 Retirement Date Fund	2.70	12.63	0.21	0.75	-0.30	98.64	99.75
FRS 2030 Retirement Date Fund	2.93	13.99	0.22	0.77	-0.34	99.02	100.31
FRS 2035 Retirement Date Fund	3.11	15.19	0.23	0.80	-0.35	99.24	100.52
FRS 2040 Retirement Date Fund	3.28	16.36	0.23	0.83	-0.31	99.53	100.69
FRS 2045 Retirement Date Fund	3.39	17.39	0.23	0.86	-0.35	100.09	101.49
FRS 2050 Retirement Date Fund	3.61	18.00	0.24	0.89	-0.33	100.11	101.45
FRS 2055 Retirement Date Fund	3.78	18.26	0.25	0.94	-0.15	101.26	102.20
FRS 2060 Retirement Date Fund	3.84	18.26	0.26	0.94	-0.09	101.40	102.12
FRS Stable Value Fund	-	-	-	-	-	-	-
FRS Inflation Sensitive Fund	2.70	10.87	0.23	1.02	0.30	101.84	99.74
FRS U.S. Bond Enhanced Index Fund	-2.71	5.94	-0.55	0.23	0.03	102.84	101.94
FRS Core Plus Bond Fund	-1.97	6.92	-0.35	1.75	0.10	113.86	108.93
FRS U.S. Stock Market Index Fund	7.11	21.79	0.39	0.03	1.59	100.08	99.95
FRS U.S. Stock Fund	-	-	-	-	-	-	-
FRS Foreign Stock Index Fund	0.34	20.41	0.08	2.15	0.11	103.84	103.25
FRS Global Stock Fund	5.51	22.43	0.32	-	-	-	-
FRS Foreign Stock Fund	-0.15	21.45	0.06	-	-	-	-

The returns for the Retirement Date Funds, Inflation Sensitive Fund, and Core Plus Bond Fund use prehire data for all months prior to 7/1/2014, actual live data is used thereafter.

Multi Time Period Statistics
As of December 31, 2022

	5 Years Return	5 Years Standard Deviation	5 Years Sharpe Ratio	5 Years Tracking Error	5 Years Information Ratio	5 Years Up Market Capture	5 Years Down Market Capture
FRS Investment Plan	**4.48**	**13.09**	**0.30**	**0.67**	**0.13**	**102.63**	**102.97**
FRS Retirement Fund	3.33	8.75	0.27	0.54	0.14	102.45	102.55
FRS 2020 Retirement Date Fund	3.62	9.64	0.28	0.59	-0.01	100.13	100.25
FRS 2025 Retirement Date Fund	3.96	10.92	0.29	0.63	-0.06	99.70	99.91
FRS 2030 Retirement Date Fund	4.19	12.16	0.29	0.65	-0.12	99.72	100.16
FRS 2035 Retirement Date Fund	4.37	13.27	0.29	0.68	-0.14	99.80	100.34
FRS 2040 Retirement Date Fund	4.53	14.34	0.29	0.70	-0.13	99.93	100.45
FRS 2045 Retirement Date Fund	4.64	15.24	0.29	0.73	-0.16	100.22	100.94
FRS 2050 Retirement Date Fund	4.80	15.79	0.30	0.76	-0.14	100.23	100.88
FRS 2055 Retirement Date Fund	4.91	15.97	0.30	0.79	-0.02	101.01	101.42
FRS 2060 Retirement Date Fund	4.97	15.97	0.30	-	-	-	-
FRS Stable Value Fund	-	-	-	-	-	-	-
FRS Inflation Sensitive Fund	2.94	9.25	0.22	1.10	0.17	103.72	102.98
FRS U.S. Bond Enhanced Index Fund	0.03	5.14	-0.22	0.18	0.04	101.68	101.61
FRS Core Plus Bond Fund	0.80	5.73	-0.05	1.37	0.20	110.00	106.84
FRS U.S. Stock Market Index Fund	8.84	19.22	0.47	0.04	1.04	100.14	100.00
FRS U.S. Stock Fund	-	-	-	-	-	-	-
FRS Foreign Stock Index Fund	1.06	17.87	0.08	1.81	0.15	102.90	101.97
FRS Global Stock Fund	7.67	19.42	0.41	-	-	-	-
FRS Foreign Stock Fund	1.54	18.75	0.11	-	-	-	-

The returns for the Retirement Date Funds, Inflation Sensitive Fund, and Core Plus Bond Fund use prehire data for all months prior to 7/1/2014, actual live data is used thereafter.

Appendix

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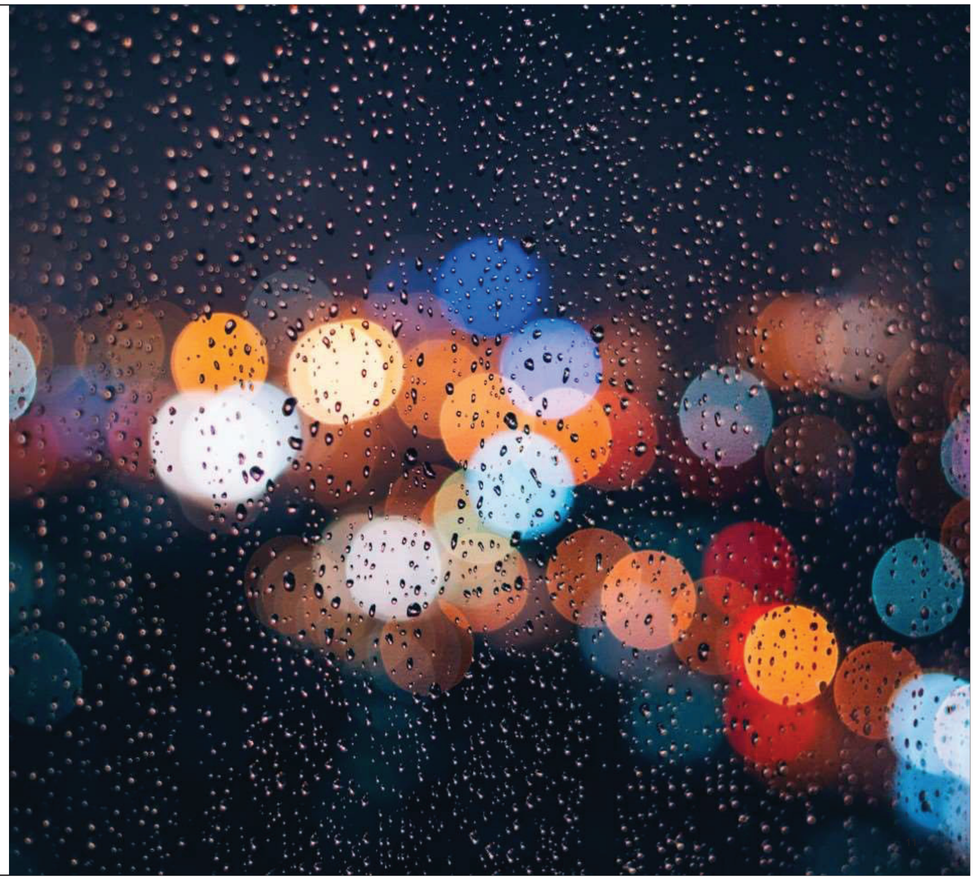

Benchmark Descriptions

Retirement Date Benchmarks - A weighted average composite of the underlying components' benchmarks for each fund.

ICE BofA US Treasuries 1-3 Year Index - An unmanaged index that tracks the performance of the direct sovereign debt of the U.S. Government having a maturity of at least one year and less than three years.

FRS Custom Multi-Assets Index - A monthly weighted composite of underlying indices for each TIPS and Real Assets fund. These indices include Barclays U.S. TIPS Index, MSCI AC World Index and the Bloomberg Commodity Total Return Index, NAREIT Developed Index, S&P Global Infrastructure Index, S&P Global Natural Resources Index.

Total Bond Index - A weighted average composite of the underlying benchmarks for each bond fund.

Barclays Aggregate Bond Index - A market value-weighted index consisting of government bonds, SEC-registered corporate bonds and mortgage-related and asset-backed securities with at least one year to maturity and an outstanding par value of $250 million or greater. This index is a broad measure of the performance of the investment grade U.S. fixed income market.

FRS Custom Core-Plus Fixed Income Index - A monthly rebalanced blend of 80% Barclays U.S. Aggregate Bond Index and 20% Barclays U.S. High Yield Ba/B 1% Issuer Constrained Index.

Total U.S. Equities Index - A weighted average composite of the underlying benchmarks for each domestic equity fund.

Russell 3000 Index - A capitalization-weighted index consisting of the 3,000 largest publicly traded U.S. stocks by capitalization. This index is a broad measure of the performance of the aggregate domestic equity market.

Total Foreign and Global Equities Index - A weighted average composite of the underlying benchmarks for each foreign and global equity fund.

MSCI All Country World ex-U.S. IMI Index - A capitalization-weighted index of stocks representing 22 developed country stock markets and 24 emerging countries, excluding the U.S. market.

MSCI All Country World ex-U.S. Index - A capitalization-weighted index consisting of 23 developed and 24 emerging countries, but excluding the U.S.

MSCI All Country World Index - A capitalization-weighted index of stocks representing approximately 47 developed and emerging countries, including the U.S. and Canadian markets.

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Descriptions of Universes

Retirement Date Funds - Target date universes calculated and provided by Lipper.

FRS Stable Value Fund - A stable value universe calculated and provided by Lipper.

FRS U.S. Bond Enhanced Index Fund - A broad market core fixed income universe calculated and provided by Lipper.

FRS Core Plus Bond Fund - A broad market core plus fixed income universe calculated and provided by Lipper.

FRS U.S. Stock Market Index Fund - A multi-cap U.S. equity universe calculated and provided by Lipper.

FRS U.S. Stock Fund - A multi-cap U.S. equity universe calculated and provided by Lipper.

FRS Foreign Stock Index Fund - A foreign blend universe calculated and provided by Lipper.

FRS Foreign Stock Fund - A foreign blend universe calculated and provided by Lipper.

FRS Global Stock Fund - A global stock universe calculated and provided by Lipper.

Notes

- The rates of return contained in this report are shown on an after-fees basis unless otherwise noted. They are geometric and time-weighted. Returns for periods longer than one year are annualized.
- Universe percentiles are based upon an ordering system in which 1 is the best ranking and 100 is the worst ranking.
- Due to rounding throughout the report, percentage totals displayed may not sum to 100%. Additionally, individual fund totals in dollar terms may not sum to the plan total.

Disclaimer

Past performance is not necessarily indicative of future results.

Unless otherwise noted, performance returns presented reflect the respective fund's performance as indicated. Returns may be presented on a before-fees basis (gross) or after-fees basis (net). After-fee performance is net of each respective sub-advisors' investment management fees and include the reinvestment of dividends and interest as indicated on the notes page within this report or on the asset allocation and performance summary pages. Actual returns may be reduced by Aon Investments' investment advisory fees or other trust payable expenses you may incur as a client. Aon Investments' advisory fees are described in Form ADV Part 2A. Portfolio performance, characteristics and volatility also may differ from the benchmark(s) shown.

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Aon Investments USA Inc.
200 East Randolph Street
Suite 700
Chicago, IL 60601
ATTN: Aon Investments Compliance Officer

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2023

January

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

February

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				

March

S	M	T	W	T	F	S
			1	2	3	4
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12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

April

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						1
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9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

May

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7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

June

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

July

S	M	T	W	T	F	S
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2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

August

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

September

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

October

S	M	T	W	T	F	S
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8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

November

S	M	T	W	T	F	S
			1	2	3	4
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12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

December

S	M	T	W	T	F	S
					1	2
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10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Blue is Proposed IAC Meeting

Yellow is Cabinet Meeting